



Instructor's Manual

for Higher Education Mathematics

Advanced Customer Solutions

ALEKS Corporation

ALEKS Instructor's Manual for Higher Education Mathematics, Version 3.18.

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Preface

Welcome to ALEKS, one of the most powerful educational tools available for learning mathematics. ALEKS combines advanced learning technology with the flexibility of the Internet, and provides an interactive tutoring system with unmatched features and capabilities.

The innovative features of ALEKS open new horizons for educators and learners alike in any educational context. The ALEKS class management system enables instructors to efficiently monitor student progress and provide focused instruction. With its unprecedented use of Artificial Intelligence, ALEKS determines quickly and precisely what your students know and what they need to learn, guiding them down individualized learning paths to mastery. The syllabi used are customizable, letting you conveniently add or subtract topics. As ALEKS is accessed on the Internet, no complicated technical preparation is needed—and your students can work at any time, from home, from work, or from the classroom! ALEKS can also be integrated with a variety of textbooks and other online learning resources. No setup fees or site licenses are required. It's a personal tutor for each of your students, at a fraction of what such services normally cost.

The benefits of using ALEKS are dramatic. Students work in a dynamic, interactive learning environment on precisely those materials that they are individually ready to learn, building momentum toward mastery. Students can access their ALEKS account around their own schedules and work on what they are ready to learn now. It is the personalized, “just-in-time” learning system.

ALEKS may be used in a variety of classroom situations—whether in a traditional classroom, or in a self-directed or distance-learning environment.

ALEKS is sold to the student as a subscription. The student purchases a User's Guide with Student Access Code, usually through a bookstore or online. Using the Student Access Code along with the Course Code provided by the instructor, the student registers on the ALEKS website.

ALEKS can be adopted in one of two ways:

- ALEKS may be adopted as a supplement to a McGraw-Hill textbook. In this case, the student subscription cost is similar to the cost of a traditional print supplement, such as a study guide or student solutions manual. For McGraw-Hill textbooks, ALEKS allows the student to see references to the textbooks and provides links to

the McGraw-Hill book-specific websites. These websites include additional tutorial material and interactive applications that supplement the explanations within ALEKS. Students will need to purchase a McGraw-Hill textbook bundled with the User's Guide with Student Access Code.

- ALEKS may be adopted as a stand-alone item. In this case, the instructor adopts ALEKS alone, and the students purchase the User's Guide with Student Access Code for about the cost of a traditional textbook.

This Instructor's Manual is intended to provide complete information on the functioning of ALEKS. A description of its contents can be found in Chapter 1.

Please also take time to explore the ALEKS website: it is a valuable source of information (<https://www.aleks.com>, Fig. 3.1). The website includes tours, overviews of ALEKS course products, troubleshooting and support information, training resources, and user guides. It also contains information on the theory and research behind ALEKS, forums for the exchange of ideas with other educators, and brief, recorded on-line training segments. To find the resources specific to the educational field you are in, click on the appropriate link on the ALEKS home page.

Chapter 1

Introduction

1.1 What is ALEKS?

The ALEKS system is the product of years of cutting-edge research into the mathematical modeling of human knowledge (Chap. 9). The creators of ALEKS are cognitive scientists, software engineers, and university professors. In designing ALEKS, their goal was to achieve the utmost simplicity of use without compromising the depth, rigor, or richness of mathematics instruction at its inspirational best. ALEKS is a tool to empower both instructors and learners of math. It opens doors into the assessment and representation of knowledge, and it breaks down barriers to success by recognizing the vast diversity of paths that lead to mastery. The ALEKS system can make a radical difference in how math learning is experienced.

ALEKS is an online system for the assessment and individualized teaching of mathematics. It can be accessed on the Internet from virtually any computer and is designed to allow the monitoring and management of students and classes at the instructor, college, and system levels.

The core of the system is an efficient, adaptive assessment engine that determines quickly and precisely what an individual student knows (an assessment is also called a knowledge check). Based on assessment data, the system is able to offer material that the student is ready to learn.

The ALEKS Learning Mode includes explanations and algorithmically generated practice problems, ongoing assessment of student knowledge, an online math dictionary, and facilities for review and collaborative help. It can be used on an independent basis or as a supplement to classroom instruction.

1.2 The ALEKS Instructor's Manual

The purpose of the ALEKS Instructor's Manual is to provide instructors with complete information on the operation of the system. Even though ALEKS is not complex, our goal is to offer instructors a clear idea of everything ALEKS does, how it works, and where to find answers to questions.

ALEKS is user-friendly, and may be used without help from the Instructor's Manual. Feel free to use the system now. If questions arise, or if you want to learn more about ALEKS, this Instructor's Manual is intended as a convenient and comprehensive reference.

NOTE. For a brief, comprehensive overview of ALEKS, turn directly to the "Frequently Asked Questions" in Chapter 10.

- The first chapters are those most likely to be used by instructors new to ALEKS. Chapter 2, "Quick Start," contains a concise checklist for those new to ALEKS. Chapter 3, "Setup Guide for Instructors," provides all of the information necessary for preparing to use ALEKS with one or more classes. This ranges from technical and installation requirements through the students' first ALEKS session (which typically involves registration, tutorial, the Initial Assessment (or Knowledge Check), and entry into the Learning Mode).
- Chapters 4 through 7 contain descriptions of the principal parts of the ALEKS system: Assessment Mode, Learning Mode, and the Instructor Module.
- QuickTables, a tool for mastering math facts, is described in Chapter 6.
- The Instructor Module is discussed in Chapter 7.
- Chapter 8 is a brief guide to teaching with ALEKS, describing a range of scenarios and the ALEKS features that support them.
- Chapters 9 through 11 provide additional information that may be necessary or of interest to instructors using ALEKS. Chapter 9, "Knowledge Spaces and the Theory Behind ALEKS," explains the history of Knowledge Space theory and its fundamental concepts, along with the evolution of ALEKS itself. Also included is a bibliography for those seeking to understand the theory behind ALEKS in greater depth. Chapter 10 provides answers to frequently asked questions about ALEKS. Chapter 11 gives the information necessary for obtaining technical and other support.
- The ALEKS User's Guide is available to all students from the ALEKS website. The User's Guide is reproduced here in Appendix A. Unlike the other chapters of the ALEKS Instructor's Manual, Appendix A is addressed to student users of the system. It covers technical requirements, installation, registration, the Tutorial, and ordinary use of the system, as well as guidelines for effective use and troubleshooting tips. Appendix A can be used by instructors to obtain a brief but complete picture of how the system is used. Appendix B contains content summaries for ALEKS course products.

Chapter 2

Quick Start

The purpose of this chapter is to provide a summary of the steps involved in starting a class with ALEKS.

2.1 Obtaining a Class Code

In order to use ALEKS with your class, you will need to have at least one Class Code. This code should be given to students to use in registration, together with their Student Access Code (below). When they register, they will receive a Login Name and Password. Students should not use the Student Access Code and Class Code to register a second time, as they will not be able to create a new account this way.

You can have as many classes and sections as you need or want in ALEKS. For each class or section, there is one unique Class Code. Students who register using this code will be enrolled in the corresponding class. Students who accidentally enroll in the wrong class can easily be moved to the right one at any time. (Please note that moving a student from one class to another in ALEKS may trigger a new assessment or knowledge check.)

To obtain the Class Code for any class, log on to your instructor account, on the **Instructor Administration** menu, select **Class List** (Sec. 7.4.33). The Class Code will appear in the right-hand part of the screen.

You will normally be provided with an instructor Login Name and Password by ALEKS Corporation; otherwise, a colleague at your college with administrator privileges in ALEKS can also create an instructor account for you. Once you are logged on to ALEKS as an instructor, you can create one or more classes through selecting **New Class**.

2.2 Registering Students

Students should use the following steps to register.

1. Go to the ALEKS website.

<https://www.aleks.com>

2. Click on the **SIGN UP NOW!** link to the left of the page, under the space for Registered Users. (This is the only time they will click on that button.)
3. On the page that follows, enter the Class Code in the spaces provided for "Using ALEKS with a Class?" (to the left of the window). **Do not use the button on the right-hand side.**
4. Confirm enrollment information.
5. Indicate whether you are a new or an existing ALEKS user.
6. Enter the Student Access Code.
7. Enter other information as prompted and choose a password.
8. Record the Login Name provided by the system.
9. Begin using ALEKS by taking the student tutorial and an Initial Assessment (Knowledge Check).

Students will subsequently use their Login Name and Password to enter their accounts.

Chapter 3

Setup Guide for Instructors

3.1 Instructor Preparation



Figure 3.1: The ALEKS Website

ALEKS has been designed to be user-friendly and intuitive. However, taking the time to study all materials provided to you, including the Instructor’s Manual, and trying out the system, can provide valuable insight into the system’s functioning and underlying ideas. The administrator for ALEKS can contact ALEKS Customer Support for assistance at any time (Chap. 11).

3.2 System Requirements

The following table presents the system requirements for ALEKS in summary form.

	PC	Macintosh	Chromebook
Operating System	Windows 7+	MacOS 10.7+	Chrome OS
Processor	Any	Any	Any
RAM Memory	64+ MB	64+ MB	Any
Browser	Explorer 11+, Firefox 25+, Chrome 30+	Safari 6+, Firefox 25+, Chrome 30+	Chrome 30+
Screen Resolution	1024x768	1024x768	Any

Figure 3.2: System Requirements

Tablets. All courses are desktop and tablet compatible with the exception of Intro. to Statistics, Business Statistics, Statistics for the Behavioral Sciences, Prep. for Statistics, Math Prep. for Accounting, Essential Math Skills for Business, and Business Math. These courses are not compatible with tablet devices.

Note that any kind of Internet connection (cable, ISDN, DSL, or wireless) usually available in a computer lab is adequate for use with ALEKS.

3.3 Instructor Module

To enter the ALEKS Instructor Module, log on to ALEKS with your Instructor Login Name and Password. The Instructor Module lets you monitor and manage your ALEKS classes. The Instructor Module is designed for ease of use; it guides users through the steps needed to accomplish tasks in such a way that no separate training is needed and mistakes or confusion are unlikely. See Chapter 7 for a complete description of the Instructor Module.

3.4 Student Orientation

It is strongly recommended that the first ALEKS session be conducted under supervision, perhaps with another instructor on hand, to help your students get started. It is not generally necessary to schedule a separate orientation meeting before the students begin using the system. Students can access the **ALEKS User's Guide** from the ALEKS website. Encourage students to familiarize themselves with this brief guide. You should remind your students to bring their Student Access Code to the first session of class. It is also advisable for students to have pencil and paper for assessments

(knowledge checks) in ALEKS. A calculator is included in ALEKS when needed. Remind your students that help is not permitted during the assessment, because this will impair the accuracy of the results, and consequently hinder that student's progress in the Learning Mode.

If possible, the students' first session with ALEKS should allow them to complete their knowledge checks (assessments) and begin work in the Learning Mode. If the students are unable to finish their assessments during this time, ALEKS will automatically keep their place. The next time the students log on to ALEKS they may continue without any loss of work.

3.5 Registration

Students register with ALEKS by going to the ALEKS website and clicking on **SIGN UP NOW!** This will be expedited if the browsers used by the students have **Bookmarks** or **Favorites** pointing to the website.

NOTE. In order to register, all students must have both their Student Access Code and the Class Code for the class that you are teaching. The Class Code will either be sent to you by ALEKS Corporation (in your ALEKS Inbox), or be obtained when you create the class (Sec. 7.4.1). You are responsible for giving this code to the students at the time of the first session (Sec. 2.1).

The student registration process is described in detail in the User's Guide (Appendix A). There are complete online instructions for every step of this simple procedure. Among other information, students can supply their Student ID number (if you wish to have this in the system). Special care should be taken in entering the latter, as the system cannot detect mistyping. The Student ID is optional information.

Near the conclusion of Registration students receive a Login Name and choose a Password. These should be noted carefully, as they will be essential for all further work with ALEKS. Students should choose a password they will remember easily but that will be hard for others to guess. Login Name and Password can be typed with upper or lower-case letters. Neither may contain spaces or punctuation. The Password must contain at least 6 characters.

3.6 Tutorial

Following Registration, the students enter a brief tutorial on the use of ALEKS input tools, also called the **Answer Editor Tutorial** (Sec. 4.4). There are separate tutorials for different subjects, since the specific tools for them differ somewhat. The ALEKS Tutorial provides ample feedback to ensure that students complete it successfully.

3.7 First Assessment

Immediately after the tutorial, students proceed to their Initial Assessment or Knowledge Check (Chap. 4). To reiterate, no help of any kind should be given to students being assessed, not even rephrasing a problem. It is also advisable for students to have pencil and paper for assessments in ALEKS. A calculator is included in ALEKS when needed.

The ALEKS assessment is adaptive and variable in length. Consistency of effort and concentration may influence the length of an assessment.

NOTE. All students will be assessed on their first use of the system. This will provide you with a baseline picture of your class and of each individual student.

3.8 Report Tutorial

At the conclusion of the Initial Knowledge Check (Assessment), the student is given a brief tutorial on how to interpret the Assessment Report.

3.9 Beginning the Learning Mode

Students enter the Learning Mode by clicking on one of the topics they are **ready to learn**. If at all possible, the students should be given sufficient time in their first ALEKS session to use the Learning Mode and begin to **add concepts to their pie**. If they have this experience, their interest in using ALEKS will be more favorable. You should also be present to answer questions regarding the Learning Mode and to help your students familiarize themselves with its varied features. This is particularly important for when they will have to use ALEKS unsupervised.

Chapter 4

Assessment Mode

The Assessment Mode is the heart of the ALEKS system. The program quickly and accurately determines a student’s knowledge, in order to deliver individualized instruction on the exact topics the student is ready to learn. In ALEKS, learning is powered and optimized by assessment. The terms “knowledge check” and “assessment” are synonymous and will be used interchangeably.

4.1 Assessments in ALEKS

The ALEKS assessment (knowledge check) uses open-ended problems (no multiple-choice questions). The assessment uses adaptive questioning, so that problem types are selected based on all the previous answers the student has given. It is impossible to predict which types of problems will appear, or in what order. Moreover, the problems themselves are generated algorithmically, with randomly-selected values (as is the case also in the Learning Mode). Consequently, students cannot “learn the assessment,” teachers are unable to “teach to the assessment,” and some types of cheating are impossible. In the unlikely event that two students sitting next to one another were given the same problem-type at the same time, the problem parameters and values would be different, and so would the correct answer. Certain assessments should be supervised, however, such as the first, midterm, and final assessments in a class. Without supervision, students could use a textbook, receive systematic help, or have someone else take the assessment in their place. (There is no reason for a student who has begun using ALEKS to cheat on a “progress” assessment, as this will simply cause the system to suggest problems that are too difficult, and thus hinder the student’s own work.)

The student will be given an Initial Assessment immediately following completion of the ALEKS Tutorial (Sec. 3.7). The student is clearly informed that the assessment (knowledge check) is beginning. Next, a series of mathematical problems is posed to the student. The student provides the solution to each problem using the Answer Editor (or clicks **I don’t know**). In Assessment Mode, the system does not inform the student

whether their answer is correct or incorrect. The assessment continues until the system has determined the student's precise knowledge of the class materials, at which time the assessment ends and a report is presented to the student. The number of questions asked cannot be known in advance, although consistent effort and attention may contribute to shorter assessments.

Information on the reports available to students, including reports on knowledge checks (assessments), can be found in Appendix A.

4.2 Guidelines for Assessments

ALEKS assessments are an important part of the ALEKS program. It is essential that assessments be conducted according to certain guidelines. If there is an atmosphere permitting disturbances or distractions, students may not do their best. If assessment results are inaccurate, the system will give the student inappropriate problems and progress will initially be impaired. The system will recover and find the right level, but the student may still experience a degree of frustration. In order to avoid this, it is strongly recommended that the first assessment be taken under the instructor's supervision (Sec. 3.7).

All students being assessed need paper and pencil. A basic calculator is part of ALEKS, and will be available when appropriate. It is important that no assistance be given to the student. Explaining or rephrasing a problem should be avoided; this is considered inappropriate help. Students should be instructed to use the **I don't know** button only when they are completely unfamiliar with the topic. It is not possible to return to previous assessment questions. **Students should not click their browser's Back or Forward buttons when using ALEKS.**

4.3 How Assessments are Triggered

All ALEKS knowledge checks (assessments) work in much the same way, though they are triggered for different reasons, as explained in the following sections.

4.3.1 Initial Assessment

The Initial Assessment takes place at the outset of a student's use of ALEKS, immediately after Registration and the ALEKS Tutorial (Sec. 3.7). We strongly recommend that students take this Initial Assessment in a supervised computer lab setting, to ensure that they do not receive help or collaborate. In creating or editing a class account, the instructor can stipulate that the Initial Assessment be allowed only from school (Sec. 7.4.23).

4.3.2 Automatic Assessments

Additional assessments (knowledge checks) after the Initial Assessment are triggered automatically by the system based on the student's rate of progress and on the amount of time the student has spent working in ALEKS. ALEKS triggers the following automatic assessments:

Progress Assessment

when the student has mastered approximately 20 topics in the Learning Mode **and** spent at least 5 hours working in ALEKS since the last assessment.

Login Time Assessment

when the student has spent 10 hours working in the Learning Mode since the last assessment.

Periodic Assessment

when 60 days have passed since the last assessment.

Objective Completion Assessment

when the student completes the material of a textbook chapter or objective or reaches the assigned Mastery Level (Sec. 7.4.6).

Goal Completion Assessment

when the student has completed the final topic of the pie chart. If the assessment does not confirm the student's mastery of the class materials, the student will return to the Learning Mode. Consequently, more than one Goal Completion Assessment is possible, but ALEKS will not reassess the student if a only small number of topics need to be relearned.

These are all **Progress**-style assessments. Some modification of the parameters given above is possible; contact ALEKS Corporation Customer Support for assistance if you would like to adjust them.

Students can see when their next Knowledge Check is coming up by clicking on the Knowledge Check icon on their Home page, next to the Timeline/ALEKS Pie switch. When it is time for the Knowledge Check, they will see a notification, and they will have 24 hours to begin it (the exact period may be different if you set it differently for your class). Before beginning the Knowledge Check, the student should be encouraged to review by clicking on **Review for Knowledge Check**; this option appears under the Knowledge Check notification and on the student's Primary Guidance Menu.

Note that a Progress, Login Time, or Periodic Assessment (Knowledge Check) "resets the clock," so that assessments do not occur one on top of another. In general, ALEKS will avoid triggering unnecessary re-assessments.

Progress made by the student through the Learning Mode, or as the result of an assessment, periodically updates the list of available topics, displaying a new pie chart and new choices of concepts the student is "ready to learn." The automatic assessments

check the students' retention of recently learned material, and may also include topics the student is ready to learn.

NOTE. Automatic assessments may be postponed due to a scheduled assignment. This occurs when the assignment has the **Prevent automatic assessments** box checked (Sec. 7.5.6). Also, to avoid the over-assessment of students, all automatic assessments will be prevented for students with 10 or fewer items remaining in an Objective or in the 48 hours preceding the Objective end date.

For Objectives without end dates, automatic assessments will be prevented for students with 10 or fewer items remaining to complete the current Objective, regardless of the mastery levels set (Sec. 7.4.6).

4.3.3 Scheduled Assessments

To schedule an assessment for the entire class or for specific students, select a class, click on the Assignment tab, then again on **Assignments**, and then select Scheduled Assessment under **New Assignment**. For example, the instructor, department, or college may wish to have “midterm” assessments under supervision to guarantee reliable results. They have the option of selecting the style of assessment as Progress or Comprehensive. Progress Assessments are slightly shorter and focus on the student's most recent learning history; Comprehensive Assessments are slightly longer and probe more deeply into the student's overall knowledge of the class content.

ALEKS allows the instructor to choose the availability of Scheduled Assessments by specifying a beginning and ending date and time and how students access that assessment when it becomes available. Also among the options for a Scheduled Assessment is one to prevent automatic assessments within a certain number of days prior to the Scheduled Assessment. Note that any assessment scheduled by the instructor “resets the clock” for automatic assessments, so that students will not be assessed too frequently.

For additional information about Scheduled Assessments, see Sec. 7.5.9.

4.3.4 Requested Assessments for a Single Student

As an instructor, you can also request an assessment for a single student. To do this, select the student, and then on the Assignments menu, select **Request Assessment**. When a Requested Assessment is triggered, the assessment will take place immediately the next time the student logs in (compared to the Scheduled Assessment, where the student is only prompted to take the assessment after the date or time specified by the instructor). Like the Scheduled Assessment, a Requested Assessment for a single student “resets the clock” for automatic assessments. The results of this assessment will not be included in the Gradebook.

The style of a Requested Assessment can also be set to Progress or Comprehensive. Progress Assessments are slightly shorter and focus on the student's most recent learning

history; Comprehensive Assessments are slightly longer and probe more deeply into the student's overall knowledge of the class content.

For additional information about Requested Assessments, see Sec. 7.8.9.

4.4 Answer Editor

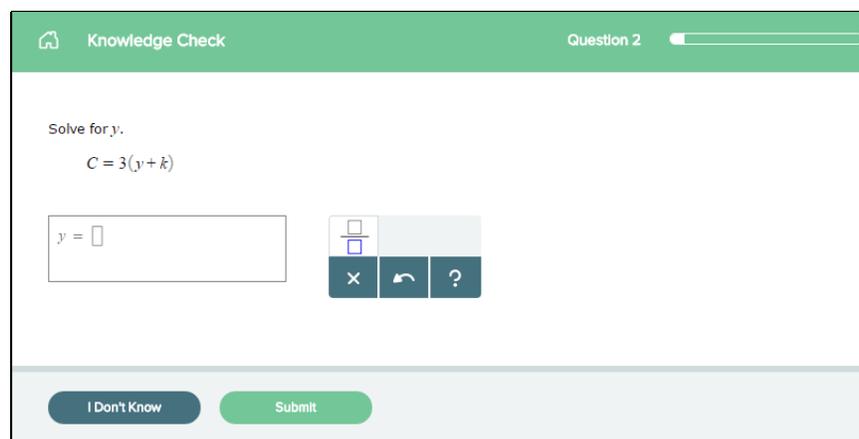


Figure 4.1: The Answer Editor for Mathematical Expressions (Assessment)

Input to the ALEKS system is always in the form of proper mathematical expressions and constructions, never multiple choice. A critical reason for this is to check students' knowledge accurately. Another purpose is to train students in the skills needed for conventional, paper-and-pencil communication of solutions and results. The sophistication of the ALEKS input tools provides additional advantages. The presentation of results is always neat and clear. The ALEKS graphing tools allow students to draw accurate graphs and geometrical constructions. Immediate feedback is provided on the formal completeness of solutions.

The general term for the input tools used in ALEKS is the **Answer Editor**. This encompasses a variety of actual modes for user input, including: an Answer Editor for mathematical expressions, an Answer Editor for the numberline, and an Answer Editor for graphing in the Cartesian plane (with x and y coordinate axes). A student beginning to use ALEKS is trained in how to use the features of the Answer Editor that are relevant to the subject (Sec. 3.6). Also, context-sensitive help is available on use of Answer Editor through the ? icon next to the buttons on the tool palette.

In much of what follows, emphasis is on the **Answer Editor for mathematical expressions**, as this is the section which involves the greatest degree of interplay between mouse, keyboard, and on-screen buttons and icons.

4.5 Manipulators for Mathematical Expressions

The Answer Editor for mathematical expressions consists of two parts: a rectangular field where mathematical expressions are entered (the **entry field**) is to the left, and a **keypad** made of buttons with mathematical symbols is to the right (Fig. 4.1). Mathematical expressions are entered and edited using the buttons of the Answer Editor keypad, as well as the basic keyboard, the Left and Right arrow keys, the Tab, Enter, and Backspace keys, and the mouse.

NOTE. Buttons are displayed to correspond with the kind of problem being solved. The selection is made in such a way as to avoid giving a hint to the correct answer. Keyboard shortcuts (Fig. 4.2) work only when the corresponding button is displayed.

Expression	Answer Editor keypad button	Keyboard equivalent
Square Root	$\sqrt{\quad}$	(none)
Fraction	$\frac{\quad}{\quad}$	/
Mixed Number	$\frac{\quad}{\quad}$	(none)
Repeating Decimal	$\overline{\quad}$	(none)
Absolute Value	$ \quad $	(none)
List of Expressions	\quad, \quad, \dots	,
Exponent	\quad^{\quad}	^ (before exponent)
Multiplication Expression	$\quad \times \quad$	*
Percentage	%	%
Greater-Than	$\quad > \quad$	>
Less-Than	$\quad < \quad$	<
Greater-Than-or-Equal-To	$\quad \geq \quad$	(none)
Less-Than-or-Equal-To	$\quad \leq \quad$	(none)
Equal-To	$\quad = \quad$	=
Not-Equal-To	$\quad \neq \quad$	(none)
AND	<i>AND</i>	(none)
OR	<i>OR</i>	(none)

Figure 4.2: Mathematical Expressions Produced by the Answer Editor

4.5.1 Basic Input

When a new page is opened and contains a problem whose solution is a mathematical expression, the entry field initially contains at least one blue box. Each blue box represents a mathematical expression forming part of the complete answer. To enter a mathematical expression the student must first click on a blue box. When this is done, the cursor (or “caret”) appears inside the box. The cursor marks the point at which something is entered. Material can be entered using the basic keyboard or the buttons

Key	Effect
Right arrow - Tab - Enter - Spacebar	moves the cursor one place to the right (ahead)
Left arrow	moves the cursor one place to the left (back)
Backspace	deletes input immediately preceding (to the left of) the cursor and moves the cursor one place to the left (back) OR deletes selected input

Figure 4.3: Using Special Keys in the Answer Editor

of the keypad. Individual digits can be entered only from the keyboard. Symbols can be entered using the buttons of the keypad or sometimes from the keyboard (Fig. 4.2).

4.5.2 Basic Editing Tools

The cursor, showing the point at which material is entered, can be moved using the Left and Right arrows, the Tab and Enter keys, as well as the Spacebar. It can also be positioned using the mouse. Input can be deleted using the Backspace key (Fig. 4.3).

4.5.3 Selecting Input

It is possible to select a continuous portion of input by dragging the pointer with the mouse button held down. A segment that has been selected by dragging in this way can be deleted by pressing Backspace, replaced by typing, or replaced by clicking the buttons of the Answer Editor keypad. It can also be inserted into a mathematical expression such as a fraction or a square root (the selected portion is placed in the numerator position or under the square root sign, respectively).

4.5.4 Clear and Undo

After material has been entered, the field can be returned to its empty state by clicking **Clear**. Clicking **Undo** cancels the most recent action. Clicking **Undo** a second time restores the effect of the canceled action (including a **Clear** command).

4.6 Mathematical Expressions

The purpose of the Answer Editor for mathematical expressions is to process user input in the form of correct mathematical expressions. One important way in which the Answer Editor guides the user in constructing such expressions is by means of the blue

boxes. If a blue box remains on the screen, you know that the input typed so far is not yet complete.

4.6.1 Entering Expressions from the Keyboard

For expressions that do not require the use of the Answer Editor keypad, the user can place the cursor within a blue box and enter the mathematical expression from the keyboard. For many expressions, however, the Answer Editor keypad must be used. Some types of expressions can be entered by either keypad or keyboard (Fig. 4.2).

4.6.2 Using the Answer Editor Keypad to Structure Simple Expressions

To form a simple mathematical expression, the user places the cursor in an empty blue box and clicks on the appropriate button from the Answer Editor keypad. The initial blue box disappears and new blue boxes may appear (depending on the button), accompanied by all of the necessary signs. The user can now fill in the new boxes.

4.6.3 Entering Complex Expressions

Sometimes it is necessary to enter more complex mathematical expressions, where multiple boxes are used. By placing the cursor in one of these boxes, an expression can be entered from the keyboard, or, by clicking on a button of the Answer Editor keypad, replace it with the structure of a new mathematical expression. Expressions of any degree of complexity can be created in this way.

NOTE. The Answer Editor does not supply parentheses automatically. The user must know when they are necessary. In particular, when there is an expression consisting of more than one symbol that must be raised to a power, the student may need to enclose it in parentheses, just as in writing; otherwise, only the final symbol (the one just before the exponent) will be raised to the given power.

4.6.4 Alternate Ways of Entering Expressions

The buttons of the Answer Editor keypad can be used in other ways as well. In particular, users can select some portion of the input in the entry field which constitutes a complete mathematical expression, and then click on a keypad button. This will create a new mathematical expression within which the expression selected is one component. The same basic rule applies: the minimum unit of manipulation is a complete mathematical expression.

4.6.5 Other Mathematical Signs

The following mathematical signs can be entered only from the keyboard:

- The plus sign (+).
- The minus sign (-), both for connecting the two parts of a subtraction expression and for designating a negative number.
- The period (.) used in decimals.
- The comma (,) used to punctuate numbers of more than three places.

4.6.6 The Asterisk for Multiplication

This is a special case. The “x” character on the keyboard cannot be used to enter a multiplication sign. Only the asterisk (*) serves this purpose. (The multiplication sign on the Answer Editor keypad, however, is the traditional x-shaped symbol.)

4.6.7 Mixed Numbers

This is another special case. Although fractions can be entered from the keyboard using the front slash character (/), mixed numbers **cannot** be entered this way. In other words, the Answer Editor does not automatically regard a whole number followed by a fraction as a mixed number. The mixed number button on the Answer Editor keypad **must** be used to enter mixed numbers.

4.7 Types of Mathematical Expressions

The following set of directions is intended to illustrate the variety of ways in which mathematical expressions can be entered using the Answer Editor.

Here, **Button** will always refer to a button on the Answer Editor keypad. By **select** we mean drag the mouse over the expression to be selected with the mouse button depressed.



Percentage

48%

Here you can use either the Answer Editor keypad or the regular keyboard to enter signs:

- Enter the expression you wish to express as a percentage and click on the percent button; **OR**
- Enter the expression you wish to express as a percentage and then enter the (keyboard) percent sign.

**Fraction**

$$\frac{7}{10}$$

Fractions can be entered in at least three ways:

- Enter the numerator, enter a (keyboard) forward slash character, and enter the denominator; **OR**
- Enter the numerator, click on the fraction button, and enter the denominator; **OR**
- Click on the fraction button, enter the numerator, then click on the blue square in the position of the denominator and enter the denominator. You can also advance the cursor to the position of the denominator using the keyboard.

**Mixed Number**

$$5\frac{7}{8}$$

Mixed numbers can be entered in more than one way, but each way requires use of the mixed number button:

- Enter the whole number part, click on the mixed number button, enter the numerator, press Enter, and enter the denominator; **OR**
- Click on the mixed number button, enter the whole number part, press the right arrow, enter the numerator, move the cursor to the denominator position, and enter the denominator (i.e., fill in the boxes).

**Repeating Decimal**

$$1.\overline{27}$$

- Enter all digits that precede the repeating pattern, including the decimal point (a period on the keyboard) and any decimal places preceding the pattern, click on the bar button, and enter the repeating pattern; **OR**
- Enter all digits, including the decimal point (a period on the keyboard) and all decimal positions following it, select the repeating pattern only, and click on the bar button.

**Fraction in square root followed by multiplier**

$$\sqrt{\frac{5}{8}} \times 3$$

For this example only one input method is given, but others could be suggested:

- Click on the square root sign button, click on the fraction button, enter the numerator, tab, enter the denominator, then tab, enter an asterisk (from the keyboard), and enter the multiplier.

**List**

$$1, 2, 3$$

For the purposes of the following example, assume that there is a list consisting of three components to be entered:

- Enter the first expression, click on the list button (or press the keyboard comma), enter the second expression, click on the list button, enter the third expression, click on the list button, and enter the fourth expression; **OR**
- Click on the list button (or press the keyboard comma) twice, click on the first blue box, enter the first expression, move the cursor right, enter the second expression, move the cursor right, and enter the third expression.

Answers with Units

10 cups

There are also some cases where the Answer Editor does part of the formatting. For example, in problems where answers must be expressed in some kind of units, such as dollars or meters, the unit expression needed may appear in advance.

**Square Root** $\sqrt{81}$

- Click on the square root button and enter the expression into the square root sign; **OR**
- Enter the expression you wish to appear under the square root sign, select it, and click on the square root button.

In the simple example just given the second method reverses the sequence of steps of the first method. Such complementary methods are typical.

**Absolute Value** $|-6|$

Another pair of complementary methods:

- Click on the absolute value button and enter the expression whose absolute value you wish to express; **OR**
- Enter the expression whose absolute value you wish to express, highlight the entire expression, and click on the absolute value button.

**Exponent** 3^2

- Enter the expression you wish to raise to a power, click on the exponent button, and enter the exponent; **OR**
- Click on the Exponent button, enter the base, then move the cursor to the exponent box and enter the exponent.

NOTE. If the number you wish to raise to a power is more complex, it may need to be enclosed in parentheses (Sec. 4.6.3).

**Square Root Preceded by Multiplier** $2\sqrt{6}$

With more complex expressions, you can use the mouse to place the cursor in the needed position, as in the second method:

- Enter the multiplier, click on the square root button, and enter the expression you wish to be under the square root sign; **OR**
- Click on the square root button, click to the left of the square root sign, enter the multiplier, tab (or press the right arrow, or press Enter, or press the Spacebar, or click on the blue box under the square root sign), and enter the expression you wish to be under the square root sign.

4.8 Advanced Mathematical Expressions

The following types of mathematical expressions occur in more advanced subjects.



To create a matrix, click on an icon corresponding to the dimensions desired (2×2 , 2×3 , etc.), then fill in the cells with appropriate values.



For topics involving set notation, there will appear icons for each of the special symbols required, such as curly braces, “belongs to,” “such that,” the real numbers, the integers, and so forth.

4.9 The Answer Editor for Graphing

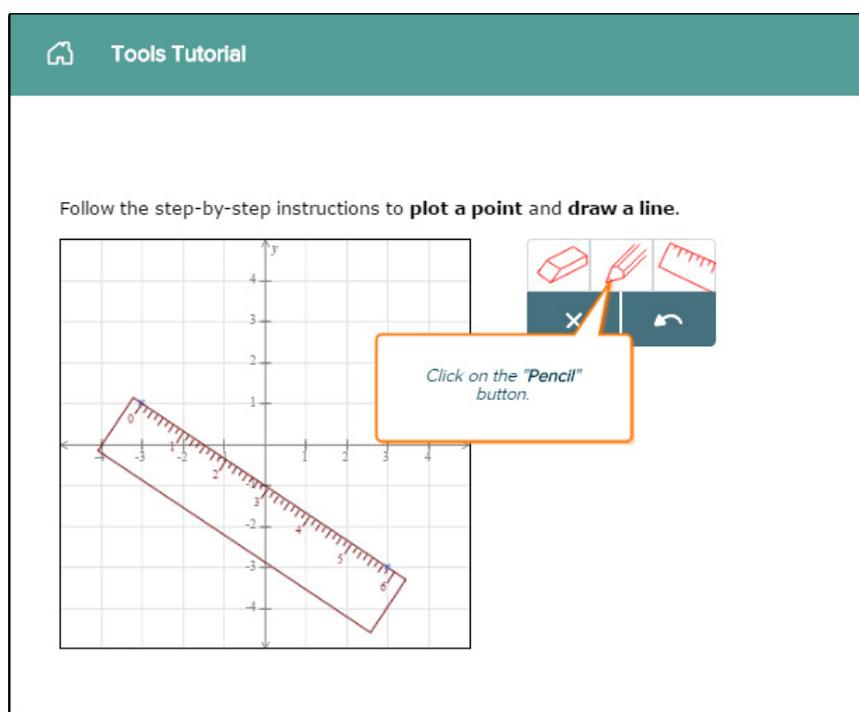


Figure 4.4: The Answer Editor for Graphing

The Answer Editor for graphing consists of a Cartesian plane with x - and y - coordinate axes and a selection of other tools for graphing lines and regions of the plane (Fig. 4.4).



To graph a line, use the pencil tool to plot two points. Then, align the straightedge (ruler) on the two points (it is a “grabby” tool and will jump to a point when it is near it). Then use the pencil tool to draw the line. Note that the effect of the straightedge continues past its ends, so there is no need to move it to make a line

going from edge to edge of the depicted plane. The line should be started within the graph area, however.



To fill in a region, first, draw all the lines defining the region. Then use the region tool and click in the desired region of the plane. In order for one or more of the lines defining a region to be dotted (as in the graph of a system containing one or more strict inequalities), click on the line with the dotted line tool. This may be done before or after the region is filled.



To draw a graph, use the pencil tool to plot a point. Then, click on the Plot point button twice.



To plot a point where the coordinates are non-integers, use the Plot point button. Using the keyboard, type the numerical values into the coordinate boxes and click **Plot point**.



To draw a graph requiring an asymptote, use the asymptote tool (broken horizontal or vertical line) to place the asymptote as needed. A slanted asymptote may be placed by first drawing two points and then using the tool with a broken diagonal line. Plot the additional points needed for the graph, and then click on the graph button (curved line connecting “X”s).



For each type of conic section, there is a special tool allowing the construction of its graph. Normally, the user clicks once with the tool to establish the center or vertex of the graph, and then one or more additional times to determine its final form.



As with the numberline, select the eraser tool and click on any part of a line, arc, or other component to remove it.

4.10 The Answer Editor for Histograms

The Answer Editor for histograms consists of a space for drawing histograms and icons (buttons) for creating and adjusting bars (Fig. 4.5).



Initially, the histogram appears with a small number of bars (e.g., two). The height of the bars is adjusted by clicking on the top edge of each and holding the mouse button down while dragging to the desired height. To add bars, click on the icon with the plus sign; to subtract bars, click on the icon with the minus sign. Each bar has a space beneath it where an appropriate label can be typed in.



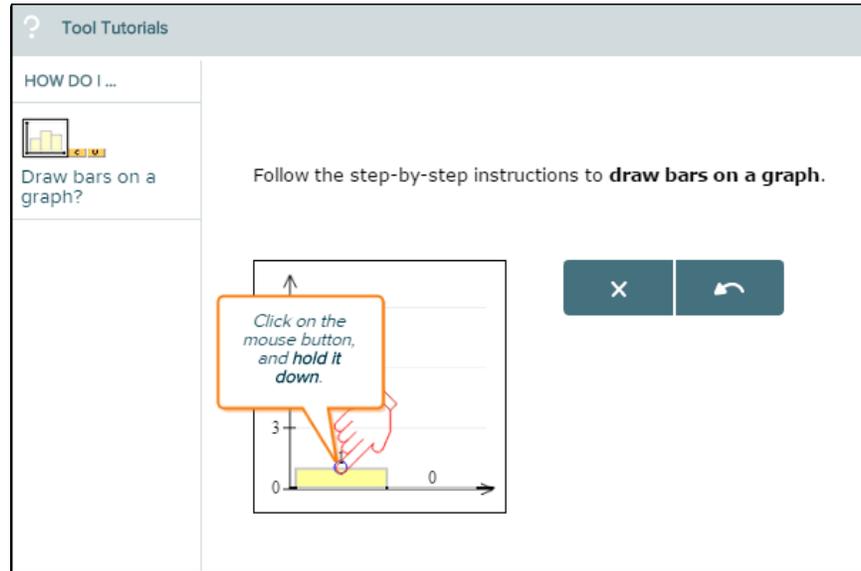


Figure 4.5: The Answer Editor for Histograms

Any bar may be set to any integer height by dragging. To set the height of a bar at a non-integer value, enter the value in the white area to the upper right of the histogram, then click on the icon with the broken horizontal line. This will place a broken line on the histogram at that height. Any bar may then be dragged to the height of any broken line that has been placed.

Chapter 5

Learning Mode

5.1 The ALEKS Learning Mode

The purpose of the Learning Mode is to assist students in mastering mathematical concepts. Students using ALEKS choose which concepts they wish to work on from the pool of available topics in the pie slices. This list of available topics is constantly being updated through progress made by the student in Learning Mode or as the result of an assessment. As students are only presented with material the system has determined they are most ready to learn, the benefit of their work is maximized.

In the Learning Mode students always work on one concept at a time. The Learning Mode provides students with a rich array of resources to help in mastering concepts. This includes explanations, references to a textbook if one has been integrated with ALEKS, links to supplemental tutorial material and interactive applications, practice problems, diagnostic feedback on problem solutions, and access to a student mathematical dictionary. Moreover, the Learning Mode is designed to monitor the progress made by students toward mastery of a given concept and advise them on continuing or changing concepts. A student is required to solve an appropriate number of practice problems correctly before the system will conclude that the concept has been mastered. (If the student makes mistakes, additional practice will be required.) Once the concept has been mastered, the student is encouraged to choose a new concept from the (updated) pie chart, but more practice is available if desired.

If the student has difficulty, the system may suggest that the student pay closer attention to the explanations. A new selection may also be encouraged. The student continues to work in the Learning Mode until a new assessment is triggered, either by the instructor or automatically. Automatic assessments are triggered when the student has either spent a certain amount of time in ALEKS or made a certain amount of progress since the last assessment (Sec. 4.3.2).

5.2 Interface Features

The features of the Learning Mode interface allow the student to edit personal information related to their account, view reports and gradebook information, and access helpful tools such as the ALEKS Dictionary, Calculator, and Review.

Students also have the ability to print certain screens in ALEKS. The **Print** feature will be available when the student generates a worksheet, views their reports, or utilizes the **Explain** page in Learning Mode. More detailed explanations of these options can be found below.

For a detailed description of the features of the student interface in ALEKS, please see Appendix A, the User’s Guide.

5.3 The Learning Mode Workflow

The ALEKS Learning Mode allows students to practice topics they are ready to learn. When students successfully solve a series of problems of the same type, ALEKS will add this problem type or “topic” to the student’s pie chart. If a student experiences difficulty with a topic, ALEKS will attempt to help the student in several ways. Students receive immediate feedback on their answers. Examples of how to solve the problems will be displayed on the “Explain” pages. The “Explain” pages link to definitions of terms and a comprehensive dictionary.

5.3.1 Practice Page



Figure 5.1: Practice Page

When a student chooses to begin work on a topic, ALEKS will display a page containing an instance of the problem, followed by the Answer Editor. This is where a solution to the problem can be attempted (Fig. 5.1). All practice problems are generated by algorithms, with randomly selected numerical values, so that the variety of problem instances for any topic is very high.

Below the Answer Editor are buttons labeled **Explanation** and **Check**. Clicking on **Check** has the same effect as described for the Assessment Mode: it submits the answer. Here, however, the user is given immediate feedback on their answer (Sec. 5.4). If correct, the student will receive a congratulatory message.

When the student clicks **Next**, a new problem is presented. In the case where the topic is considered mastered, the student will receive a congratulatory message and the system will offer to suggest new topics.

When the student enters an incorrect answer, ALEKS will return the presentation of the original problem with feedback on the student's error. Students can then click the **Explanation** button.

5.3.2 Explanation Page

The screenshot shows the ALEKS interface for the problem "Least common multiple of two monomials". The page is titled "ALGEBRA AND GEOMETRY REVIEW" and "Least common multiple of two monomials". The "QUESTION" section asks to find the least common multiple of $14y^7w^5$ and $3y^8w^5u^6$. The "EXPLANATION" section provides a step-by-step guide: 1. The LCM is the "smallest" multiple of the two expressions. 2. We start by finding the LCM of the coefficients 14 and 3, which is 42. 3. We then look at the variables that appear in at least one of the given expressions. The variables are y , w , and u . 4. The highest powers of these variables are y^8 , w^5 , and u^6 . 5. The LCM is the product of these highest powers and 42. The final LCM is $42y^8w^5u^6$. The "ANSWER" section shows the final result $42y^8w^5u^6$. On the right side of the explanation, there are icons for a calculator, a dictionary, a document, and an envelope. There are also expandable sections for "More" and "Why look at highest powers?".

Figure 5.2: Explanation Page

The Explanation Page (Fig. 5.2) begins with the title of the current item and an instance of that item. The answer to the problem is given at the end of the explanation.

When ALEKS is used with textbook integration,

an icon will appear on the right of the Explanation page, linking to a reference or to an online textbook. Additional tutorial material and interactive applications may also be found through other icons at the right of the Explanation Page.

Certain parts of the Explanation may be expanded by clicking on a **More** icon. Here again, mathematical terms are linked to dictionary definitions. The system may suggest looking up certain key terms to help with the explanation (especially if the explanation has already been visited). At the bottom of the page is the **Start** button. Clicking on this button produces a new instance of the same problem-type. Sometimes there may also be a button for **Additional Explanation** or **Detailed Explanation**.

5.3.3 Wrong Answer Page

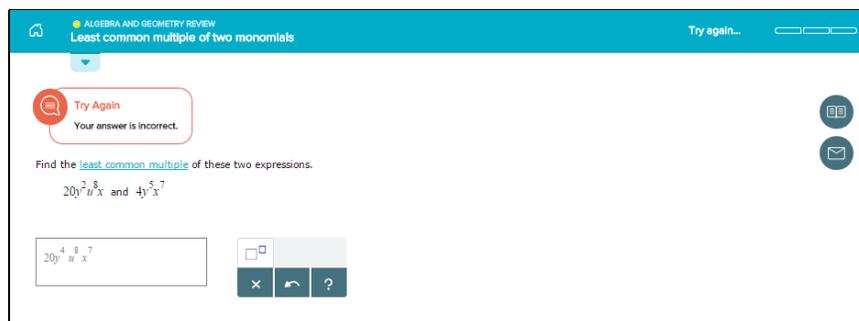


Figure 5.3: Wrong Answer Page

The Wrong Answer Page will appear only after an incorrect answer has been submitted on the practice page (Fig. 5.3). The system may explain why the answer is incorrect and offer advice on the error. Underlined words (hypertext links) may also appear on the screen for students to look up in the Dictionary.

The old, incorrect answer appears in the Answer Editor, where it can be corrected and resubmitted. Again, clicking on **Explanation** is an option that leads to an explanation of the problem. Please note that the system may also take the student directly to the “Explain” page if an item has been missed too many times.

5.4 Feedback in Learning Mode

In the Learning Mode, feedback is integrated into a sophisticated system of guidance for the student. Some errors prompt ALEKS to give specific hints and suggestions (Fig. 5.3). For example, it may say that a fractional answer needs to be reduced or that a list of expressions is incomplete. After a correct answer, the system will ask a limited number of questions for the same concept before judging that it has been mastered. If an item is missed too many times, however, a new topic will be suggested. If a concept has been left without mastery being attained, the system may suggest returning to it after one or two other topics have been covered.

5.5 Review

A student using ALEKS can review topics recently mastered in the Learning Mode or Assessment by selecting the **Review** filter in the topic carousel (Fig. 5.4). Clicking on any of these topics provides the chance for additional practice; this is particularly useful when the student knows that a new assessment (knowledge check) is imminent.

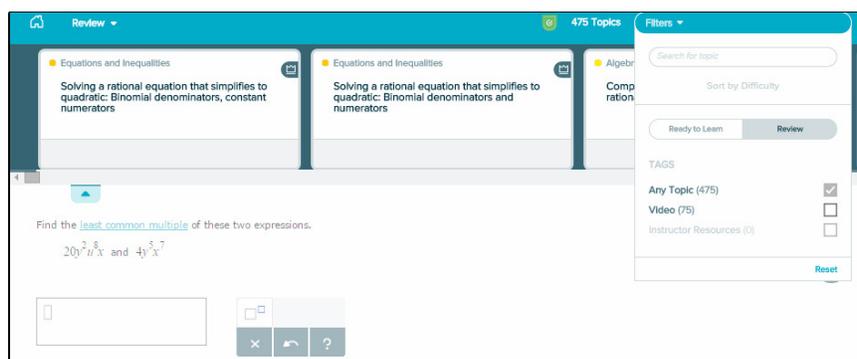


Figure 5.4: Review

NOTE. Work done in Review mode does not affect the student's pie chart or progress records.

5.6 Worksheet

Clicking the **Worksheet** button in the Main Navigation Menu (upper left) lets the student generate an individualized, printable homework sheet (in PDF format) containing a number of questions based on the student's most recent work in ALEKS (Fig. 5.5). When the student does this, a sheet containing answers for this individual worksheet (labeled with the student's name and the date) is sent to the instructor via the ALEKS message system (Sec. 7.2.2). The instructor may permit students access to their worksheet answers.

A record will be kept on the Worksheet page of all worksheets produced by the student. The student can click on the link for any past worksheet in order to obtain that worksheet again. If the instructor has permitted access to worksheet answers, there will also be links on this page to answer keys for each of the worksheets.

NOTE. In order to view or print documents in PDF format, such as the ALEKS worksheet, Adobe Acrobat or Adobe Acrobat Reader must be installed on your computer. Most computers have this software. If for any reason your computer does not, there is a link on the ALEKS Worksheet page to download it. Also, because the worksheet is opened in a new browser window, it may be necessary to disable your pop-up blocker temporarily in order to view or print the ALEKS worksheet.

ALEKS[®] Worksheet

Carly Palmer - Worksheet #1 - 06/25/2015 8:48 AM
Pre-Algebra / Period 2 (CPALMER508)

Review Questions

- Estimate $21,535 - 11,566$ by first rounding each number to the nearest thousand.
- Shade a region whose area is $\frac{2}{3} \times \frac{2}{5}$.
Then use the figure to compute $\frac{2}{3} \times \frac{2}{5}$.

The figure shows a 3x5 grid. A horizontal bracket above the first two columns is labeled $\frac{1}{5}$. A vertical bracket to the left of the first two rows is labeled $\frac{1}{3}$.

$$\frac{2}{3} \times \frac{2}{5} = \square$$

- Evaluate.
 $4 \cdot 4^2 \div 8$

Figure 5.5: Worksheet

Chapter 6

QuickTables

QuickTables is a special tool for mastery of Arithmetic facts (Addition, Subtraction, Multiplication, Division). It is available as part of some ALEKS course products. QuickTables uses individually configured, progressive, paced-response drills to develop mastery of the math facts, in a supportive, colorful interactive environment. Among many other features, it offers a series of games which the students “earn” through the progress that they make toward mastery of the various fact tables.

6.1 Setting Up QuickTables for your Class

In any ALEKS class where you choose to include QuickTables, you can select one or more of the following tables: Addition, Subtraction, Multiplication, and Division. The selection may be changed at any time; for example, you may start out with only Addition, then add Subtraction and the others one at a time as the students work their way through these tables.

Some ALEKS course products have QuickTables enabled by default, others not. Depending on the selected class, you will be prompted to add QuickTables at different times during the setup.

When creating a class in ALEKS, **if the class has QuickTables included by default**, you can add the QuickTables tables as part of the class creation process. **If the class does not have QuickTables included by default**, you will need to create and save the class before adding the QuickTables via the **Class Summary** (Sec. 7.4.16) and then **Set QuickTables** (Sec. 6.1.2).

6.1.1 QuickTables Sub-Navigation

From the **QuickTables** sub-navigation for the given class, instructors can add tables, modify existing tables, view or update the QuickTables settings, and view reports

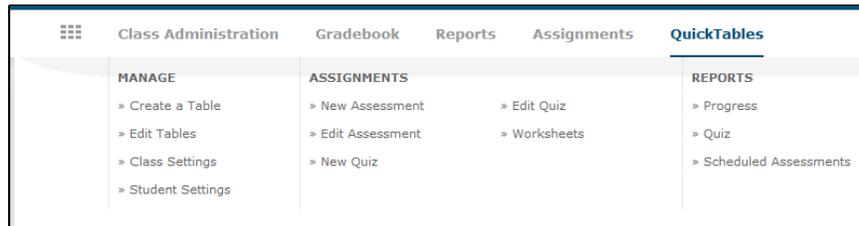


Figure 6.1: QuickTables Menu

(Fig. 6.1).

The available options are:

- Create a Table (Sec. 6.1.2)
- Edit Tables (Sec. 6.1.3)
- QuickTables Class Settings (Sec. 6.1.4)
- QuickTables Game Settings (Sec. 6.1.5)
- QuickTables Retention Assessment Settings (Sec. 6.1.6)
- QuickTables Student Settings (Sec. 6.1.7)
- QuickTables Assignments (Sec. 6.2)
- QuickTables Reports (Sec. 6.3)

6.1.2 Create a Table

Class Code: XXXXX-XXXXX CLASS TOOLS

Create a Table

Create a new table

To create a new table, select:

1. Operation:
2. Range of numbers used
3. Assign to all students or to specific students

Save & Activate Table

Tables currently active for this class

Operation	Range of numbers	Students assigned to this table
Addition	0-12	26 of 26
Subtraction	0-12	18 of 26
Multiplication	0-12	13 of 26
Division	0-12	21 of 26

[Edit tables](#)

Figure 6.2: Create a Table

To create a table for the selected class, from the **QuickTables** sub-navigation, select **Create a table**.

On the **Create a new table** page (Fig. 6.2), you will need to:

1. Select the operation for the table (Addition, Subtraction, Multiplication, Division).
2. Select the range of numbers to be used.
3. Make the table available to all students in this class (the default) or only to selected students.
4. Click **Save & Activate Table**.

After you have clicked to confirm your choice, the table will be listed under **Tables Currently Active for this Class**. If you wish to make changes to the table(s), select **Edit tables** (Sec. 6.1.3).

NOTE. A student's QuickTables records move with the account, regardless of the class. In order for the records to appear, however, the new class needs to have the same QuickTables configuration as the original class.

6.1.3 Edit Tables

To edit a table, from the **QuickTables** sub-navigation, select **Edit Tables**.

On the **Edit Tables** page, instructors can do the following:

- Reassign Students to a table(s).
- Delete a table.
- Create a table.

6.1.4 QuickTables Class Settings

The QuickTables Class Settings affect all QuickTables use for the given class. After you gain some experience using QuickTables, you may decide to change some of the default settings (Fig. 6.3).

The available options are:

- The daily time limit for the entire QuickTables session (default 15 minutes).
- The maximum number of days QuickTables can be used each week (default 3 days).
- The tutor character.
- The Game Settings (Sec. 6.1.5).
- The Retention Assessment Settings (Sec. 6.1.6).

Course Settings [Learn more](#)

Daily time limit for the entire QuickTables session (including games): 15 min (default) ▾
[Learn more](#)

Maximum number of days QuickTables can be used each week: 3 (default) ▾

Select a tutor character:
[Learn more](#)









Game Settings

Minimum time to spend on a daily session before games are available: No games (default) ▾
[Learn more](#)

Maximum number of games per daily session: 6 (default) ▾
[Learn more](#)

Reset high score chart:
 Weekly
 Monthly
 Never

[Learn more](#)

Retention Assessment Settings

A Retention Assessment is automatically given to a student a certain amount of time after the student completes a table. The goal is to assess the student's long-term mastery of the table.

If the student does not score 100% on a Retention Assessment, then s/he must complete the table again before another Retention Assessment is given.

Figure 6.3: QuickTables Class Settings

Use of QuickTables should be limited to ensure that students also spend time working in the regular ALEKS class (if applicable). The benefits of using the type of drills that QuickTables provides are greatest when concentrated in relatively short and well-spaced sessions. These short “bursts” of activity help keep the students’ concentration sharp.

6.1.5 Game Settings

As an incentive and teaching tool, QuickTables offers several short games in which students practice the facts they have been learning.

To access the **Game Settings**, from the **QuickTables** sub-navigation, select **Class Settings**.

Minimum time to spend on a daily session before games are available

This is the minimum time students must spend in QuickTables before games become available. Please note that if this is set to a length of time greater than the

daily time limit for QuickTables (first setting at the top of the QuickTables Course Settings screen), the student will never have access to the games.

Maximum number of games per daily session

As students progress in QuickTables, they are given access to a greater variety of games. You can limit the number of times a student can play the games in a daily QuickTables session (default 6).

Reset high score chart

The final option for the Game Settings, is to reset the “high score chart” at regular intervals. Playing QuickTables games, students earn numerical scores that are compared with the scores of other students in the class. The current “high score” is reset at the interval that you choose (default weekly), to establish a regular period of competition among students for added motivation.

6.1.6 Retention Assessment Settings

To access the the **Retention Assessment Settings**, from the **QuickTables** sub-navigation, select **Class Settings**.

Retention Assessments are given to students when they complete a table in QuickTables. Their goal is to assess the student’s long-term mastery of the table. QuickTables does not have Progress Assessments. By default, the number of Retention Assessments per table is two. Additionally, by default, the number of days between when a student completes a table and a Retention Assessment is 30 days. Both these settings can be adjusted, as can a location setting for the Retention Assessment. When a Retention Assessment is triggered, QuickTables will force the student to take it so that they are not able to work in any other table until the assessment is completed.

After a Retention Assessment, the system behaves as it would after an Initial Assessment: if the result of the Retention Assessment is 100%, ALEKS displays the congratulations screen. If not, the student can continue in the Learning Mode. The system will use the result of the Retention Assessment as a starting state for the Learning Mode. The student does NOT have to work in this table and can choose another available table.

NOTE. By default, ALEKS gives two Retention Assessments per table 30 days after completion, no matter the result of the previous assessment. (Even if the student scored 100% after the first Retention Assessment, the student will have another one 30 days later.) Selecting **None** means that there will be no Retention Assessment for the class. Please be aware that if this option was set to one or more, and a Retention Assessment has been triggered, it cannot be canceled. Switching the option to **None** will not cancel a Retention Assessment that has already started.

6.1.7 QuickTables Student Settings

To modify student settings, from the **QuickTables** sub-navigation, select **Student Settings**.

- **On-screen keypad** is a numeric keypad that appears and is controlled using the mouse. You can hide or show this keypad. It can be made available for students who have trouble using the keyboard.
- **On-screen timer** is the the display of the time elapsed for a problem. You can hide or show this timer.
- **Timer setting** is the time that the student is given to input a correct answer. For effective practice, this number should be as low as reasonable. The Timer setting, for an individual student, cannot be modified until the keyboard exercise is completed.

6.2 QuickTables Assignments

Like the regular ALEKS course products, instructors can create assignments for QuickTables such as assessments, quizzes, and worksheets for the class. QuickTables Assessments and Worksheets are individualized to each student's current progress. Instructors can also produce customized Worksheets on selected facts from the tables.

6.2.1 QuickTables Scheduled Assessments

In addition to automatic Retention Assessments, instructors can schedule new assessments for an individual student or for the entire class, to assess students on their most recent knowledge of any tables.

To schedule an assessment:

1. From the **QuickTables** sub-navigation, select **New Assessment**.
2. Complete the Basic Options and Advanced Options for the quiz and click on **Save & Continue**.
3. Click **Done** to confirm the information.

To edit an assessment:

1. From the **QuickTables** sub-navigation, select **Edit Assessment**.
2. Select the assessment you would like to edit.
3. On the screen that follows, make your changes or create extension. You can also cancel the assessment by clicking on **Cancel this Assessment**.
4. Click **Done** to confirm the information.

6.2.2 QuickTables Quiz

Instructors can create a QuickTables quiz for a single student or for the entire class.

To schedule a Quiz:

1. From the **QuickTables** sub-navigation, select **New Quiz**.
2. Choose the table operation and math fact range, and then click **Next**.
3. On the following page, click on a math fact to add it to the quiz and then click **Next >>**. (Please note that you will need to add a minimum of 10 math facts for each quiz.)
4. Complete the Basic Options and Advanced Options for the quiz and click on **Save & Continue**.
5. Click **Done** to confirm the information.

To edit a Quiz:

1. From the **QuickTables** sub-navigation, select **Edit Quiz**.
2. Select the quiz you would like to edit.
3. On the screen that follows, make your changes or create extension. You can also delete a quiz by clicking on **Delete this Quiz**.
4. Click **Done** to confirm the information.

NOTE. Students that joined the class after a QuickTables quiz was created will not be prompted to take the quiz.

6.2.3 QuickTables Worksheets

Instructors can provide additional practice offline by generating QuickTables worksheets for the students.

To access QuickTables worksheets, from the **QuickTables** sub-navigation, select **Worksheets**.

View/Create Worksheets for a Single Student

This option allows you to choose a table and automatically create a customized worksheet for a single student, or view all such worksheets created so far.

View/Create Worksheets for all Students

This option allows you to choose a table and automatically create a customized worksheet for each student based on the student's progress, or view all such worksheets created so far.

View/Create Selected Math Fact Worksheets

This option allows you to choose one or more tables and design your own worksheet by selecting facts from the tables, or view all such worksheets created so far.

6.3 Reporting your Students' Progress in QuickTables

Reports for QuickTables may be accessed via the **QuickTables** sub-navigation.

Three types of report are available in QuickTables:

- Progress
- Quiz
- Scheduled Assessments

6.3.1 QuickTables Progress Reports

Progress Reports - Class Report for All Tables

Class Code: XXXXX-XXXXX CLASS TOOLS

View report for: All Tables [Download Excel Spreadsheet](#)

Student Name [?] (Login Student Id)	Table Type	Total Time	Last Login	Assessment Date	Assessment Name	Progress [?]
Cameron, Jane	Addition 0-12	2h 52m	06/18/14	05/20/14	QuickTables Scheduled Assessment 3	44 + 42 %
	Subtraction 0-12	0m	N/A	N/A	QuickTables Initial Assessment	N/A*
	Multiplication 0-12	1h 48m	06/18/14	06/12/14	QuickTables Scheduled Assessment 5	63 + 7 %
	Division 0-12	0m	N/A	N/A	QuickTables Initial Assessment	N/A*
Carter, Bart	Addition 0-12	1h 55m	06/18/14	05/20/14	QuickTables Scheduled Assessment 3	13 + 22 %
	Subtraction 0-12	18m	04/28/14	04/22/14	QuickTables Initial Assessment	26 + 4 %
	Multiplication 0-12	0m	N/A	N/A	QuickTables Initial Assessment	N/A*
	Division 0-12	1h 37m	06/18/14	04/22/14	QuickTables Initial Assessment	4 + 45 %

Display past data: Show all the assessments

Legend: Portion of the table completed in the Assessment (blue), Portion of the table completed in the Learning Mode (green), Portion of the table the student still needs to learn (yellow), The student has not been assessed on this table. (grey)

(*) The student does not currently have access to this table.

Figure 6.4: QuickTables Reporting

To view QuickTables Progress Reports:

1. From the **QuickTables** sub-navigation, select **Progress**.
2. Use the drop-down menu to select either **All Tables** or a specific table.

The Progress Report view for QuickTables shows, for each student (Fig. 6.4):

- The total time spent in QuickTables since completion of the typing tutorial.
- The last login date.
- The assessment date, which is the date the assessment was completed.

- The bar graph, which is a representation of the student's progress in QuickTables. The bar graph displays percent mastery of the table contents in blue for the most recent assessment, with an additional segment in green showing what was added since that assessment (blue plus green equals the student's total current mastery). A grey bar indicates that the student has not yet been assessed on the table.

To print the QuickTables progress report, use the ALEKS Print button to upper right; to download its contents in Excel format, use the **Download Excel Spreadsheet** link. To see separate bar graphs for all of your students' assessments, use the link beneath the report marked **Display Past Data**. The student data may be ordered by any of the green clickable column headings. To see more details such as the date the student completed the table, click on the percentage under the **Progress** column.

6.3.2 QuickTables Quiz Reports

To view QuickTables Quiz Reports:

1. From the **QuickTables** sub-navigation, select **Quiz**.
2. Use the drop-down menu to select a quiz.

The Quiz result view for QuickTables shows, for each student:

- The date the quiz was submitted.
- The timer setting, meaning how long the student has to answer each question.
- The total time spent in the quiz.
- The percentage score. (You can click on the link to the right of a student's score to see the results in greater detail.)
- The letter grade.

The student data may be ordered by any of the green clickable column headings. To download the results in Excel format, click the link below the chart.

6.3.3 QuickTables Scheduled Assessment Reports

To view QuickTables Scheduled Assessment Reports:

1. From the **QuickTables** sub-navigation, select **Scheduled Assessments**.
2. Use the drop-down menu to select a scheduled assessment title.

The QuickTables Scheduled Assessment report view shows, for each student:

- The date of the assessment.

- The time spend on the assessment.
- The results of the assessment.

Clicking on the percentage link to the right of a student’s bar graph will display the results in greater detail. This view will display a table of the assessment results or learning, showing their level on each of the math facts.

Like other reports in QuickTables, the order of student data for scheduled assessment may be ordered by any of the green clickable column headings. The class data may be downloaded to an Excel format by clicking on the link below the chart.

6.4 How Your Students Use QuickTables

When students log in to an ALEKS class where QuickTables is enabled, they see the **QuickTables** option in the top bar menu. Clicking on this option will switch them into the QuickTables environment.

6.4.1 QuickTables Keyboard Exercise

The first time students enter QuickTables, they are given a brief training on how to enter numbers quickly. The goal of the initial keyboard exercise is to increase the students’ typing speed and accuracy. The keyboard exercise is parallel to the Tutorial that students experience when using ALEKS for the first time, but focused exclusively on typing and entering numbers smoothly and promptly. Numbers can be “entered” by using the **Enter** key or the **Space Bar** on the keyboard.

6.4.2 QuickTables Testing Mode

Following the introductory training, students select an operation and then take a brief test to determine their current knowledge of the math facts in the particular table. (Where there is more than one table, a test will be taken for each new table.) This is parallel to the Initial Assessment taken in regular ALEKS. **This initial assessment test must be finished in one login session. Logging out before it is complete will require restarting the test.**

6.4.3 QuickTables Learning Mode

When the student completes the test, the color-keyed Learning Display is presented, showing their current knowledge of the table. The student is then able to choose how they will work toward complete mastery of the table facts (Fig. 6.5). This display has a function similar to that of the pie chart in regular ALEKS.

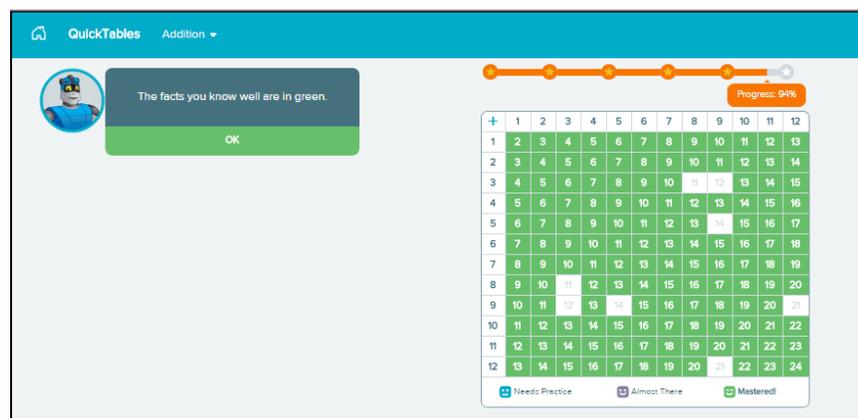


Figure 6.5: QuickTables Learning Display

To choose a math fact to work on, the student clicks on the corresponding cell in the table. If the student simply presses **Enter** or the **Space Bar**, a fact will be chosen from those available. There is a brief introduction to the fact, and then a paced drill sequence in which review of previously-learned facts is mixed in with reinforcement of the new fact. Sequences are kept short so that the student’s concentration remains high. If there is a mistake, the drill is halted while the student reenters the correct answer, with help from QuickTables; also, if the student takes too long in answering, there is a similar halt while the student catches up with the drill. Once the student shows mastery of the new fact, there is a pause before the next cycle of learning.

Students can view a report of their work in QuickTables by clicking on **Options** located in the upper right of the screen. Clicking on **view your latest QuickTables report** link will display their QuickTables assessment results and QuickTables quiz results.

NOTE. The drill provided by QuickTables is paced, in the sense that students need to enter their answers within a specified “Target Time.” QuickTables seeks to develop quick, “automatic” response to questions on math facts. The actual time interval for answering is subject to customization (Sec. 6.1.7).

As the student progresses in mastery of new facts, the colors in the table flow across the report to show the changing area of mastery. This provides the student with direct, tangible evidence of progress, building the student’s motivation. At the same time, the thermometer graphic to the right of the table also indicates the percentage of the table contents that the student has worked through. Gold stars next to the thermometer indicate levels of progress where new games become available to the student.

6.4.4 QuickTables Games

Students can click on the **Games** option in the top bar to take a break from drill and play any of the games that they have earned (Fig. 6.6), subject to the limits chosen by the instructor (Sec. 6.1.5). The games provided in QuickTables are designed to reinforce

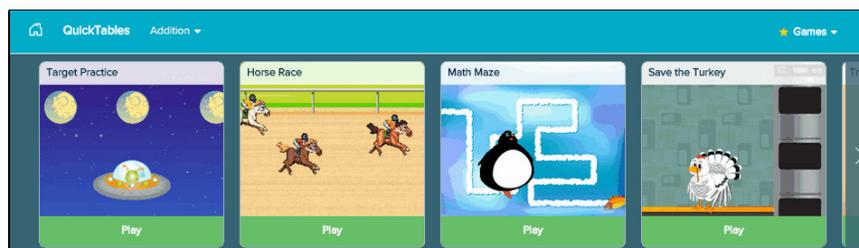


Figure 6.6: QuickTables Games

the students' knowledge of the math facts that they have just learned. The activation of games is based on progress made in a single table. If a student works in multiple tables during a single session, the progress may not be enough in any one of them to cause a new game to appear.

NOTE. When students have spent the maximum daily amount of time allowed in QuickTables, they will receive a message, "You have used up all your QuickTables time today. Please come back another day." The maximum daily amount of time is subject to customization (Sec. 6.1.4).

6.4.5 QuickTables Completion Certificate

Students who complete a QuickTables table can print a certificate of completion by logging into their account, entering QuickTables, and pressing the tab of the mastered table. The certificate will appear, and a **Print** link will be available (Fig. 6.7).

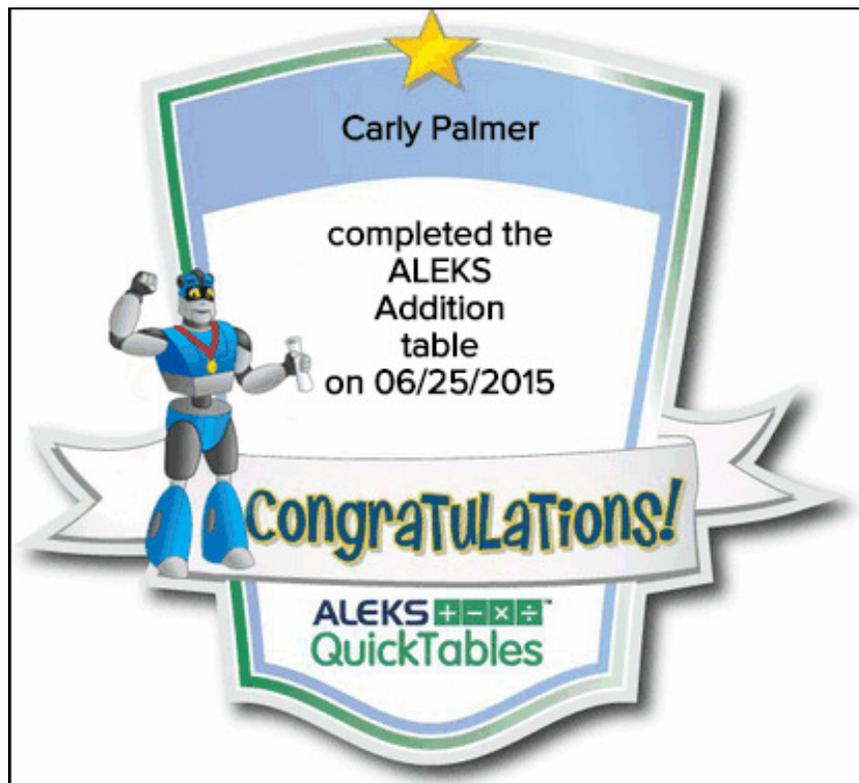


Figure 6.7: QuickTables Games

Chapter 7

Instructor Module

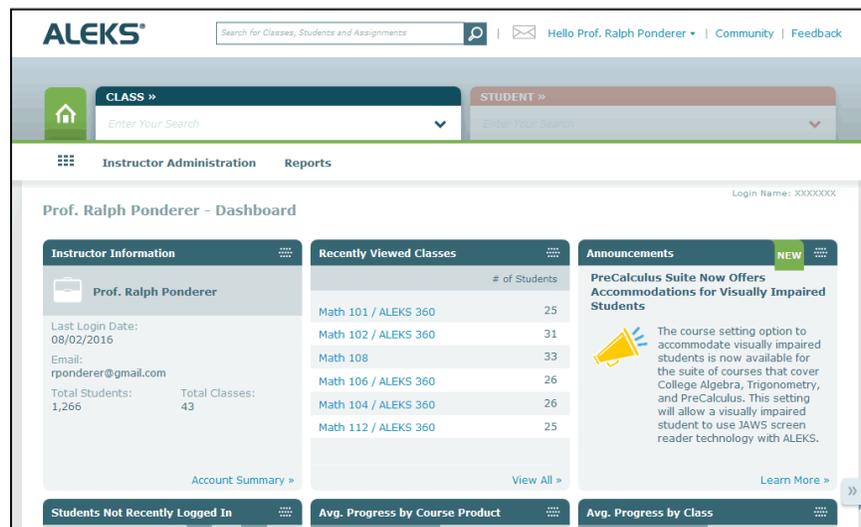


Figure 7.1: Account Home Screen

The ALEKS Instructor Module features a streamlined interface, based around a system of organizational levels and dynamic dashboard tiles. The Instructor Module makes class management simple, and allows instructors to spend less time with administrative tasks and more time directing student learning.

7.1 Navigation

There are several ways to navigate the Instructor Module. They include using the search box, main navigation, sub-navigation, or the dashboard. These navigation techniques are described below.

7.1.1 Search Box



Figure 7.2: Search Box

The **search box** can be found at the top of any page in the Instructor Module (Fig. 7.2). It can be used to search all pages in the Instructor Module with the exception of the ALEKS Community and the Class Forum. To search for a class, student, or assignment type in a search query and then select the **Enter** key. Alternatively, you can type in a search query and then click the search icon next to the **search box**.

7.1.2 Main Navigation



Figure 7.3: Main Navigation

Instructors have access to a two-level hierarchy: class and student (Fig. 7.3). The navigation structure is tab-driven for easy navigation and starts with the **CLASS** tab on the left. This tab contains all classes taught by the instructor.

Instructors begin by opening the drop-down menu and selecting a class, or by typing into the open box to bring up matches from the menu.

Once a class is selected, the **CLASS** tab becomes the active tab (current level in the hierarchy), and instructors have access to class-related menus and the class dashboard.

Instructors can remain at the class level or make a selection in the **STUDENT** tab to move down to that level. The **STUDENT** tab contains all the students enrolled in the selected class. As with the **CLASS** tab, selections can be made by clicking on a student's name or by typing in the search field to bring up a match. After selecting a student, instructors will have access to student-related menus and that specific student's dashboard.

7.1.3 Sub-Navigation

The sub-Navigation displays menus related to the selected item in the main navigation (class or student) (Fig. 7.4). To return to the tab level, click on the top of the appropriate tab to make it active again.



Figure 7.4: Sub-Navigation

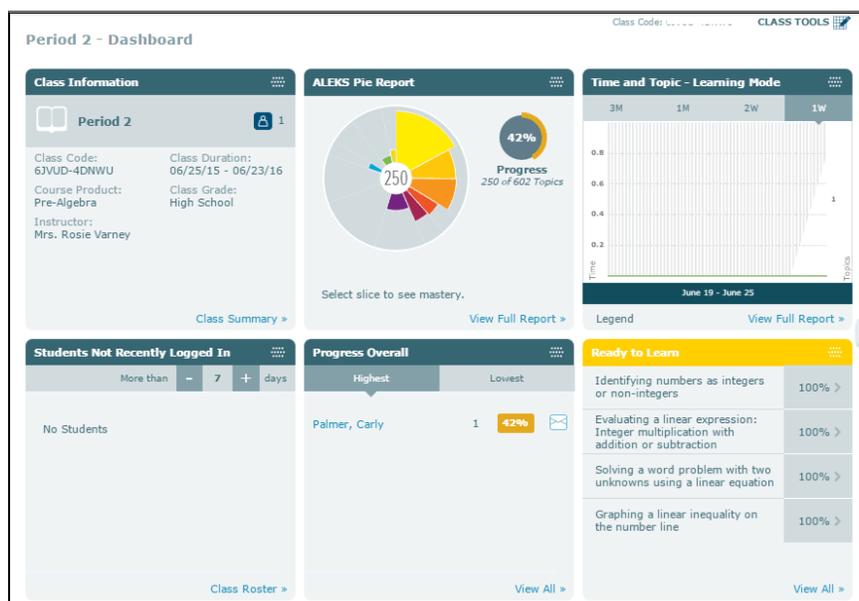


Figure 7.5: Dashboard

7.1.4 Dashboard

The Dashboard displays quick overviews of important data applicable to the level currently selected (Fig. 7.5). Each Dashboard consists of dynamic tiles that update when the Dashboard is opened. The Dashboard displays six tiles at a time; additional tiles can be found by clicking the navigational arrow button to the right or left of the Dashboard. The display order of the dashboard tiles can be changed by moving the tiles around on the screen.

To rearrange dashboard tiles on a tablet:

1. Press and hold your finger on the tablet screen over the title of the dashboard tile.
2. Drag the tile to the desired location.
3. Remove your finger from the screen to drop the tile in place. The rest of the tiles will automatically update their position relative to the moved tile.

To rearrange dashboard tiles on a computer or laptop:

1. Move the mouse over the title of the dashboard tile.
2. Click and hold. You will see the tile become slightly larger.
3. Move the tile to the desired location.
4. Unclick the mouse to drop the tile in place. The rest of the tiles will automatically update their position relative to the moved tile.

Many of the dashboard tiles are interactive. For example, moving the mouse around the pie chart on the **ALEKS Pie Mastery** dashboard tile will display the mastery levels for that particular slice. Additionally, many tiles will have links to other areas of the Instructor Module, including Reports, Class Summary, and the ALEKS Gradebook, to name a few.



You can return to the Dashboard for the level currently selected at any time by clicking the **Dashboard Button** to the left of the sub-navigation.

7.1.5 Home Button



The Home button, located to the left of the main navigation windows, can be used at any time to return to the home screen for the currently active account.

7.2 Instructor Account

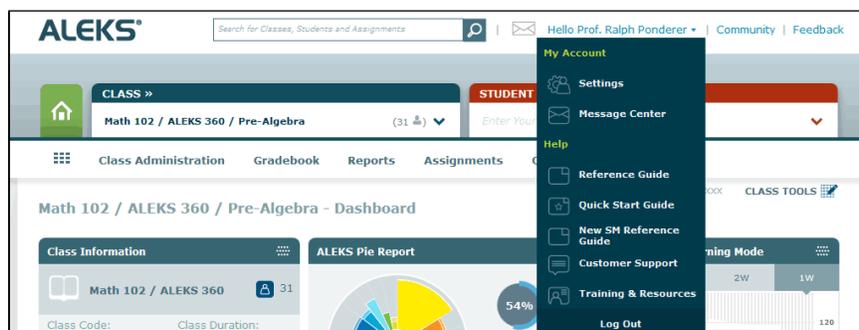


Figure 7.6: Account Drop-Down Menu

Account settings and helpful resources can be found in the Instructor account drop-down menu by clicking on your name in the upper right corner of the Instructor Module home page (Fig. 7.6). Details for each option are given below.

7.2.1 Account Settings

Prof. Ralph Ponderer - Account Summary

COMPLETE
Your changes have been saved successfully.

Account Information [Edit](#)

Basic Information
Account Type: **Instructor**

Title:

Salutation: **Prof.**

First Name: **Ralph**

Middle Name:

Last Name: **Ponderer**

Login Name: **RPOSEIB**

[Reset Password](#)

ID:

Contact Information

Please complete this section.

Email: **rponderer@gmail.com**

Phone Number:

Address:

Account Settings [Edit](#)

Account Status: **Enabled**

Language: **English**

Automatic Logout: **30 min**

Permissions
Full student history

Classes

Current Classes

Dev 1

Math 105

Figure 7.7: Account Summary

The **Account Summary** page contains your account settings, contact information, and email preferences (Fig. 7.7). You can access this screen by selecting **Settings** from the account drop-down, or by clicking **Account Summary** under Instructor Administration on the main page

7.2.2 Message Center

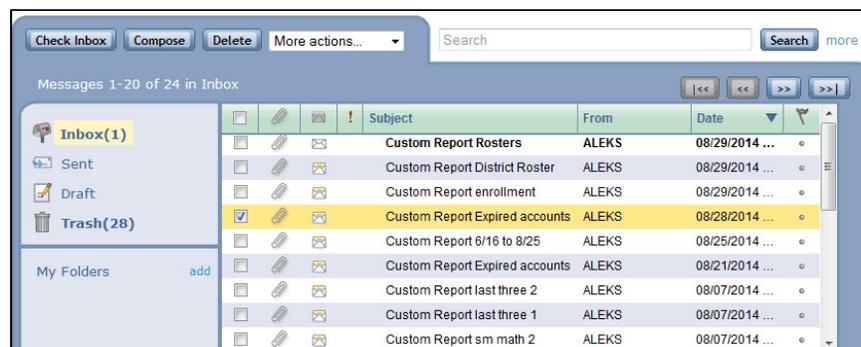


Figure 7.8: Message Center



The **ALEKS Message Center** is where messages can be sent from instructor to student and to ALEKS Customer Support (Fig. 7.8). This is also where you will find messages sent to you by your students. The message center can be accessed by clicking on the envelope icon next to the search box, or by selecting Message Center from the instructor account drop-down menu.

The Message Center resembles an email program in most of its features, although the exchange of messages takes place within the ALEKS system. Also, the Message Center is equipped with special symbols and tools appropriate to communication about subject matter used in ALEKS.

The Message Center contains a full range of tools for using mathematical symbolism, constructions, and expressions in your messages. The tools are like those used in ALEKS itself in the Answer Editor. Moreover, students sending you messages in the Message Center can attach a graphic representation of the problem they are currently working on, to facilitate discussion of mathematical questions.

Compose To compose a new message, click on the **Compose** button. After clicking on the appropriate “To:,” “Cc:,” or “Bcc:” button, use the expandable folder list to select the recipient(s) of the message. As with traditional email programs, messages can be saved as drafts for later editing, they can be marked as urgent, and attachments can be included (up to 2 MB in size).

Check Inbox To check for new messages received while the ALEKS Message Center is open, you can click on the **Check Inbox** button to refresh the inbox.

7.2.3 Reference Guides

The following online documents are accessible directly from the ALEKS instructor and administrator account drop-down menu:

- **Reference Guide** is a summary of features of the Instructor Module.
- **Quick Start Guide** outlines the most important features and functions within ALEKS so instructors can easily begin working in ALEKS.
- **New SM Reference Guide** provides an overview of the new Student Module and its features.

7.2.4 Customer Support

Clicking on **Customer Support** in the instructor or administrator account drop-down menu opens an ALEKS customer support form.

7.2.5 Training & Resources

Training & Resources in the instructor or administrator account drop-down menu opens a window to the Training and Resources section on the ALEKS website. You can schedule a training session with an ALEKS specialist, register for an upcoming ALEKS overview session, and view On-demand videos of popular ALEKS features and tasks.

7.2.6 Log Out

To end your ALEKS session, select **Log Out** from the account drop-down, or simply close your browser window.

7.2.7 Community

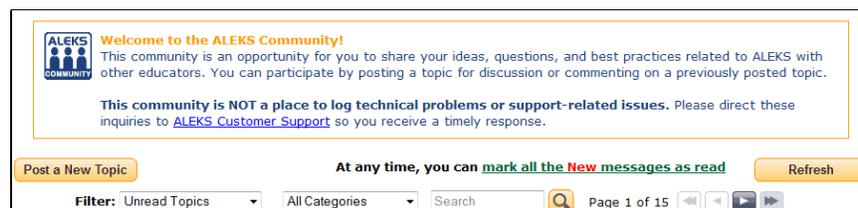


Figure 7.9: ALEKS Community

The **ALEKS Community** is an online community where instructors can share ideas and discuss best practices with ALEKS colleagues (Fig. 7.9). All ALEKS educators are members of the ALEKS Community and can post new topics or comment on existing discussions.

7.2.8 Feedback

Feedback allows you to send feedback to ALEKS regarding the Instructor Module.

7.2.9 Student Roster (Instructor Level)

From the **Instructor Administration**, instructors can access the ALEKS Student Roster for all students that are registered in classes under their account (Fig. 7.10).

Instructors can use the following filters to display various groups of students:

Active

All students currently in the class are tagged as active and displayed by default.

Prof. Nhilene Sharp - Student Roster

0 Students Selected | Last updated: 10/02/2014 (5:09 pm) | Refresh | Displaying 5 students

Course Product: All (10) | Active (7) | Former (3) | Hidden (2) | Old Classes (7) | Download

Please select one or more rows to perform an action.

Name	Mastery	Course Product	Class	Login	Enrolled	Expires	Last Login
Jelly, Nhi	-	Beginning and Intermediate Algebra Combined	Beg and Int Algebra Combined - access code	XXXXXXXXXX	08/26/14	09/12/14	08/28/14 (9:14 pm)
Jonhi, Jelly	-	Pre-Algebra	Wednesday - 06112014	XXXXXXXXXX	06/11/14	07/26/14	06/11/14 (5:28 pm)
Nhi, Alline	-	Beginning and Intermediate Algebra Combined	Beg and Int Algebra Combined - License	XXXXXXXXXX	08/25/14	10/09/14	08/25/14 (10:47 am)
Student5, Nhi	83%	Pre-Algebra	Wednesday - 06112014	XXXXXXXXXX	06/11/14	10/31/14	09/26/14 (3:07 pm)
Vu, Student	-	Basic Math	Module 1	XXXXXXXXXX	08/22/14	09/08/14	08/22/14 (12:26 am)

Figure 7.10: Student Roster (Instructor Level)

Former

Students are tagged with this status when they were in this class and have moved out of the class into another class, but their records still appear in this class.

Hidden

These students are hidden from reports and drop-down menus.

Old Classes (available only at Instructor level)

Students who were in a class that is inactive or archived.

The default roster settings will display information for Active students. Instructors can use the Class Roster to view students information in a selected class (Sec. 7.4.35). ALEKS administrators have access to the institution Student Roster to view all students registered at the school (Sec. 7.9.8).

7.3 Reports

The Report menu displays the ALEKS reports that are available for the current class. Each report is represented by an icon (Fig. 7.11). Instructors can access the Reports by selecting a class and clicking on the desired report in the **Reports** menu.

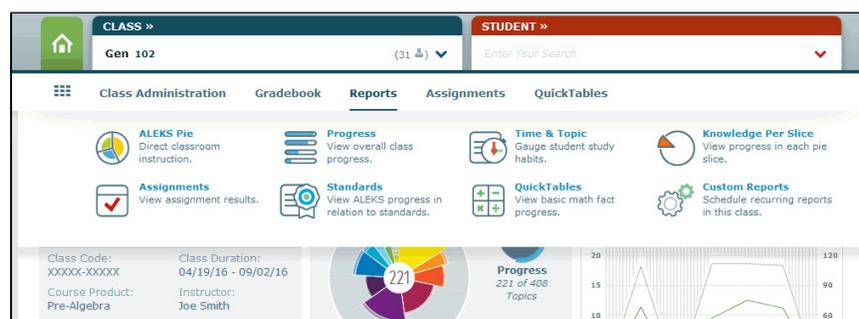


Figure 7.11: Reporting

7.3.1 Available Reports

ALEKS offers a wide range of dynamic, automated reports that display individual student and class data. Instructors can use these reports to track usage, progress, grading, and attendance. The reports are organized by the following report types:

- ALEKS Pie (Sec. 7.3.6)
- Progress (Sec. 7.3.10)
- Time and Topic (Sec. 7.3.17)
- Knowledge Per Slice (Sec. 7.3.20)
- Assignments (Sec. 7.3.21)
- Standards (Sec. 7.3.24)
- QuickTables (Sec. 7.3.25)
- Custom Reports (Sec. 7.3.26)

NOTE. The report icons will not appear on the Reports menu when they are not applicable to the class.

To run a class report, select the **Class** from the dropdown list. To run an individual student report after selecting a **Class**, select a student, then select the desired report from the Reports menu.

7.3.2 Download Report Data

Reporting data can be printed or downloaded from any of the report styles. Use the printing options in your browser. To download a report, use the link marked **Download Excel Spreadsheet** on the upper right side of the report. Or, locate **Download**, click on the down arrow, and then select **XLS**.

7.3.3 Send Message to Selected Students

Instructors can send messages to selected students from within most class reports, the class roster, and the Gradebook as follows:

- To select specific students, click on the numbered icon or checkbox next to students' names. The icons will change from grey to yellow, while the checkbox will contain a mark. Re-clicking on the icon or checkbox will deselect the student.
- By clicking on **All** or the checkbox next to **Name**, instructors can select all students in the list.
- Clicking on the **Send Message to Selected Students** link or **Send Msg** icon opens a message in the ALEKS Inbox. The students' names will be pre-filled in the "Bcc" field of the email message (thus recipients of a group message do not know who the other recipients are).

7.3.4 Viewing Student History Across Multiple ALEKS classes

This feature allows administrators and instructors to view student history across multiple ALEKS classes. The comprehensive view can be used to identify each student's progress history and preserve a record of their work after they have been moved to a new ALEKS class. This feature can be found in the following reports:

- ALEKS Pie Report for a Single Student (Sec. 7.3.8)
- Progress Report for the Class (Detailed Progress History) (Sec. 7.3.15)
- Progress Report for a Single Student (Sec. 7.3.16)

NOTE. Depending on the options selected by the administrator at the school, instructors are able to see report history only for the classes they have taught or for all classes taken by the student (Sec. 7.9.1). Administrators can see all report history for all students. This feature will display student history from August 1, 2012 through the present; performance prior to this date may appear as a grey bar.

7.3.5 Interpreting Bar Graphs

Bar graphs appear in several of the ALEKS report styles. Although the meanings of the bar graphs vary by report style, there are some common features.

Bar Graph Colors

The colors used to fill the bar indicate the level of mastery of the class contents at a particular time. The bar is filled from left to right.

Blue

Means that mastery was shown on a knowledge check.

Light Blue

Means that tentative mastery was achieved in Learning Mode.

Grey

Indicates the part of the course material not mastered.

Blank (white)

Indicates a knowledge check is in progress.

Aquamarine

Shows progress made between the first and latest knowledge check.

Asterisk

Appearing by a greyed-out bar graph or any other color indicates, in some reports, that a new knowledge check is underway.

Values underneath Bar Graphs

Underneath the bar are percentages corresponding to the like-colored portion of the bar graph; for example, a “25%” in blue under the bar graph indicates that the blue portion of the bar is 25% of its total length. You can also view student progress by the number of topics. Simply click on the **Percent** or **Topics** link in the Course Progress column to toggle between the two views.

Multiple Bar Graphs

Where there is more than one bar graph per student, the bar graphs represent different points in the student’s learning history associated with knowledge checks taken by the student. Bar graphs showing a segment of the student’s learning history are stacked, with the earliest on the bottom and the most recent at the top.

More Features

There are several ways of accessing student data using reports:

- The list of students in a bar-graph report can be sorted on any of the report columns by clicking on the text in the header for that column. Clicking on the text in the header section of the column will bring up an ascending or descending arrow, used to sort the column.
- You can also navigate to other kinds of reports by clicking on hyperlinked names or dates. Clicking on a student’s name takes you to the detailed learning history for that student (Sec. 7.3.16).
- Clicking on the date for a knowledge check takes you to a detailed (pie chart) report for that knowledge check (Sec. 7.3.8).

NOTE. On some reports, if students have previously been in a different class, it is possible to toggle between viewing their total time in ALEKS and their total time in the current class. This toggle will appear below the report. For students who have only been in one ALEKS class, the displayed time will be the total time in the current class.

7.3.6 ALEKS Pie

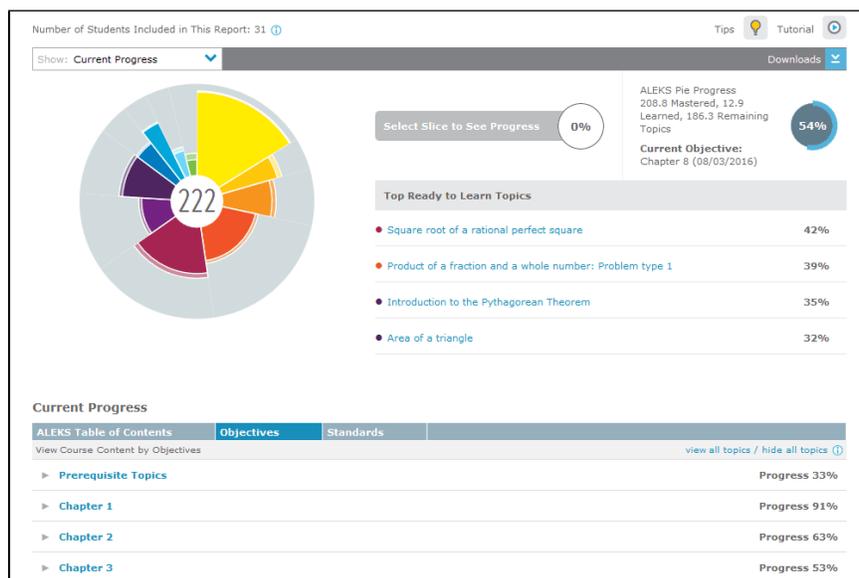


Figure 7.12: ALEKS Pie

The class report shows the average learning for the class and a detailed view of topic mastery (Fig. 7.12).

This report only includes results for students who have completed at least an Initial Knowledge Check. The ALEKS Pie Mastery for all students in the class and the number of topics completed are initially displayed in the top right.

Instructors can use this report to determine where students are in the class, specifically, what topics they have mastered, have not mastered, are ready to learn, have lost in knowledge check, or have attempted but not mastered (Fig. 7.13). This information can be used to plan classroom instruction, group students based on their knowledge and level of readiness, and communicate directly with these groups.

7.3.7 Display Options for ALEKS Pie Report

Instructors can use the **Show** drop-down menu to filter the report by **Current Progress**, **Most Recent Knowledge Check**, or **Initial Knowledge Check**.

- In the **Current Progress** view, the main Ready to Learn Topics for the entire pie are listed to the right of the pie.
- In the **Most Recent Knowledge Check** view, the main Topics Lost in Recent Knowledge Check for the entire pie are listed. This shows data based on the most recent knowledge check results.
- In the **Initial Knowledge Check** view, the main Topics Mastered in Initial Knowledge Check for the entire pie are listed.

Initial Assessment			
ALEKS Table of Contents			
View Course Content by ALEKS Table of Contents		view all topics / hide all topics	
▶ ● Whole Numbers	82% Mastered		
▼ ● Fractions	55% Mastered		
	Mastered	Not Mastered	Ready to Learn
Equivalent Fractions (88% Mastered)			
• Introduction to fractions	100%	0%	0%
• Understanding equivalent fractions	76%	24%	24%
• Equivalent fractions	82%	18%	18%
• Introduction to simplifying a fraction	94%	6%	6%
• Simplifying a fraction	88%	12%	6%

Figure 7.13: Student Mastery

These views of student results may be filtered by slice, by selecting a slice from the pie. Clicking on a pie slice will make that slice “sticky,” so that the topics for this slice are displayed and do not change. The average class mastery for this slice is also displayed. Hovering over a slice with the mouse will display the name of that slice.

Topics with the highest numbers of students **Ready To Learn** are the ones most ready for classroom presentation. Trying to teach topics with low numbers in this display is more likely to produce boredom and frustration, because most students either have learned the topics already or are not yet ready to learn them.

Below the pie the results are broken down further by ALEKS Table of Contents (slice), objectives (when in use), or by any applicable standards. These sections can be broken down further, and instances of problems may be seen by clicking on individual topic links. A new instance of the problem type will be generated each time you click on the topic link.

The columns in this report have different meanings, depending on the current view:

Under **Current Progress**, you see:

Mastered

These are topics added to the pie after knowledge check in learning mode.

Remaining

These are topics the students have not shown mastery of, whether they have attempted them or not.

Ready to Learn

This is a subset of the not mastered category, and are the topics the students are ready to learn now.

Attempted, not mastered

This is a subset of the Remaining category, and are the topics the students have attempted but not mastered.

Under **Most Recent Knowledge Check**, you see:

Mastered

These are the topics known based on the most recent knowledge check.

Remaining

These are the topics the students do not know, based on the most recent knowledge check.

Ready to Learn

This is a subset of the not mastered category, and are the topics the students are ready to learn now, based on the most recent knowledge check.

Lost in Recent Knowledge Check

These are topics the students knew at one point but have lost, because the most recent knowledge check determined that the students did not know the topic anymore.

Under **Initial Knowledge Check**, you see:

Mastered

These are the topics known based on the Initial Knowledge Check.

Remaining

These are the topics the students do not know, based on the Initial Knowledge Check.

Ready to Learn

This is what the students are ready to learn now, based on the Initial Knowledge Check.

Other features:

- If you click on the percent link for a topic, you will see a breakdown of student mastery of that topic.
- You can send messages to students directly from this report.
- You can view additional topics that a group of students is ready to learn.
- The objectives tab (when present), will contain prerequisite topics if the TREC tool added items to the class (Sec. 7.4.9).

Excel downloads. Students who have not taken an Initial Knowledge Check will not be shown in this report, but they will be shown in the Excel spreadsheets. Spreadsheets available to download include the following: Pie View, Pie and Slice View, Topic Summary by Slice, Objective View, and Topic Summary by Objective. Please note that the latter two spreadsheets are only available if objectives are set up in the class.

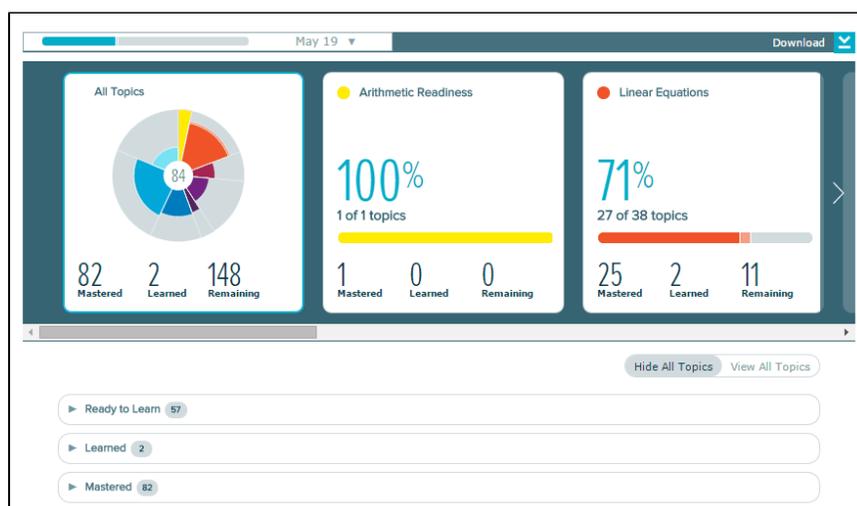


Figure 7.14: ALEKS Pie Report for a Single Student

7.3.8 ALEKS Pie Report for a Single Student

This report displays a pie chart for a single student, which by default will represent the most recent period of Knowledge Check and Learning (Fig. 7.14). Reports for other periods may be chosen by selecting dates from the drop-down menu at the top of the page. The report will show the results of the most recent Knowledge Check, along with any progress made in Learning subsequent to that Knowledge Check.

The shading on the pie chart indicates the level of the student's mastery in each area: the shaded portion represents what the student has mastered, and the unshaded portion represents what the student has yet to learn. To the right of the pie chart are tiles for each individual pie slice, showing a breakdown of what material the student has mastered, learned, and has left to learn. To see a complete list of the topics in each category, click on the **View All Topics** toggle below the tiles. The list will update based on which tile the user has selected. Click on a topic to generate a unique instance of the problem and an explanation of the instance.

7.3.9 Objective Report

The Objective Report is a scrollable list of tiles for each objective in the course (Fig. 7.15). Each tile summarizes the student's progress for a particular objective at the time the report is generated. The tiles display the due date of the objective (future objectives) or the date the student completed the objective (past objectives), the score achieved, the number of items making up the objective, and the number of goal topics remaining.

Beneath the tiles are expandable lists of topics, broken down by category: Ready to Learn, Learned, Mastered, and Locked. ("Locked" topics are those for which the student



Figure 7.15: Objective Report

has prerequisite topics left to complete.) To see a full list of topics, click on the **View All Topics** toggle. Double-click on a topic to see a sample question and corresponding explanation.

7.3.10 Progress Reports

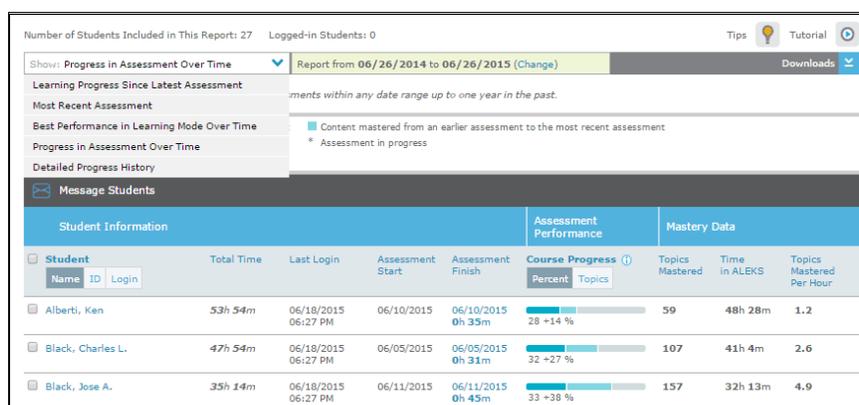


Figure 7.16: Progress Reports



Using the Progress Reports, instructors can view student progress on knowledge checks and in Learning Mode at various time intervals (Fig. 7.16). These reports allow instructors to track student progress and ensure students can get intervention when they need it the most. Instructors can change the report view by making a selection in the **Show** drop-down menu. A description of the report selected will be displayed below the drop-down menu.

In class-level Progress reports, clicking on a student's name will take the instructor to the individual progress report for the student (Sec. 7.3.16). Clicking on a knowledge check date link will take the instructor to the individual student's pie report, displaying the student's progress at that point in time (Sec. 7.3.8).

NOTE. If you navigate away from a Progress report and return at a later time, the report that was last selected will remain in effect.

7.3.11 Learning Progress Since Latest Knowledge Check

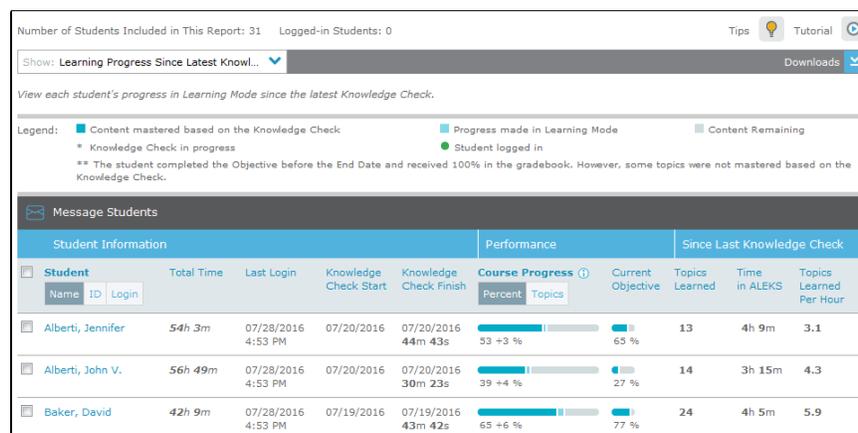


Figure 7.17: Learning Progress Since Latest Knowledge Check

This report shows each student's progress in Learning Mode since the most recent knowledge check (Fig. 7.17). It includes total hours spent in ALEKS, the last login date, the last knowledge check start and end date, total time in knowledge check, course performance displayed in a bar graph, and learning rates. There are several ways this report can be used:

- Identify which students are ahead, on pace, or behind in the class.
- Determine learning rates to use in assigning performance grades or for data tracking purposes.
- Recognize inconsistencies in student usage and progress to identify students needing individual instruction.

NOTE. If objectives are used in the class, the percentage of completion for the current objective is also displayed. For additional information on the interpretation of the bar graphs, see Sec. 7.3.5.

7.3.12 Most Recent Knowledge Check

This report can be used to view each student's mastery based on the most recent knowledge check taken (Fig. 7.18).

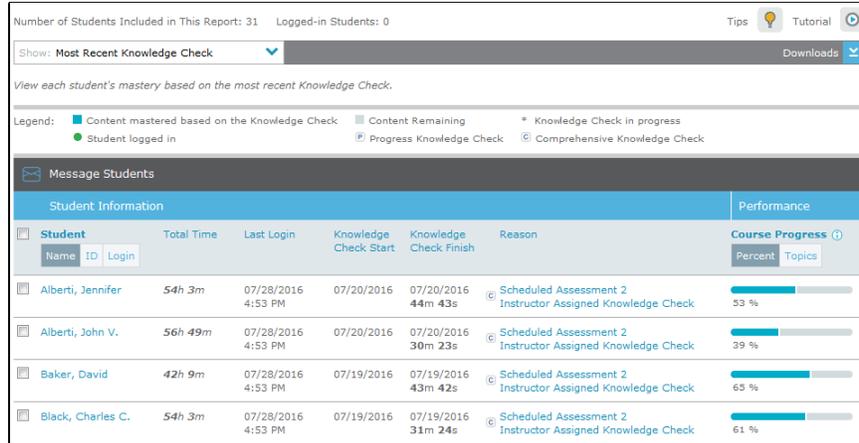


Figure 7.18: Most Recent Knowledge Check

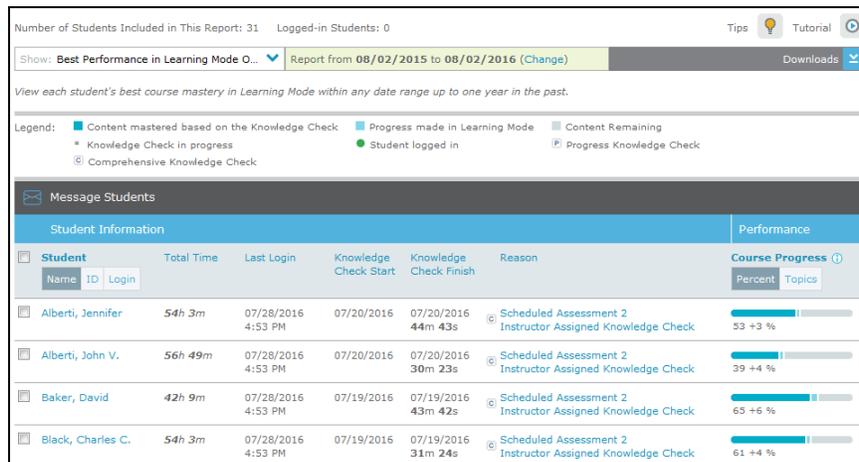


Figure 7.19: Best Performance in Learning Mode Over Time

7.3.13 Best Performance in Learning Mode Over Time

This report can be used to view each student's best class mastery in Learning Mode within any date range up to one year in the past (Fig. 7.19). Set the date range using the **Change** link, then click **Apply**.

7.3.14 Progress in Knowledge Check Over Time

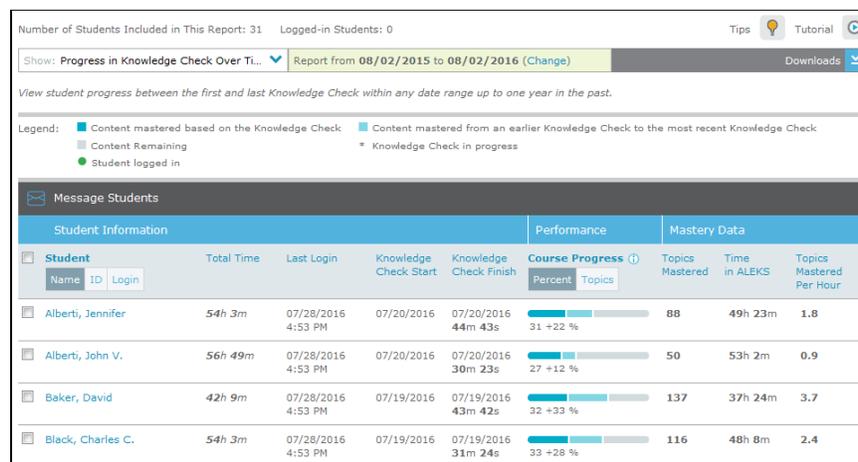


Figure 7.20: Progress in Knowledge Check Over Time

This report can be used to view each student's progress between the first and last knowledge checks within any date range up to one year in the past (Fig. 7.20). Set the date range using the **Change** link, then click **Apply**.

7.3.15 Detailed Progress History

This report is an expanded version of **Learning Progress Since Latest Knowledge Check** (Fig. 7.21). It shows a segment of the student's learning history, including knowledge checks and Learning Mode progress for each student within the specified date range. Set the date range using the **Change** link, then click **Apply**. Clicking on the **All Progress** tab will display all students' current and previous class progress results (if applicable) (Fig. 7.22). The current class can be distinguished by the (**Current Class**) label.

- Each bar graph represents an knowledge check taken by the student.
- The bar graphs are stacked, the earliest on the bottom and the most recent at the top.
- The date and reason for the knowledge check are to the left of each bar graph.

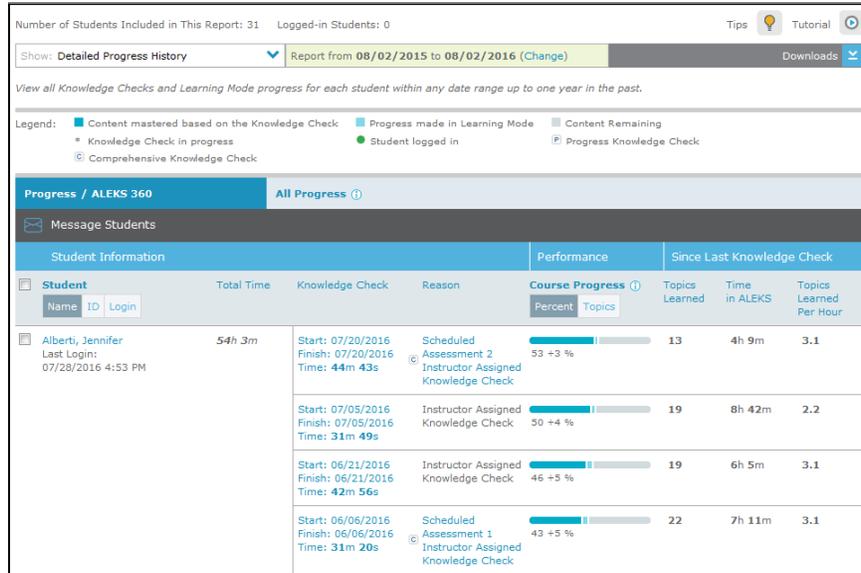


Figure 7.21: Detailed Progress History

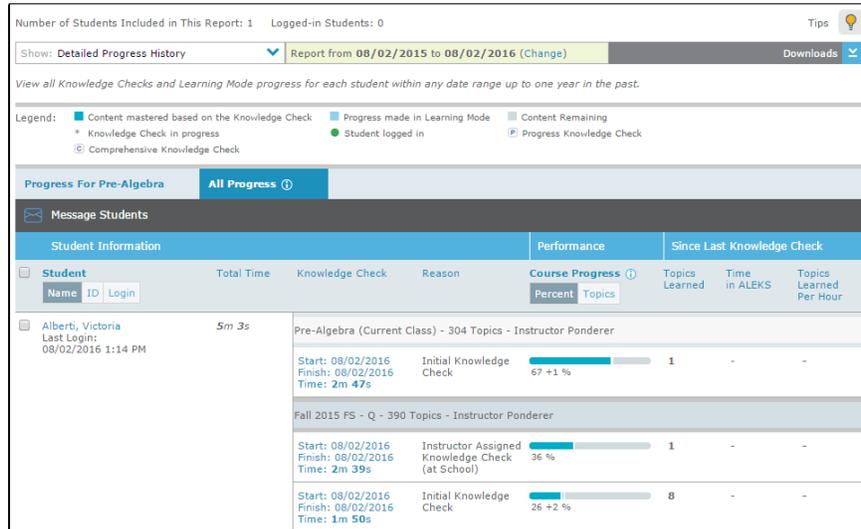


Figure 7.22: Progress History

7.3.16 Progress Report for a Single Student

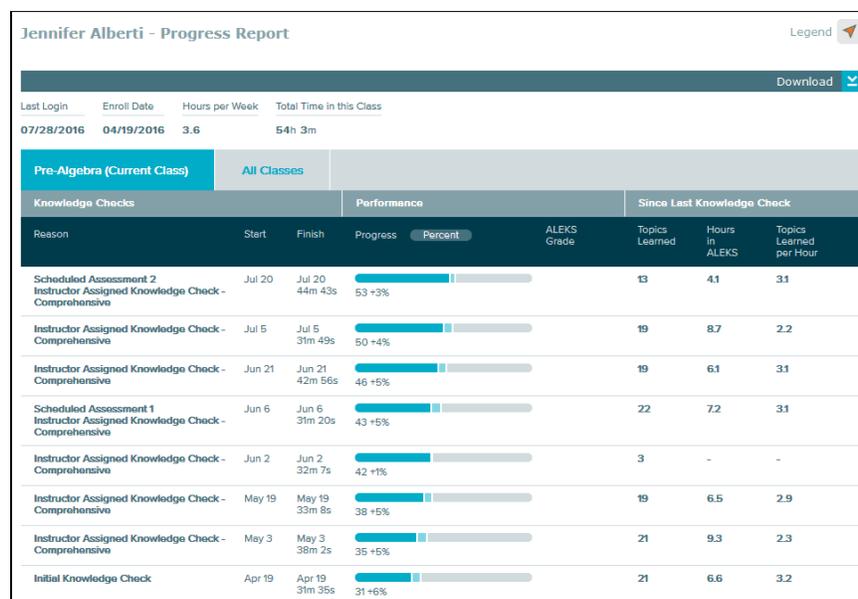


Figure 7.23: Progress Report for a Single Student

This report is obtained by selecting a student and then moving to the the **Reports** menu. Click on the **Progress** icon. The Progress Report for a single student in this class displays a list of bar graphs for the single student chosen (Fig. 7.23). There is one row for each knowledge check that the student has taken, with dates (linked to the Report page for that knowledge check). Clicking on the **All Results** tab will display the student's current and previous class progress results (if applicable). Clicking on a knowledge check date link will take the instructor to the individual student's pie report, displaying the student's progress at that point in time (Sec. 7.3.8).

- The blue portion of each bar graph measures the student's mastery as of the given knowledge check.
- The light blue portion of the bar measures progress made in the Learning Mode subsequent to that knowledge check (but before the next knowledge check, if there is one).
- The percentage values beneath the bars for the blue and light blue portions represent the knowledge check mastery, and subsequent progress in Learning Mode respectively. For example, 57+9% means that the last knowledge check showed 57% mastery, and that subsequent work in the Learning Mode added another 9% mastery for a total of 66%.
- Information on each knowledge check and total hours spent subsequently in the Learning Mode (up to the time of the next knowledge check) is also provided, with average numbers of items gained per hour.

7.3.17 Time and Topic Report



Using this report, instructors can quickly view the summary graph at the top of the report. Instructors can also see the amount of time spent by each student daily in ALEKS, as well as the topics the student has attempted and mastered each day. The report can be generated for the entire class or for individual students. (The number of topics attempted does not include topics the student worked on in Review mode.)

7.3.18 Class Time and Topic Report

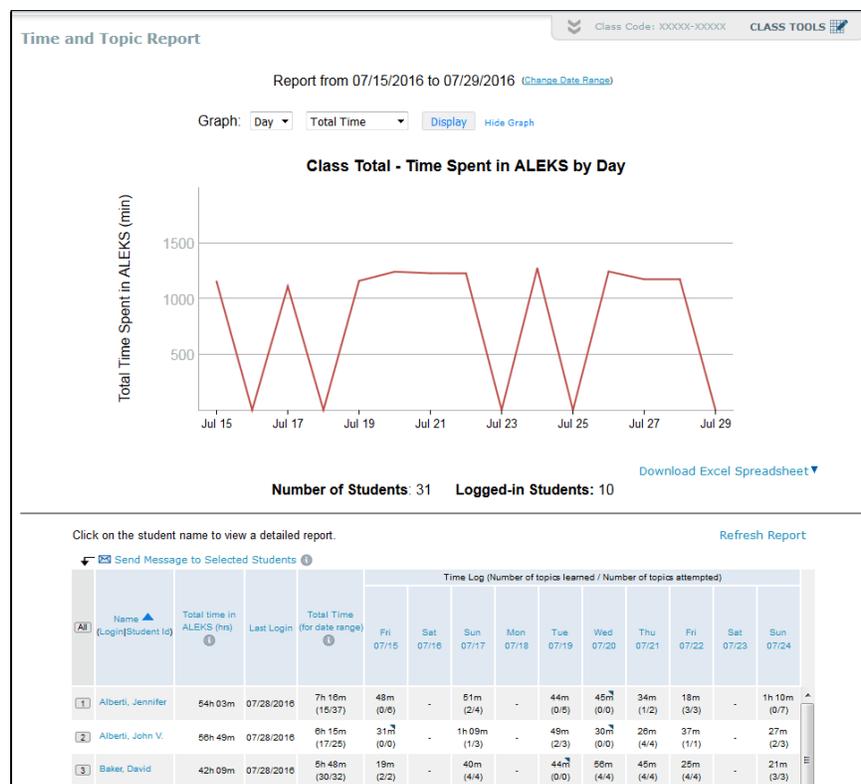


Figure 7.24: Class Time and Topic Report

The following points describe the features of the class Time and Topic Report (Fig. 7.24):

- The report can be viewed in intervals ranging from 1 week up through 20 weeks. The time period can be adjusted by clicking on the **Change Date Range** link.
- The graph shows for each day the total time, average time, total topics, or average topics.

- The report displays the number of students enrolled in the class, the number of students logged in to ALEKS, and the amount of time each student has spent working in ALEKS on a daily basis.
- The number of topics mastered versus the number attempted is displayed below the daily time log.
- If a student has spent some time on an ALEKS knowledge check during that day, the session will be marked with a blue triangle in the upper right-hand corner.
- The total amount of time shown for a specific day includes time spent in Learning Mode, as well as any quizzes, homework, review problems, or knowledge check the student has done. Work done in QuickTables is not included in the report.
- Clicking on an individual student name will take you to the Individual Time and Topic report for that student (Sec. 7.3.19).

7.3.19 Individual Time and Topic Report

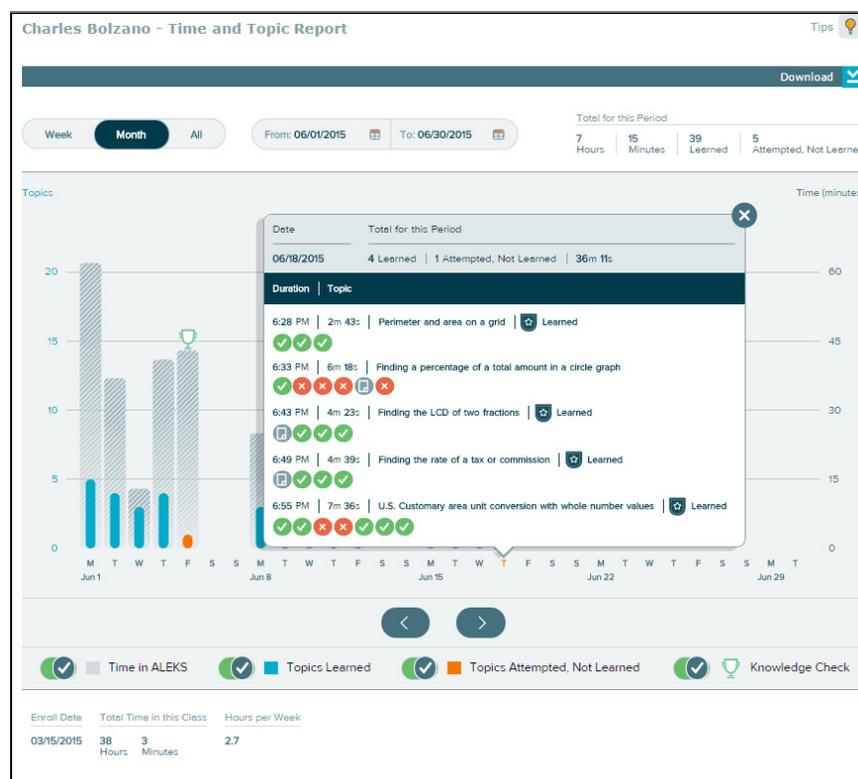


Figure 7.25: Individual Time and Topic Learning Log

The Individual Time and Topic report gives detailed information on the topics each student has attempted and mastered (Fig. 7.25). To see the student's Learning Sequence

Log on a certain date, click on the grey column above the date. The Learning Sequence Log will display the time and result of the attempted topic. By clicking on the **Result** icon below the name of the topic (**Wrong**, **Correct**, or **Success**), you can see specific problem the student worked on, along with their answer and the solution.

A wider date range can be chosen for the individual report, up to six months at a time. This report also includes for the student, the last login date, the enrollment date, and hours worked per week.

Students can view their Time and Topic Report by clicking the **Report** link at the top of their page and selecting the appropriate tab.

7.3.20 Knowledge Per Slice

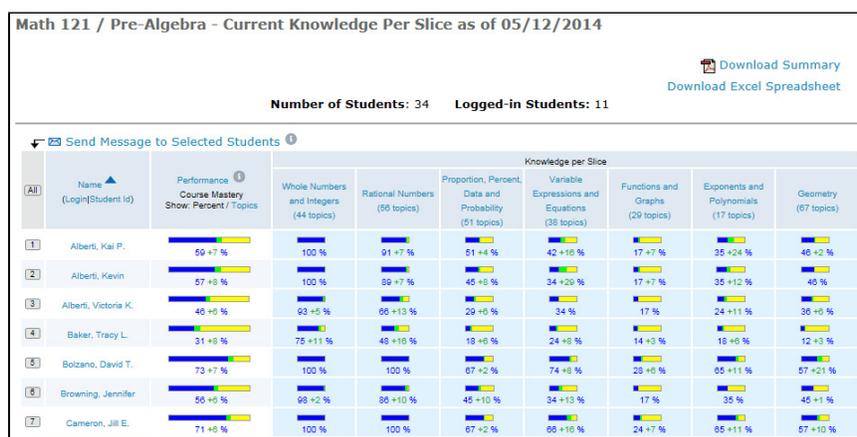


Figure 7.26: Knowledge Per Slice



This report shows each student's current mastery for each ALEKS pie slice in the class and can be generated for the entire class or for individual students (Fig. 7.26). It includes overall class mastery, followed by a breakdown of progress in each pie slice.

Instructors can use this report to determine whether more emphasis should be placed on certain areas of the class, or to compare overall progress in the class with progress in particular slices.

Instructors can download a PDF summary of data from the class report. Clicking the **Download Summary** link just above the report will generate a PDF that displays time spent in ALEKS, average topic mastery, and a comparison between the beginning knowledge state (based on the Initial Knowledge Check) and the current knowledge state for each pie slice. The report shows this data for both the class and individual student.

7.3.21 Assignment Reports

	Start Date	Due Date	Status	Class Average
-	07/29/2015 06:27 PM	07/29/2015 06:27 PM	Current	1%
Scheduled Assessment	07/21/2015 08:00 AM	07/28/2015 08:00 AM	Not published to the student calendar	0%
Time - Week 19	07/19/2015 06:27 PM	07/26/2015 06:27 PM	Upcoming	0%
Topic - Week 19	07/19/2015 06:27 PM	07/26/2015 06:27 PM	Upcoming	100%
Time - Week 18	07/12/2015 06:27 PM	07/19/2015 06:27 PM	Upcoming	0%
Topic - Week 18	07/12/2015 06:27 PM	07/19/2015 06:27 PM	Upcoming	100%
Time - Week 17	07/05/2015 06:27 PM	07/12/2015 06:27 PM	Upcoming	0%
Topic - Week 17	07/05/2015 06:27 PM	07/12/2015 06:27 PM	Upcoming	100%
Test 2	08/29/2015 06:27 PM	07/13/2015 06:27 PM	Not published to the student calendar	0%

Figure 7.27: All Assignment Reports



With the class selected, go to the Reports menu. Clicking on the **Assignments** icon will display a list of all assignments included in the currently selected class (Fig. 7.27). The **Show** drop-down menu can be used to filter the assignments by Homework, Quiz, Test, or Knowledge Check. Clicking on an assignment name will show the detailed class results for that assignment.

7.3.22 Scheduled Knowledge Check Report

ATI	Name (Login Student Id)	Total time in ALEKS (hrs)	Last Login	Date	Assessment performance	grade
1	Albert, Joel A.	50.7	07/21/2016	07/08/2016	85 %	A
2	Bakec, Ken R.	47.5	07/21/2016	07/08/2016	74 %	A
3	Bolzano, David K.	61.2	07/21/2016	07/11/2016	52 %	A
4	Bourbaki, Charles S.	62.7	07/21/2016	07/11/2016	59 %	A
5	Browning, Nicole P.	49.9	07/21/2016	07/08/2016	87 %	A
6	Chang, Carlos	59.7	07/21/2016	07/08/2016	82 %	A

Figure 7.28: Scheduled Assessment Report

This report shows the results of the most recent assessment that has been scheduled for the class, in the form of a series of bar graphs (Fig. 7.28).

- A menu at the top of the display can be used to choose earlier scheduled assessments.
- The blue portion of each bar graph shows the student’s knowledge as measured by the assessment.
- If the instructor has chosen to grade the assessment, grades for the assessment are shown (Sec. 7.5.9).

NOTE. Progress in Learning Mode is not shown in this view.

7.3.23 Homework, Quiz, and Test Results

Assignment Results (Student Scores)
Results currently available to the students.

[Download Excel Spreadsheet](#)

Quiz 2

View: Student Scores | Per Question Results | Detailed Student Results

Class Average: 88%
(34 out of 34 students)

[Send Message to Selected Students](#)

	Student	Date Submitted	Score	Grade
	(Name Login Student ID)			
1	Alberti, Kai P.	09/23/2013	100%	A
2	Alberti, Kevin	09/22/2013	88%	B
3	Alberti, Victoria K.	09/20/2013	88%	B
4	Baker, Tracy L.	10/02/2013	94%	A
5	Bolzano, David T.	10/01/2013	82%	B
6	Browning, Jennifer	09/24/2013	88%	B
7	Cameron, Jill E.	09/23/2013	88%	B
8	Carter, Cindy B.	10/01/2013	88%	B
9	Cauchy, Joel K.	09/30/2013	71%	C

Figure 7.29: Quiz Results

This report shows the results on any given quiz and can be generated for the class or for individual students (Fig. 7.29). Clicking on the **Date Submitted** for any particular quiz will give the individual results of that quiz by question. It is also possible to see individual questions and answers submitted by each student. The option to view quiz results on a per-question basis may be useful for identifying specific class strengths and weaknesses.

7.3.24 Standards Report



Some ALEKS course products are aligned with external standards. For these classes, reporting will be available based on the applicable standard (Fig. 7.30).

The principal display of the Standards Report is a set of vertical bar graphs, showing the class average mastery of each of the main strands of the standard. The bars are labeled with the names of the strands, and below each there is a ratio showing the specific level of mastery for that strand. For example, “9.4 of 11” under Real Numbers

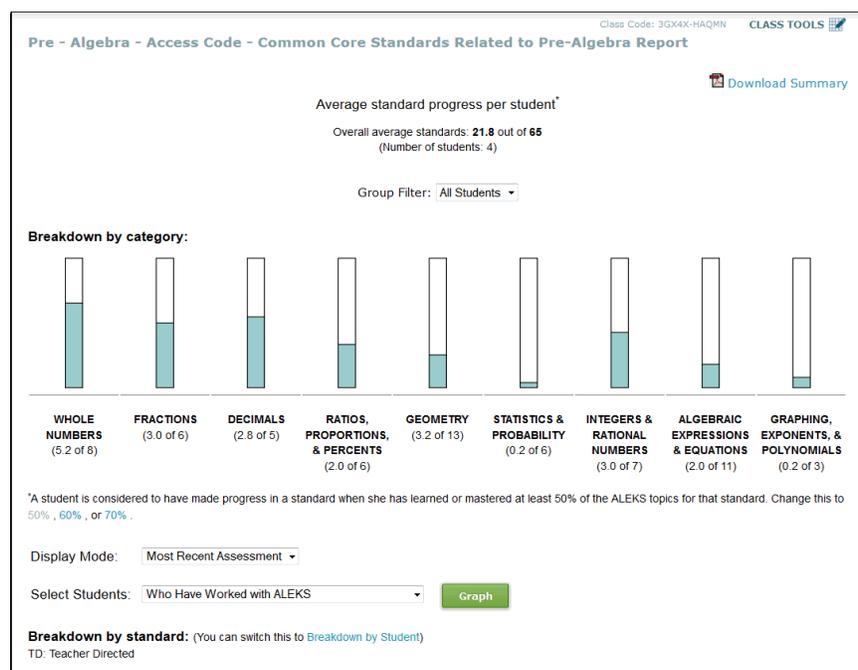


Figure 7.30: Standards Report

and Linear Functions means that the class has mastered 9.4 out of the 11 substrands belonging to this strand.

The following options are available for the Standards Report:

Mastery

By default, a student shows “mastery” of a substrand of the standard by showing knowledge of 50% of the supporting topics in ALEKS. This has proven to be the most meaningful percentage to use in this report, due to extensive overlap in ALEKS’s coverage of the substrands (i.e., the same ALEKS topics tend to support multiple substrands). The instructor has the option, however, of raising the percentage required for “mastery” to 60% or 70%. The level of mastery for each strand is the average of the levels of mastery of individuals in the class.

Display Mode

By default, the report is based on knowledge shown by the students of the class in their most recent ALEKS Knowledge Check. This can be changed to reflect only the students’ Initial Knowledge Check: this shows the level of mastery at which they began their work in the class. It can also be changed to show the results of their most recent work in the Learning Mode: this will tend to represent a higher level of mastery for all students.

Select Students

By default, the work of all students who have been active in ALEKS is represented. This option can be changed to require certain minimum amounts of time spent in

the system (e.g., 10 hours, 20 hours, etc.). For example, if 20 hours is selected from this menu, the report will only reflect the work of students who have spent 20 hours or more working in this ALEKS class. Trying different values from this menu may be a good illustration of the effect of students' work in ALEKS on their math knowledge, as the students spending more time will tend to have significantly higher levels of mastery.

Changing the values for these options will affect various parts of the Standards Report.

Breakdown by standard

Underneath the bar graphs is a breakdown of the percentage of students who have mastered particular substrands. For example, "87% mastery" following the name of a substrand indicates that 87% of the students in the class have shown mastery of this substrand (see above for the meaning of "mastery"). Clicking on this link opens a list of the students with mastery, along with other detailed information about the substrand, including the specific topics in ALEKS that support it.

Breakdown by student

If you click this link, the bottom of the display will change to show the individual levels of mastery of the entire standard for all of the students in the class. For example, "15%" after a student's name indicates that the student has mastered 15% of the strands of the standard. Clicking on this link will open a list of specific substrands mastered and not mastered by the student.

7.3.25 QuickTables Reports



QuickTables reports can be generated for both the class and for individual students. These reports can also be accessed by clicking directly on the **QuickTables** menu. For a full description of the reports available for QuickTables, see Sec. 6.3.

7.3.26 Custom Reports



ALEKS administrators and instructors can create custom reports for their district, school, and classes with the Custom Reports feature. This feature has many options to suit advanced reporting needs across classes and instructors. Administrators and instructors can select data from existing ALEKS reports and export the combined data into a single customized Excel report. Additionally, reports can be scheduled ahead of time. Reports can be generated at multiple levels (e.g., district, school, instructor, class, and multi-class) based on the user's ALEKS account type. There are three main steps to creating a custom report: 1) Create Template, 2) Review and Save, and 3) Schedule Report. See below for further instruction.

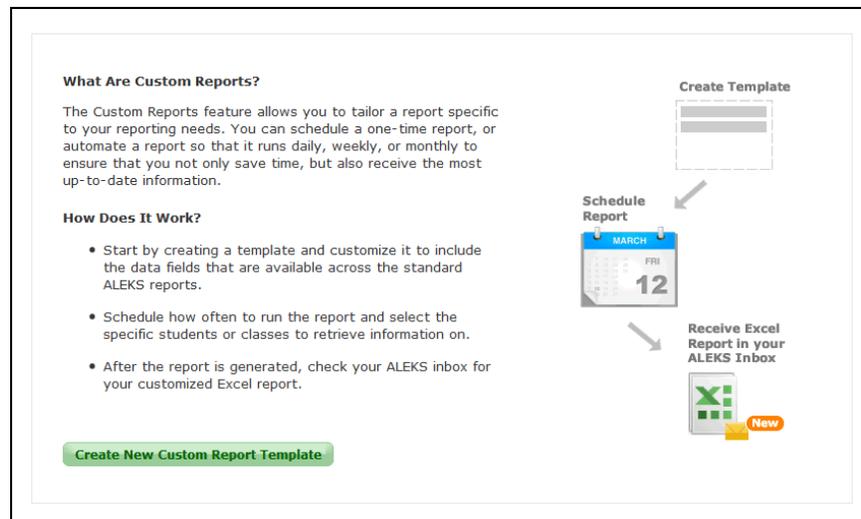


Figure 7.31: Custom Report Template

STEP 1. Create Template 1. Create Template 2. Review and Save 3. Schedule Report

Basic Information

Name:

Type: Class report

Select Data

Browse through the categories on the left and select the data you want to include in your report template. Each selected data field will represent a column in the report. Data fields will appear on the downloaded excel report in the order they are listed in the "Report Selections" window.

Add Data	Report Selections
<input type="checkbox"/> Student Information ?	
<input type="checkbox"/> Assessment Performance ?	
<input type="checkbox"/> Pie Mastery ?	
<input type="checkbox"/> Gradebook ?	
<input type="checkbox"/> Time and Topic ?	

[clear all](#)

Figure 7.32: Creating the Custom Report Template

Schedule Report

Report Name

Report Name:

Template: Summary Report Type: Class report

Output Format ⓘ

Excel 2007 and later (.xlsx)

Excel 2003 and earlier (.xls)

Display of Duration

Hours & Minutes (e.g. 1h12m)

Minutes (e.g. 72m)

Scheduling Options

One time report Recurring report

Report Start Date:

Month Day Year

Sep 19 2014

[Class calendar](#)

Report End Date:

Month Day Year

Sep 19 2014

[Class calendar](#)

Note: Maximum date range is 12 months. Data for assignments, objectives and scheduled assessments with due dates outside of the date range will be excluded.

Set report date range to Week(s)

Student Options

Select Students

All students

Specific students

Type of Data ⓘ

Individual student data

Average for selected students

Figure 7.33: Scheduling a Custom Report

NOTE. Data for the Custom Reports feature is available beginning from August 1, 2012.

When first accessing the feature, administrators and instructors will see the introductory screen (Fig. 7.31). To begin creating the template, click on **Create New Custom Report Template** or the **+ New Report Template** on subsequent visits.

STEP 1: Create Template

By first creating a template, administrators and instructors can determine the foundation for their custom report, and then schedule multiple reports to run off the template. Templates can be re-used and duplicated to save time.

The following information must be selected when creating the template:

Basic Information

A name must be entered for the template.

Select Data

The data must be selected from the categories listed on the left of the screen (Fig. 7.32).

STEP 2: Review and Save

In this step, users will confirm and save their custom report parameters.

STEP 3: Schedule Report

Administrators and instructors can run multiple iterations of their template, modifying the date range and student/class/instructor data to focus on.

The following information must be selected when scheduling the report (Fig. 7.33):

Report Name

A name must be entered for the report, and choices made for the Excel format, and duration display.

Scheduling Options

You can choose whether to schedule a recurring report, or a one time report (the default).

Student Options

The options in this section are displayed based on the selected level of the report.

After a report has been scheduled, a confirmation message is displayed. A custom report may take up to 30-60 minutes to process depending on its size, and will be sent to the ALEKS inbox of the person who scheduled it.

7.4 Class Creation and Configuration (Class Administration)

Classes can easily be created through the class creation wizard. From the Home page, select **Instructor Administration** then **New Class**. Alternatively, the instructor can choose a class then select **Class Administration** followed by **New Class**. There are various options for creating a class, as described below (Sec. 7.4.1).

The procedure for creating and editing a class includes the setup of Textbook Integration and content customization (if desired). It does not include creating Homework, Quizzes, Tests, or Scheduled Assessments, but these steps may be completed later.

7.4.1 Creating a Class

Selecting **New Class** displays the following options to create a class (Fig. 7.34):

Create a New Class

This option allows an entirely new class to be created.

Copy a Class at This Institution

This option allows the instructor to duplicate one of his or her own classes or a class from another instructor at the same institution.

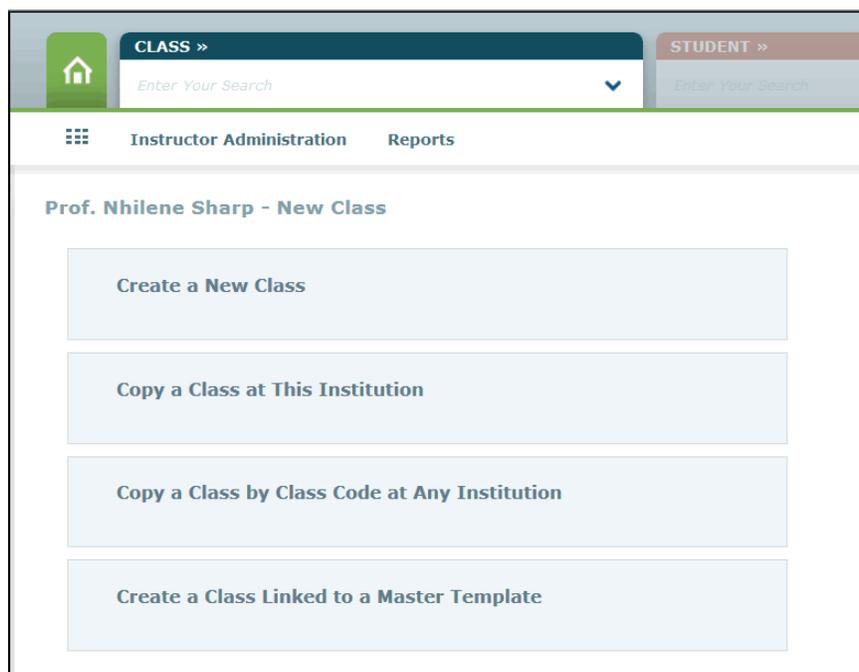


Figure 7.34: New Class

Copy a Class by Class Code at Any Institution

This option allows an instructor to duplicate a class from another instructor at any institution (if the **Class Duplicate Setting**, for the class to be copied, has been set to **Public**).

Create a Class Linked to a Master Template

Master Templates must exist at this institution for this option to appear. This option enables a linked class to be created from a Master Template.

NOTE. ALEKS Administrators can duplicate any class.

7.4.2 Class Creation Wizard

Clicking on **Create a New Class** will display the class creation wizard (Fig. 7.35).

Class Information

Administrators can assign the class to another instructor when setting up the class. In the **Class Information** section the only optional field is the section name. The course product should not be changed after the class has begun unless absolutely necessary, as doing so will be disruptive to the students' learning and to the class reports and records. Other values on this page can usually be changed without disruption.

Figure 7.35: Class Information

The class dates are used to configure the **Calendar**, and should include the entire period of time that the students will be using ALEKS (Sec. 7.4.38). By default, the class will be automatically archived after the class end date unless this option is deselected (Sec. 7.4.40).

QuickTables

QuickTables may be added to the class during the creation process or at a later time. For full details about QuickTables, see Chap. 6.

Course Specific Settings

These are any specific settings that apply to this class, such as providing ALEKS graphing calculator functionality.

Accessibility mode for visually impaired students can be set at the class level or student level. Turning on this setting will allow a visually impaired student to use JAWS screen reader technology with ALEKS.

Continue to Class Summary or Customize This Class

The class will be created when you click on the **Create Class Now** button. The instructor can choose to see the **Class Summary** or **Customize This Class**.

To edit the Class Information and Course Specific Settings sections at a later time, select **Class Summary**, follow by **Class Information**, and then **Edit**.

7.4.3 Save for Later or Cancel



Figure 7.36: Resume/Discard

Save for Later and **Cancel** links have been added to the class creation wizard in order to improve the workflow for instructors. These links provide a way to save the data on each page throughout the wizard, so that class customization may be stopped midway and resumed at a later time. These links appear at the bottom of the wizard pages that follow the initial Class Information page.

Note that using the **Save for Later** or **Save and Exit** options saves the data, but that changes are not applied until class customization is complete. Instructors will see a confirmation message on the Class Summary page that allows them to **Resume** or **Discard** these changes (Fig. 7.36).

Selecting **Discard** will discard all changes made, and **Resume** will take instructors back to the last page they were working on during class customization.

When instructors log out of ALEKS and log back in, they can easily resume or discard their class customization through the dashboard message or through the Class Summary message.

In the event that another user concurrently makes changes to a class with customizations that are “Saved for Later,” messages will be shown indicating who was editing the content, and will provide an opportunity for these changes to be resumed or discarded. If changes have been made and saved by another user, the messages will indicate this also.

NOTE. The Save for Later link is not available in Master Template linked classes.

7.4.4 Textbook Integration

If an instructor chooses to customize the class after it has been created, the next page presented will be the **Class Content Customization**. Here, several choices can be made about the structure of the class, the first being whether to integrate a textbook or not. If a textbook is chosen from the list of available choices using the dropdown menu, ALEKS will automatically place chapter and section references to this textbook on the students’ explanation pages.

Textbooks appearing in the list with “ALEKS 360” after the name are available with an optional eBook (Sec. 7.4.11).

One choice in the list of textbooks is the **ALEKS Curriculum**, which is a division of the topics based on the slices of the ALEKS Pie rather than chapters of a textbook. This choice enables student learning to be structured without the use of a specific textbook.

7.4.5 Set Objectives / Modules

Instructor can choose to configure the class with a textbook or without textbook integration.

With Textbook Integration. The instructor can use chapter-based objectives with optional custom objectives, custom objectives alone, or no objectives.

Chapter-Based Objectives with Optional Custom Objectives

If this option is selected, you will be able to choose entire chapters from the textbook as objectives for your class, and set end dates or mastery levels for these objectives (Sec. 7.4.6). This is the most efficient way of directing student learning in ALEKS. You can also create custom objectives that combine chapter material freely into new units.

Both types of objectives will include all ALEKS topics that correspond to the chapter.

Custom Objectives

If this option is selected, you will need to create all of the objectives for your class manually. This option provides the instructor with the greatest control over the class structure.

Textbook Integration - No Objectives or Modules

If this option is selected, students will see references to the textbook, but the textbook will not direct their learning.

NOTE. If you choose any of the options for structuring objectives in your class, whether by textbook chapters, custom objectives, or a combination of the two, topics will not be included in the class unless they are included in one of your objectives, or are a prerequisite topic. It will be possible, however, to remove topics after they have been included as part of a chapter or custom objective (Sec. 7.4.8). If only custom objectives are used, it will not usually be necessary to do any further customization of the content.

No Textbook Integration. If no textbook is integrated within the class, no textbook will be referenced in ALEKS, and you will only have the choice of the following two options:

Objectives / Modules

If this option is selected, you will need to create all of the objectives for your class manually.

No Objectives or Modules

If this option is selected, student learning will be guided by ALEKS without objectives.

See the following sections for additional details about the choices outlined above.

7.4.6 Objective Completion

When setting up objectives for your ALEKS class, you can choose either to define end dates **or** to set a mastery level for each objective. When using mastery level for objective completion (objectives without end dates), instructors select a final day when all objectives will be due (usually around the end of the course).

Objectives / Modules with End Dates

When an end date is assigned to an objective, students should do their best to complete the objective before this date. After this date, students will be moved to the next objective, and the material in the past objective will not be available unless it is prerequisite for current learning. If students finish an objective before the due date, instructor has the option to move students to the next objective or open all objectives so students have the option to work on Ready to Learn topics in an objective until the next objective begins.

- To choose an end date, click in the box in the end date column. Each chapter/objective included must have an end date unless objectives are being used with mastery levels.
- The start date for the first chapter/objective is always the start date of the class. The start date for any other chapter/objective is one day after the end date of the previous chapter/objective.
- Start dates cannot be set manually, and each chapter included must have an end date. If you want objectives to overlap, you must make the end dates the same. Please keep in mind that objectives with the same end date are combined as a single column in the Gradebook.

Objectives without End Dates (mastery levels for Objectives)

If you choose this option, students will be moved to the next objective when they meet the mastery level set for the current objective (the default is 90%). Students will still be able to access the remaining unmastered topics from all previous objectives through the Topic Carousel by selecting the downward arrow tab in the upper left corner of the screen. A final due date must be set for all objectives, this is the date when scores for all objectives will be sent to the gradebook. The default setting for this date is the end date of the class.

7.4.7 Objectives Editor

Initially, all textbook chapters appear in their normal, order and all are checked for inclusion in the class (Fig. 7.37).

- Remove chapters by unchecking the box to the left of the objective.

Math 104 / ALEKS 360 / Beginning Algebra - Objectives Editor

Instructor: Smith
 Name: Math 104 / ALEKS 360
 Course Product: Beginning Algebra
 Start Date: 04/22/2016
 End Date: 08/25/2016
 Textbook: Miller/O'Neill/Hyde: Introductory Algebra, 2nd Ed. (McGraw-Hill, Paperback) - ALEKS 360

Switch to Objectives with End Dates

Objective	Progress Level	Post Objective Progress Assessment	Order
<input checked="" type="checkbox"/> Ch.R-Reference Edit (131 goal topics)	<input type="text" value="90"/> %	<input checked="" type="checkbox"/>	▲▼
<input checked="" type="checkbox"/> Ch.1-The Set of Real Numbers Edit (91 goal topics)	<input type="text" value="90"/> %	<input checked="" type="checkbox"/>	▲▼
<input checked="" type="checkbox"/> Ch.2-Linear Equations and Inequalities Edit (134 goal topics)	<input type="text" value="90"/> %	<input checked="" type="checkbox"/>	▲▼
<input checked="" type="checkbox"/> Ch.3-Graphing Linear Equations in Two Variables Edit (93 goal topics)	<input type="text" value="90"/> %	<input checked="" type="checkbox"/>	▲▼
<input checked="" type="checkbox"/> Ch.4-Systems of Linear Equations in Two Variables Edit (29 goal topics)	<input type="text" value="90"/> %	<input checked="" type="checkbox"/>	▲▼
<input checked="" type="checkbox"/> Ch.5-Polynomials and Properties of Exponents Edit (82 goal topics)	<input type="text" value="90"/> %	<input checked="" type="checkbox"/>	▲▼

Figure 7.37: Objectives Editor

- Reorder chapters (or custom objectives) by dragging and dropping the chapter to a different position. Chapters can also be reordered by using the arrows in the **Order** column.
- Edit an objective/chapter by clicking on the **Edit** link below the objective name. This will open the **Edit Objective** page described below (Sec. 7.4.8).
- Check the box next to each chapter/objective to enable a post objective progress assessment (Sec. 7.4.10)
- To create an objective that does not correspond exactly to a textbook chapter or ALEKS slice, use the button marked **+New Custom Objective**, located below the list of textbook chapters/objectives.

NOTE. ALEKS permits you to order chapters freely, but a reasonable and conventional ordering of the materials should be used. ALEKS will move topics among chapters in order to maintain prerequisite relations among specific topics, with the result that an unusual ordering of the chapters may not produce the best results for your course structure. Only minor adjustments should be made to the content once students have begun working, to avoid disruption of the students' work.

To return to the Objective Editor at a later time, select **Class Summary**, locate **Class Content**, follow by **Objectives Editor**, and select **Edit**.

7.4.8 Edit Objective

Any objective content can be edited and deleted inside the **Edit Objective** window (Fig. 7.38), found by clicking on the **Edit** link below the objective name in the **Objective Editor** page. Custom objectives can also be deleted from the **Edit Objective** window.

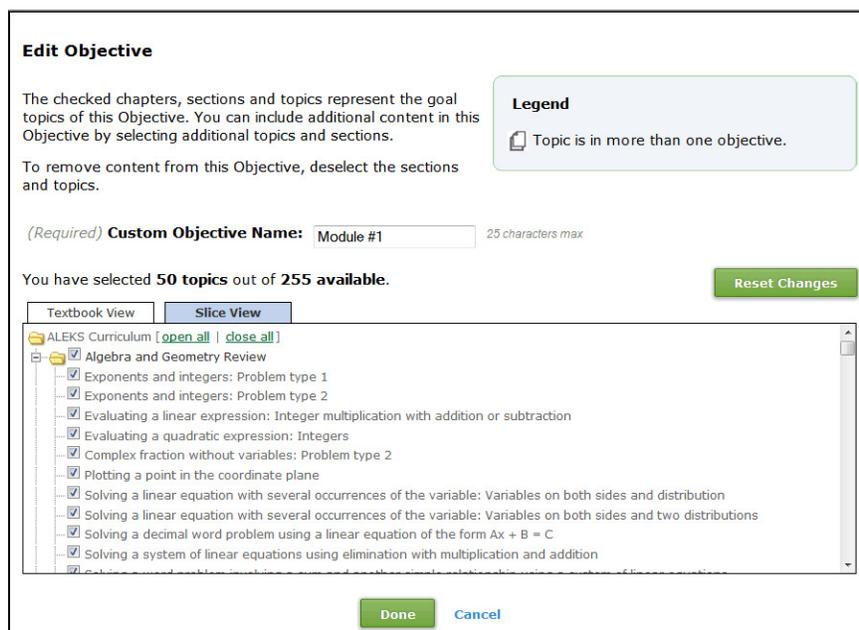


Figure 7.38: Edit Objectives

Using this tool, chapters (or ALEKS curriculum slices) can be divided into parts or material can be combined across multiple chapters.

The Textbook View allows you to select content based on the structure of the textbook. The Slice View allows you to select content based on the structure of the ALEKS Pie Chart.

A specific textbook is integrated with the class

For chapter-based objectives there will be a Textbook View of items. When editing chapter based objectives, it will be possible to add topics only to the chapter in which they belong. For custom objectives there will be a Textbook View and a Slice View of items.

The ALEKS curriculum is integrated with the class

For slice-based objectives and custom objectives there will be a Slice View of items.

No Textbook Integration is in use

Custom objectives will present items from the Slice View.

Topics may be added or removed from objectives as follows:

- Click on the plus sign (+) to the left of each folder to view its contents.
- Check the box to the left of a topic name to include that topic in your objective.
- To see a sample problem for any topic, double-click on the topic name.
- Check the box to the right of a folder icon to include all topics in that folder.

A running count of the number of included topics will be displayed just above the directory window.

- Use the **Custom Objective Name** field to change the name assigned to the objective.
- Click the **Done** button when you have finished customizing the objective.

The new objective will appear in the table of objectives. An end date or mastery level should be entered, depending on the objective completion method in use (Sec. 7.4.6). This procedure can be repeated to create additional custom objectives.

NOTE. In classes that are configured with objectives, the Objective Editor will only display topics contained and structured according to those objectives. If an instructor removes a substantial number of fundamental topics from the class, the Topic Recommendation Tool will calculate whether any prerequisite topics are missing, and allow the instructor to add them back for optimal learning (Sec. 7.4.9).

When objective customization is complete, click on the **Continue** button to review the settings. Click on **Save** to finalize the setup.

7.4.9 Topic Recommendation Tool (TREC)

The screenshot displays the ALEKS Topic Recommendation Tool (TREC) interface. At the top, there is a navigation bar with tabs for 'INSTITUTION', 'INSTRUCTOR', 'CLASS', and 'STUDENT'. Below this, there are tabs for 'Class Administration', 'Gradebook', 'Reports', 'Assignments', and 'QuickTables'. The main content area is titled 'Period 1 - Recommended Topics for Optimal Learning'. It includes a section for 'Your Class Topics' with a summary: Goal Topics = 305, Prerequisite Topics = 0, Total Topics = 305. Below this is a section for 'Prerequisite Topics' with a list of topics and their prerequisite counts. A 'Which should I choose?' section has radio buttons for 'Recommended', 'Minimum', and 'No Prerequisites'. The 'Update Your Class' button is highlighted in green.

Figure 7.39: Topic Recommendation Tool (TREC)

The ALEKS Topic Recommendation Tool (TREC) provides instructors with a way to add prerequisite topics to their class content that may have been omitted during the creation/editing process (Fig. 7.39).

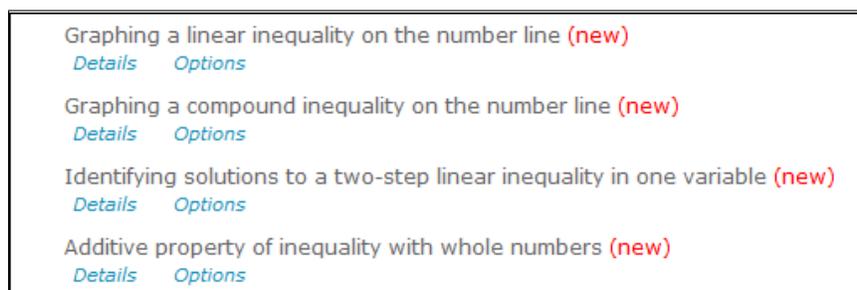


Figure 7.40: Tagging Feature

The TREC tool is only displayed when necessary. For example, if an instructor only changes objective due dates, without changing any actual content, TREC will be skipped.

The TREC Tool displays one or more columns of recommended prerequisite topics, and instructors must select a column before being able to continue. Selecting the **Details** link will allow you to see how a topic relates to other topics.

Adding Topics to a Class

Clicking on the **Options** link will display more information about the topic and allow you to add the topic to an existing objective. Adding a prerequisite topic to an objective makes the topic a goal topic in that objective.

Topics may also be added to the course content, that are not added to an objective. These topics when completed will not count toward objective grades, if the gradebook has been enabled for the course.

The **Class Content** section of the **Class Summary** page will contain a breakdown of goal topics and prerequisite topics if applicable (Sec. 7.4.18). There will also be a link to edit the prerequisites in the TREC tool on the Class Content section. This breakdown of goal and prerequisite topics will also be included on the Course Syllabus (Sec. 7.4.17).

Currently in Class

After the class content has been edited, a **Currently in Class** column will appear. These topics are prerequisite topics that are currently in the class content but not part of any particular objective.

Recommended

These topics are recommended prerequisite topics that support instructional scaffolding and optimal learning. This selection should be used with typical classes that have some students who need additional review.

Minimum

These prerequisite topics are the minimum number of topics required for students to complete goal topics. This selection should only be used for classes where all the students do NOT need review of prerequisite topics.

No Prerequisites

Instructors can choose not to add any topics. This selection will not retain prerequisite topics; all previously added prerequisite topics will be removed.

New Tagging Feature

On subsequent visits to the TREC tool, topics not previously recommended to the instructor will be identified as **new** (Fig. 7.40).

7.4.10 Post Objective Progress Assessment

When students complete an objective assignment before the scheduled end date or reach the assigned mastery level (for objectives without end dates), they can either be assessed automatically on their mastery of this material or be moved to the next objective without an assessment.

Students who do not complete the objective material before the due date, or who do not meet the mastery level, will not have an assessment triggered by this option.

As with all assessments, once the student has started the assessment, they must complete it, even if the due date for the objective has passed.

- The assessment score will not affect the student's score for the objective completion in the Gradebook.
- This assessment will reset the **assessment clock** so that the student will not have two assessments in quick succession.
- To avoid the over-assessment of students, ALEKS will prevent all automatic assessments for students with 10 or fewer items remaining in an objective, or in the 48 hours preceding the end date of the objective.
- If there is no end date for the objective, automatic assessments will be prevented for students with 10 or fewer items remaining to complete the current objective, regardless of the mastery levels set.

7.4.11 ALEKS 360

ALEKS 360 is a complete class solution that combines personalized learning in ALEKS with a fully integrated, interactive eBook. The eBooks featured in ALEKS 360 are much more than just PDF versions of the textbooks: they are high-quality, interactive versions of their physical counterparts, with robust virtual features such as highlighting and note-taking, as well as access to multimedia assets such as images, video tutorials, and Homework exercises.

To create a new class using ALEKS 360, select **Yes, integrate textbook** to use a textbook with ALEKS. Select your textbook from the drop-down menu. (Textbooks with eBooks include "ALEKS 360" in the title.) Not all ALEKS classes offer an eBook option.

After selecting an eBook, choose one of the following options:

Mandatory

Instructors will have the eBook visible in the interface at all times. Students must purchase an ALEKS 360 subscription to use this class.

Optional

Instructors will have the eBook visible in the interface at all times. If students purchase a regular ALEKS subscription (without eBook) they will not see the eBook. They will be able to upgrade their non-ALEKS 360 account to ALEKS 360 through the **Hamburger** menu. If students purchase the ALEKS 360 subscription, they will have access to the eBook.

Disabled

Instructors and students will not see the eBook. Students use a regular ALEKS access code or subscription.

7.4.12 Content Editor

The Content Editor is mainly for use in classes where **objectives are not in use**. If an instructor removes a substantial number of fundamental topics from the class, the Topic Recommendation Tool will calculate whether any prerequisite topics are missing, and allow the instructor to add them back for optimal learning (Sec. 7.4.9).

To access the Content Editor from the Class Summary, locate the **Class Content** section, and then click on **Edit** next to **Content Customization**. On the page that follows, click **Continue** to arrive at the Content Editor.

In the Content Editor:

- All topics that are checked are currently included in the class.
- Unchecked topics are excluded from the class.
- Topics may be checked to include them in the class, or unchecked to remove them.
- To see a sample problem for any topic, double-click on the topic name.

In classes that are configured with objectives, the Content Editor will only display topics contained and structured according to those objectives. The class content can be modified through the Objectives Editor (Sec. 7.4.7) and (Sec. 7.4.8).

Textbook integration tailors the contents of the ALEKS class to the content of the textbook, so that some topics normally included in a given ALEKS course product may be omitted. Even though ALEKS allows relative freedom to determine the content of your class, caution should be used regarding deep cuts to the content, as these may cause ALEKS to function incorrectly. Only minor adjustments should be made to the content once students have begun working, to avoid disruption of the students' work.

7.4.13 Section Level Content

For certain textbooks, the ALEKS items displayed in the Content Editor are organized not only by chapter, but also by section, making it more convenient to customize content on the basis of the textbook structure. Where available, section-level organization is also visible when you are choosing topics to include in Homework, Quizzes, and Test assignments.

7.4.14 Supplementary Textbook Topics

When textbook integration is used, you can also choose to include supplementary class topics available in ALEKS for certain textbooks. These supplementary topics are not specifically covered in the textbook, but can logically be associated with particular chapters. These supplementary topics are excluded from the class by default and must be manually included. Not all ALEKS classes have supplementary topics.

7.4.15 Core Readiness Topics in the Content Editor

For some textbooks integrated with ALEKS, there is an initial chapter, preceding Chapter 1, that may be called a “Readiness Chapter.” (The exact name of the Readiness Chapter can vary from one book to another.) This chapter contains material that is not strictly part of the class coverage, but is important as foundational material.

If you would like the Readiness/Review chapter to be a distinct unit in the student’s work, it should be assigned a completion date, like other chapters. If no separate completion date is assigned to this chapter, its core material will still be included, but as part of the first chapter.

For classes not using textbook integration, these topics will be listed in the Content Editor under the section “Core Readiness Topics”; you may remove as many of these topics as you wish. The other (non-core) topics coming from the Readiness Chapter are also shown in the Content Editor under the section “Other Topics,” but these topics will not be included in the class.

NOTE. If custom objectives are used, ALEKS will automatically include core material if at least 50% of the topics from the first regular chapter (or from the second pie slice) are included in the class coverage.

7.4.16 Class Summary

A summary of the class is presented at the end of the customization process (Figs. 7.41 and 7.42). This **Class Summary** can also be found under **Class Administration**.

Many options to edit the class are provided on the **Class Summary** page, including the following:

Math 104 / ALEKS 360 / Beginning Algebra - Class Summary

Class Information

Basic Information [/ Edit](#) Class Code: XXXXX-XXXXX

Instructor: **I am teaching this class**

Name: **Math 104 / ALEKS 360**

Section: **N/A**

Course Product: **Beginning Algebra**

Start Date: **04/22/2016**

End Date: **08/25/2016**

Archival Settings: **Archive after class end date.**

Subscription Length: **Higher-Ed any access code**

Settings

N/A

Class Content

Content Customization [/ Edit](#)

Textbook: **Miller/O'Neill/Hyde: Introductory Algebra, 2nd Ed. (McGraw-Hill, Paperback) - ALEKS 360**

eBook Access: **Disabled**

Objectives Type: **Chapter-Based and Custom Objectives without End Dates**

Objectives Editor [/ Edit](#)

Objectives: **9 out of 10 chapters selected**

Class Content: **364 Goal + 11 Prerequisite = 375 Total Topics** [Edit Prerequisites](#)

Post Objective Assessment: **On**

What's Next:

- Explore the Student View
- Download the Getting Started Checklist (PDF)
- View Resources and FDOC Materials
- Access the ALEKS Training Center
- Identify visually impaired students on Student Account Summary page

Syllabus

View Syllabus: HTML PDF

Class Options [/ Edit](#)

Access Options

Student Enrollment Status: **Open**

Class Access: **Regular**

Archived Status: **Not archived**

Student Activity Notifications

Notify Me - Assessed at 90%

Learning Options

Show Learning Page First

Show Learning Resources on Problem

Show Send Message Button

Assessment Options

Initial Assessment Location: **Anywhere**

Other Assessment Location: **Anywhere**

Progress Assessment Delay Window:

Figure 7.41: Class Summary Part 1

- Class Information (Sec. 7.4.2)
- Syllabus (Sec. 7.4.17)
- Class Content (Sec. 7.4.18)
- Class Options (Sec. 7.4.19)
- QuickTables Settings (Sec. 7.4.25)
- Implementation Information (Sec. 7.4.26)
- Class Duplicate Settings (Sec. 7.4.27)
- Gradebook (Sec. 7.4.28)
- Resources (Sec. 7.4.29)
- Incoming and Exiting (Sec. 7.4.30)
- Share Class Access (Sec. 7.4.31)
- Student Groups (Sec. 7.4.32)

Click on **Edit** for any area to go back and revise your choices, or use the available links.

7.4.17 Syllabus

On the **Class Summary** page there is a link to download the ALEKS Class Syllabus. Two formats are available, an HTML webpage or a PDF document. The ALEKS Class

<p>QuickTables Settings / Edit</p> <p>QuickTables have not been set.</p> <p>Set QuickTables</p>	<p>Class Duplicate Settings / Edit</p> <p>Status: Private</p> <p>Colleagues and peers cannot duplicate the settings, content and assignments for this class.</p>
<p>Implementation Information / Edit</p> <p>Student Goal</p> <p>Mastery: N/A</p> <p>Min Time Required: N/A</p> <p>Implementation Scenario</p> <p>Scenario: N/A</p>	<p>Gradebook</p> <p>Enabled</p> <p>Gradebook Setup</p>
<p>Resources / Edit</p> <p>There are no resources for this class.</p>	<p>Incoming & Exiting / Edit</p> <p>Incoming Students will pickup where they left off.</p> <p>Trigger a progress assessment Carry over Objective grades Exclude students whose initial assessment was 30 or more days ago</p> <p>Exiting Keep a record of student data if the student was enrolled 15 days or more.</p>
	<p>Share Class Access</p> <p>Share Access to this Class</p>
	<p>Student Groups</p> <p>Create a Student Group</p>

Figure 7.42: Class Summary Part 2

Syllabus contains a detailed summary of the class configuration. This syllabus can be printed as a convenient reference or as documentation of the class setup.

7.4.18 Class Content

This section on the **Class Summary** page contains the class customization options previously chosen such as textbook integration, objectives, and the objective settings (Fig. 7.43). These selections can be revisited by clicking on the **Edit** links in this section. Clicking on the **Edit Prerequisites** link (if available) will allow you to change prerequisite choices in the TREC tool (Sec. 7.4.9).

7.4.19 Class Options

Many options to edit the class settings are provided in the **Class Options** section of the **Class Summary** page, including the following:

- Access Options (Sec. 7.4.20)
- Student Activity Notifications (Sec. 7.4.21)

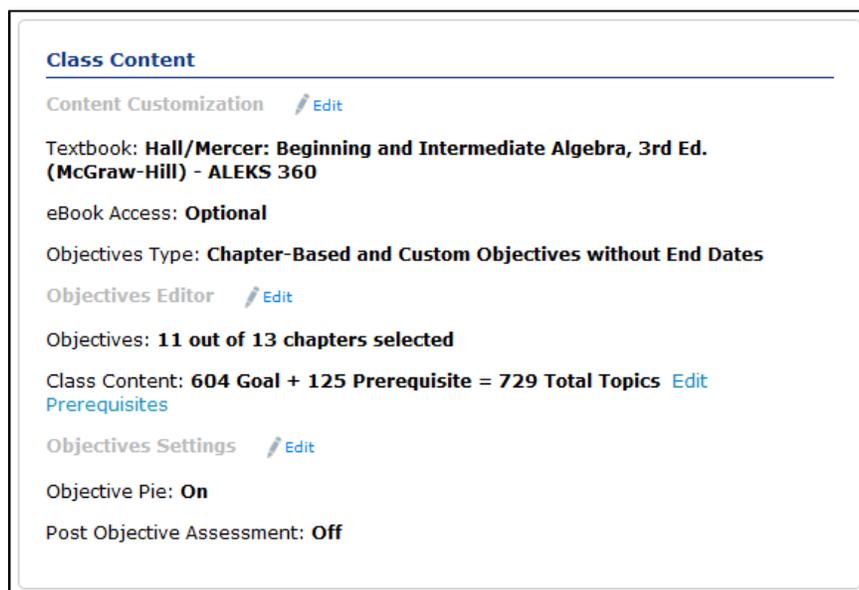


Figure 7.43: Course Content

- Learning Options (Sec. 7.4.22)
- Class Forum (Sec. 7.4.37)
- Student Assessment Options (Sec. 7.4.23)
- Worksheet Options (Sec. 7.4.24)

Click on **Edit** to revise any of these options.

7.4.20 Access Options

From the **Class Summary** page under **Class Options**, click on **Edit** to find the **Access Options**. In this section the following access options are available:

- Student Enrollment Status can be set to Open or Closed, to allow or prevent students from enrolling this this class.
- Class Access can be set to Regular or Denied, to allow or prevent currently enrolled students from accessing this class.
- The Archive Status may be set to archived or unarchived (Sec. 7.4.40).

7.4.21 Student Activity Notifications

From the **Class Summary** page under **Class Options**, click on **Edit** to find **Student Activity Notifications**. In this section the instructor can request to be notified (and

the student be notified) when a student completes an objective. The instructor can also choose to be notified when students assess at certain percentages of the syllabus or when students reach a specific level of learning progress.

7.4.22 Learning Options

From the **Class Summary** page under **Class Options**, click on **Edit** to find **Learning Options**. In this section, instructors can choose to allow students to see a Learning Page first before being given a problem to solve, show learning resources on problem page, or show the **Send Message to Instructor** button inside the learning module. These options are on by default.

7.4.23 Student Assessment Options

From the **Class Summary** page under **Class Options**, click on **Edit** to find **Student Assessment Options**. If the school has IP addresses in place at the school level in ALEKS, the locations that assessments can be taken from may be restricted to these IP addresses. This setting may be differentiated for the Initial Assessment and all subsequent assessments.

Instructors can also delay progress assessment. This feature allows students to finish other assignments or goals before taking the assessment. The assessment delay feature will apply to subsequent or future assessments, not if the assessment is either current or in the past.

7.4.24 Worksheet Options

From the **Class Summary** page under **Class Options**, click on **Edit** to find **Worksheet Options** (Fig. 7.44). Worksheets consist of 16 questions; by default, these are drawn from the student's recent learning history, but optionally four of the 16 may be chosen from material that the student may be working on soon (**Ready to Learn Questions**). Instructors can also manually select their own worksheet combination by using the drop-down menus to specify the number of **Review Questions** or **Ready to Learn Questions**, to include in the worksheet. By default, the instructor always receives messages in ALEKS with the answers to worksheets that students have generated independently. This option can be turned off.

Other options are:

- Remind the students to print a worksheet at the end of an ALEKS session.
- Allow students see the answers to their worksheets.
- Always generate a new worksheet; by default, this only occurs after the student has done some work in Learning Mode.

Worksheet Options

Content

- 16 Review Questions
- 12 Review Questions + 4 Ready to Learn Questions
- Select your own worksheet combination (Worksheets must have at least 1 question):
 - Review Questions Ready to Learn Questions

Notification

- Automatically send me messages with answers to worksheets

Access

- Remind students to print a worksheet before exiting ALEKS
- Allow students access to their worksheet answers
- Always generate a new worksheet

Figure 7.44: Worksheet Options

7.4.25 QuickTables Settings

From the **Class Summary** page there are links in this section that enable instructors to edit and create QuickTables and adjust class settings. For more information, see Sec. 6.1.3.

7.4.26 Implementation Information

From the **Class Summary** page there is a link to an **Implementation Information** page where instructors are encouraged to enter information about their setup and use of ALEKS. This information helps enable effective training and identify best practices.

7.4.27 Class Duplicate Settings

From the **Class Summary** page there is a link to the **Class Duplicate Settings** (Fig. 7.45). In this section instructors can adjust class settings that allow other instructors to duplicate this class. To duplicate a class belonging to another instructor, the instructor will need the class code (Sec. 7.4.1).

NOTE. ALEKS Administrators at the institution can always duplicate any class.

7.4.28 Gradebook

From the **Class Summary** page, instructors may access the **Gradebook Setup** page. For full details about the Gradebook, see Sec. 7.6.

Figure 7.45: Class Duplicate Settings

7.4.29 Resources

From the **Class Summary** page there is a link to the **Resources** feature. This feature can also be accessed from **Class Administration** and the **Class Tools** icon.

Resources can be added in ALEKS at the class or individual topic level. With this feature, instructors can share files, links, and notes to aid student learning. Students can access these resources through the Resources page and/or Explain pages of ALEKS based on the accessibility options selected by the instructor. An example of a resource is an online video that relates to a particular topic in ALEKS.

Instructors can begin by adding resources or by creating folders to organize the resources. Resources and folders can be added at any time and in any order, and folders can be further organized by creating subfolders.

Below are the resource requirements (Fig. 7.46):

- Three types of resources can be added: files, links, or text-only notes (250 characters or fewer).
- Valid URLs must begin with **http://**, **https://** or **www**.
- There is no limitation on the number of resources that can be uploaded per topic.

Add Resource

Name and Type

Enter a Resource Name

Choose a Resource Type

File: No file chosen
 Tag this resource as a video

Link (URL):

Note: 250 characters max

Organize Resource (Optional)

Add this resource to an existing folder in the Resources table (Choose one)

Student Resource Visibility

Display this resource on each student's **Resources** page when student is in Learning Mode. The resource will be accessible and organized in the order specified by the instructor.

Link Resource to Topics

Link this resource to individual topics. Students will be able to view this resource on the Explain pages for the selected topics.

Select one or more topics below. Preview topics by double clicking or tapping the topic name twice.

Topics selected: 0 Resources linked

- Beginning Algebra [open all] [close all]
- Arithmetic Readiness
- Whole Numbers
- Writing expressions using exponents

Figure 7.46: Resources

- The file upload size is limited to 4MB per file, and the total amount of resources that instructors can upload in any class is limited to 100MB. Many file extensions are accepted for upload.

7.4.30 Incoming and Exiting Student Options

These settings determine the rules for assessments, objective grades, and student data when they switch from one class to another within the same course family or course product. These settings can be customized at the Institution, Master Template, and class level.

Incoming Students from a class using the same Course Product:

Students Will Pick Up Where They Left Off

Students' pie progress will be carried over to this class. Optional Settings for these students are to trigger a progress assessment, or carry over objective grades. Students whose last initial assessment was more than a certain number of days may be given an initial assessment.

Fresh Start

All students will be given an Initial Assessment.

Exiting Students, regardless of what course product they are going to:

Always keep a record of student data in my class, regardless if they exit my class (Recommended)

These students will appear as “Former” students in class rosters.

Keep a record of student data if the student was enrolled for more than a certain number of days

These students will appear as “Former” students in class rosters.

Never keep a record of student data in my class

There will be no record kept of the student’s work in the first class, as though he or she had not been in that class.

NOTE. At the school level, there is a **Lock** option, to prevent individual instructors from changing these options at the class level. Please also note that the settings above **do not** apply to students switching classes within the same Master Template.

Note also that these settings do not all apply when the student is moving between courses linked to the same Master Template (Sec. 7.10).

7.4.31 Share Class Access

From the **Class Summary** page there is a link to the **Share Class Access** feature. This feature can also be accessed from the **Class Administration**.

Instructors can share access to their classes with TAs (Teaching Assistants) and other instructors by assigning access levels. Only TAs and Instructors who have been set up in ALEKS will be included in the list of instructors to share the class with.

The instructor of the class will have the following options for assigning an access level:

- No Access
- Full
- Gradebook
- Read Only
- Assign per Student

A shared class will be listed for shared instructors with a “S” next to the name in class lists.

NOTE. ALEKS Administrators always have full access to all classes within the school.

7.4.32 Student Groups

From the **Class Summary** page there is a link to the **Student Groups** feature. This feature can also be accessed from the **Class Administration**.

Instructors can divide their classes into Student Groups for filtering reports and Gradebook scores. Students can be added to more than one Student Group; in other words, Groups can overlap. The Student Groups Filter can also be accessed at the Class Level Dashboard.

7.4.33 Class List

Class	Product	Instructor	Enrollment	Class Code
<input type="checkbox"/> Fall 2014	Preparation for Calculus with Limits	Ricker, Ruth, Prof.	5	D4GUX-VVHK3
<input type="checkbox"/> Math 106	Beginning and Intermediate Algebra Combined	Ricker, Ruth, Prof.	5	X9JCE-JKK63
<input type="checkbox"/> Math 110	Beginning and Intermediate Algebra Combined	Ricker, Ruth, Prof.	2	FQQWV-LHY9N
<input type="checkbox"/> Math 2013	Introduction to Statistics	Ricker, Ruth, Prof.	1	DTLAN-3QL6V
<input type="checkbox"/> Stats	Introduction to Statistics	Ricker, Ruth, Prof.	1	ADM RD-UWHTL

Figure 7.47: Class List

Under **Class Administration**, select **Class List**. This feature can also be accessed from the **Instructor Administration**. A list of the instructor's classes will be displayed (Fig. 7.47). ALEKS Administrators will see all ALEKS classes for each instructor at the college.

When one or more classes are selected by checking the box to the left of a class, the following actions will become available (when applicable):

- New Class (Sec. 7.4.1)
- Class Summary (Sec. 7.4.16)
- Dashboard (Sec. 7.1.4)
- Duplicate (Sec. 7.4.1)
- Archive (Sec. 7.4.40)
- Delete (only available if no students are enrolled in the class)

7.4.34 Cleanup Tool

From the **Class Administration**, select **Cleanup Tool**. This feature is used to clear statistics and records at the class level. The tool should be used with **extreme caution**. The action is irreversible and may cause great disruption to your class.

Clear Statistics

This will clear time logged by students in this class.

Clear Statistics and Records

This will clear time and data accumulated in this class. Students will be prompted to complete a new Initial Assessment.

7.4.35 Class Roster

Name	Mastery	Login	ID	Group	Enrolled	Expires	Last Login
<input checked="" type="checkbox"/> Aleks, Nhi	83%	NALEKS258	abc123	-	12/11/14	04/08/15	03/04/15 2:41 PM
<input type="checkbox"/> Best, Nhi	-	NBEST38	adc123	-	03/05/15	03/22/15	03/05/15 6:09 PM

Figure 7.48: Class Roster

From the **Class Administration**, select **Class Roster**. A list of the students enrolled in the class will be displayed (Fig. 7.48).

When one or more students are selected by checking the box to the left of a student, the following actions will become available (when applicable):

Dashboard

To display the student's **Dashboard** (Sec. 7.1.4).

Account Summary

To display the student's **Account Summary**.

Send Msg

To send a message to the selected student(s).

Move

To move the student to a new class.

Unenroll

To unenroll the student from the current class.

Hide

To hide the student from the class.

Disable

To disable the student from accessing the current class.

Students are tagged as Active, Former, or Hidden. For information about filtering students in the roster, see Sec. 7.2.9.

7.4.36 Financial Aid Code

A Financial Aid Access code can be requested to allow students enrolled in the class free temporary access to ALEKS. The code is valid for a period of 2 weeks. If the class is set for 6-week access codes only, the Financial Aid Access Code is valid for 2 days after activation. The Financial Aid Access code is designed to assist students experiencing financial aid delays. This feature is only available for classes set up to use access codes.

To request a Financial Aid Access Code for your class, from the **Class Administration**, click on **Financial Aid Code**. Next, click on the **Request a Financial Aid Code** button; you will receive a message in your ALEKS Message Center Inbox containing your class code, Financial Aid Access Code, and instructions for the students on how to register with ALEKS. It is recommended that you print out the email or forward it to the students who need it. The code can be used by any number of students in the class, but only for that class. This process should be completed for each class where the Financial Aid Code is needed.

NOTE. When students purchase their access code, the time used in ALEKS with the Financial Aid Access code will be subtracted from the time available on the purchased access code; in other words, **using the Financial Aid Access code does not add two weeks to the total length of an account.**

7.4.37 Forum

From the **Class Administration** or from the **Class Tools** icon, select **Forum**. The Forum can be used to facilitate meaningful discussions with students in the class. The Forum will have to be enabled the first time the instructor accesses it. To disable the Forum, deselect the option on the **Class Options** page (Sec. 7.4.19).

7.4.38 Calendar

The **Calendar** can be accessed either from the **Class Administration** or from the **Class Tools** icon (Fig. 7.49). Instructors can view and schedule assignments through the Calendar by clicking on the **Create New Assignment** button. Instructors can create a new assignment from the beginning or select **Duplicate from Another Class** to reuse the same content. The Calendar shows all **assignments** in the class, one month at a time, with their start and end dates.

Hovering over either a start date or an end date will highlight the start and end dates for the assignment.

All assignments appearing in the Calendar may be included in the class grading scheme. Assignments do **not** have to be graded, however, to appear in the Calendar. All assignments, graded or not, will appear in the Calendar unless deliberately excluded.

It is also possible to add arbitrary notes to the Calendar by clicking the link, **Add note to Calendar** (upper right).

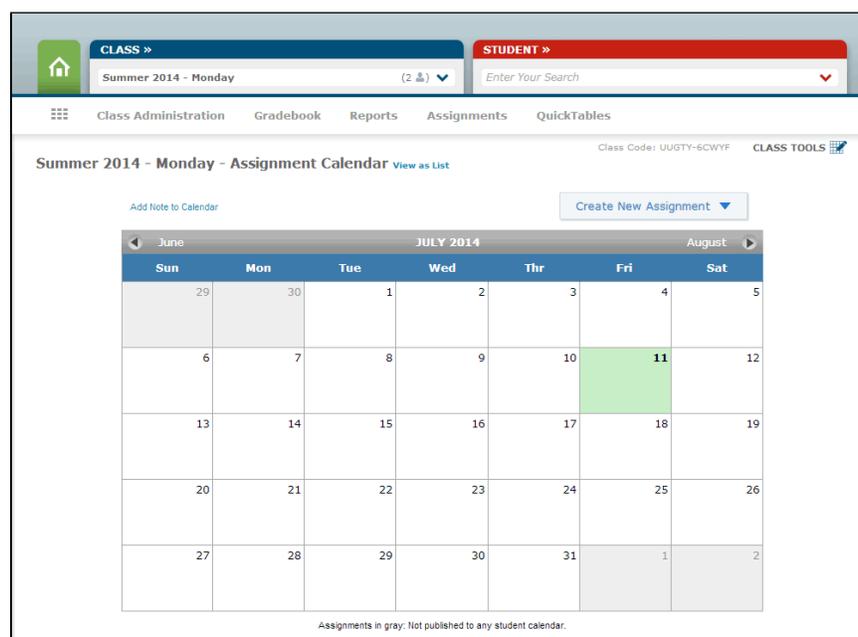


Figure 7.49: Calendar

7.4.39 Student View

The **Student View** can be accessed either from **Class Administration** or from the **Class Tools** icon. The student view can be used to experience exactly what a student experiences in ALEKS. The Student View for an instructor behaves as it would for student: instructors complete the ALEKS tutorial and Initial Assessment, view their pie chart, enter Learning Mode, and can complete assignments if any have been created and assigned to the class. The Reset the Student View checkbox can be used to reset the Student View to the beginning of the Student Module (i.e. the ALEKS tutorial); this will delete any previous work logged by the instructor in the Student View.

7.4.40 Class Archive

Archiving can be used to simplify the list of classes displayed from the Class tab. Class archiving (and unarchiving) can be done in several ways. Individual classes can be archived from the **Class Summary** page (Sec. 7.4.16), whereas multiple classes can be archived from the **Class List** page (Sec. 7.4.33). Classes can be set to archive automatically after their end date has passed (Sec. 7.4.2).



Figure 7.50: Class Tools

7.4.41 Class Tools

After selecting a class, the Class Tools link will be available in the upper right area of the page (Fig. 7.50). Clicking on this link will display icons for quick access to the following for the current class:

- Forum (Sec. 7.4.37)
- Calendar (Sec. 7.4.38)
- Resources (Sec. 7.4.29)
- Student View (Sec. 7.4.39)

7.5 Assignments

Class Administration	Gradebook	Reports	Assignments	QuickTables
CREATE		MANAGE		REPORTS
<ul style="list-style-type: none"> > New Homework > New Test > New Quiz > New Scheduled Assessment 		<ul style="list-style-type: none"> > Assignment List 		<ul style="list-style-type: none"> > Homework Report > Quiz Report > Test Report > Assessment Report

Figure 7.51: Assignments

The following kinds of assignments can be created in ALEKS: Pie Progress Goal, Time Goal, Topic Goal, Homework, Tests, Quizzes, and Scheduled Assessments (Fig. 7.51). All are optional: ALEKS can be used without any of these, but they may enhance the effectiveness of ALEKS in certain instructional contexts. Pie Progress Goal, Time Goal, and Topic Goal are similar in setup and will be addressed briefly below. Homework, Tests, and Quizzes are similar in how they are configured. The process of creating a Homework assignment will be described below in full detail; Scheduled Assessments

will be treated more briefly, focusing on how they differ from Homework, Quizzes, and Tests.

All assignment types are separate categories in the ALEKS Gradebook (Sec. 7.4.28).

7.5.1 Class Assignments

1 Assignment Selected		Displaying 18 Assignments					
Filter							Search
New Assignment Edit Quick Edit Print View Report Duplicate More							
<input type="checkbox"/>	Name	Type	Start	End	Goal Details	Status	Report
<input type="checkbox"/>	Scheduled Assessment 3	Scheduled Assessment	08/17/2016 8:00 am	08/24/2016 8:00 am	-	Upcoming	Report
<input type="checkbox"/>	Test 2	Test	07/25/2016 4:58 pm	08/08/2016 4:58 pm	-	Current	Report
<input type="checkbox"/>	Homework 8	Homework	07/18/2016 4:58 pm	08/01/2016 4:58 pm	-	Current	Report
<input checked="" type="checkbox"/>	Quiz 5	Quiz	07/11/2016 4:58 pm	07/25/2016 4:58 pm	-	Completed	Report
<input type="checkbox"/>	Scheduled Assessment 2	Scheduled Assessment	07/11/2016 8:00 am	07/18/2016 8:00 am	-	Completed	Report
<input type="checkbox"/>	Homework 7	Homework	07/04/2016 4:58 pm	07/18/2016 3:58 pm	-	Completed	Report

Figure 7.52: Assignment Status

Assignments that have been created for a class can be viewed by clicking on the **Assignments** option. The **Assignments** link will display a table showing all assignments in the class (Fig. 7.52). By default the list is sorted by end date, then the name of the assignment. The list can also be sorted based on other columns as well. The table includes the following information: Assignment Name, Type of assignment, Start Date, End Date, Goal Details, Status of the assignment, and a Report option to display the results of the assignment per student.

Possible Status values are:

Current

The assignment is currently available.

Upcoming

The assignment will be available at a future date.

Completed

The assignment due date has passed.

Disabled

The assignment has been set up as Disabled in Step 1 on the assignment setup screen.

Clicking on the box next to one of the assignments will display a list of **Actions** available for that assignment. Clicking on more than one assignment at a time will limit the actions available.

Available **Actions** are:

Edit

Instructors can modify an existing assignment in the class.

Quick Edit

Instructors can adjust the Assignment Name, Start Date and Time, End Date and Time, and Status.

Print

Instructors can print up to five different instances of this assignment (Homework, Test, or Quiz).

View Report

Instructors can view a report showing each student's result on the assignment.

Duplicate

Instructors can make a duplicate copy of an existing assignment in the current class.

More

Selecting the **More** action will display additional options.

Shift Start and End Dates

Instructors can adjust the selected assignment Start and End Dates forward or backward by a selected number of days.

Set Start and End Dates

Instructors can set the selected assignment start date and time and end date and time.

Delete

Instructors can delete the selected assignment.

7.5.2 New Homework

Instructors can create a new Homework assignment by clicking on the **Assignments** tab then the **New Homework** link. (Fig. 7.51). Alternatively, instructors can create a new Homework assignment by using the **Duplicate** option from the Assignment List.

The following steps are needed to complete the assignment creation process (Figs. 7.53 and 7.54):

STEP 1: Name & Date

Basic information about the Homework assignment is entered including a name and the dates when it will be available (Sec. 7.5.3).

STEP 1: Name & Date

Name:

Status:

Start Date: Month: Mar, Day: 5, Year: 2015. Time: 4:53 pm

End Date: Month: Mar, Day: 5, Year: 2015. Time: 11:59 pm

Time Limit: 1:30

Allow students to save this assignment for later and go back to Learning Mode.

Publish this Homework to the student calendar

Allow student access to the eBook while doing this Homework

Allow student access to "Worked Example" while working on this Homework

STEP 2: Content

Please select the content for this Homework. You must choose a minimum of 1 question, with a maximum of 60 questions.

Randomly add questions from

Default View | All Assignments | Points

Pre, Beginning, and Intermediate Algebra, 4th Ed. [open]

- Module #1
- Module #2
- Module #3
- Module #4
- Module #5

Drag questions here

Figure 7.53: New Homework

STEP 2: Content

In this step content is added to the assignment (Sec. 7.5.4).

STEP 3: Gradebook Settings

Instructors can specify when students can see their grades, or if multiple attempts are permitted for the assignment (Sec. 7.5.5).

STEP 4: Advanced Options

In this step instructors can control student access to the assignment (Sec. 7.5.6).

STEP 5: Grading Scale

A grading scale can be set for the assignment and parameters are available to optionally allow this score to be visible to students (Sec. 7.5.7).

7.5.3 Name & Date

STEP 1. This step allows the instructor to select a name for the assignment and the start date and time and end date and time for the Homework. The Homework will be available to the students during this period. By default, the start date and time is when you begin creating the Homework; the end date and time is 11:59 PM of the same day. This section additionally includes other accessibility parameters that can be selected.

Name

A sequential name for the Homework will be generated (e.g., Homework 1, Homework 2, etc.), or the instructor can choose a name.

Status

Normally, the Homework will be left **Enabled**; if you wish to keep it hidden for the time being, change the Status to **Disabled** using the drop-down menu.

Start Date and End Date

Enter the Start Date and Time and the End Date and Time defining the period when the assignment will be available to students.

Location

If IP addresses are used to restrict access to assignments to within the college, a Location drop-down menu will be available (Sec. 7.9.1).

Time Limit

By default, there is no time limit on a Homework, but one may be assigned.

Allow students to save this assignment for later and go back to Learning Mode

By checking this box, instructors can allow students to start an assignment and then save it to complete later. A **Save for Later** button will be available for students to click when taking the assignment. This will permit students to work in Learning Mode or on other assignments before finishing the assignment. This option is not available for timed assignments.

Publish this Homework to the student calendar

The assignment is normally published to the student calendar, but this can be disabled.

Allow student access to the eBook while doing this Homework

If the class is integrated with an ALEKS 360 textbook, you will have the option of allowing students access to the eBook while working on the Homework assignment.

Allow student access to Worked Example while working on this Homework

Instructors have the option to activate the Worked Example for any given homework.

7.5.4 Content

STEP 2. There are several ways to select the topics that the Homework assignment will cover.

Selecting Specific Topics

Using the directory on the left-hand side of the Selector window, select the topics you wish to include, and click on the **Add** button underneath the Selector. Shift and Ctrl can be used for easy selection of multiple topics. If Textbook Integration

is used (Sec. 7.4.4) the directory may be organized by the textbook. If Textbook Integration is not used then the topics will be organized using ALEKS's own categories, or the instructor can select to organize the topics by Standard if this option is available. If TREC items were added to the class, there will be an extra folder available that contains prerequisite topics (Sec. 7.4.9).

Select the **All Assignments** tab to create a Homework that contains the same topics used in another Homework, Quiz, or Test.

Selecting Random Topics

Another way to add questions is to specify the number of questions and the chapter from which they are to be taken, then click **Add** above the Selector window. The questions will be chosen at random from the chapter or standard you specify. You can also do this for different sections, then **Shuffle** (randomize) them if desired. The total number of questions on the Homework cannot be less than 1 or greater than 60.

To remove topics from the Homework, select them on the right-hand side and click the **Remove** button. The order of topics can be changed by dragging them in the list, or by selecting them and using the up and down arrows. Or, you can randomize the order by clicking the **Shuffle** button.

Instructors can modify the points assigned to each topic, ranging from 1 point up to 99 points. This allows some topics to be weighted more heavily on the assignment than others.

To see a sample question for a topic, double-click on the name of the topic. This is not the question that your students will see; the actual questions appearing on the assignment will be generated algorithmically at the time the Homework is taken. Each student will see a different question, but it will be equivalent to the sample question in topic and difficulty.

7.5.5 Gradebook Settings

STEP 3. You can choose whether the students will see their scores and grades immediately (default), or only after the end date (Fig. 7.54). Next is a box that can be checked to have ALEKS automatically assign partial credit for multi-part problems on the Homework. You can also specify whether the assignment may be taken once or multiple times. If you click the option "This Homework can be taken multiple times," a window will open in which you can select a number of attempts, as well as options for which score should appear in the Gradebook (the best score, the final score, or the average of all attempts). Also, in this window you can choose one of the following retake options:

Full Retake

Students must retake all problems (default).

STEP 3: Gradebook Settings

- Make grades available to student after due date
- Make grades available to student immediately upon completion
- Have ALEKS automatically assign partial credit for multi-part problems
- This Homework can be taken only once
- This Homework can be taken multiple times

Maximum number of attempts:

- Full Retake (Students must retake all problems.)
- Quick Retake (Students only retake incorrect problems.)

In the gradebook:

- Record the best score
- Record the final score
- Record the average score

STEP 4: Advanced Options

- Prevent automatic assessments
- Assign to entire class
- Assign to specific student(s)

Assignment Access Options: [Learn more](#)

- Students choose when to start assignment after it is available
 - Require Password [Show Password](#)
10 characters max.
- Students must take assignment as soon as it is available

Figure 7.54: New Homework (cont.)

Quick Retake

Students retake only the problems that were answered incorrectly.

7.5.6 Advanced Options

STEP 4. The **Prevent automatic assessments** option allows you to postpone automatic assessments for up to 7 days prior to the beginning of the assignment (defaults to 2 days). Postponed automatic assessments will occur as soon as the assignment is completed or its end date passes. **Objective completion assessments will only be delayed up until the start date of the assignment. Extensions are not taken into account** (Sec. 7.5.8).

The instructor can choose whether to assign the Homework to the entire class or only to some students in the class (including a single student, or no students). If you click the option for “specific student(s),” you will see a list of the names of students in the class with checkboxes.

NOTE. When an assignment is scheduled for some students, rather than the entire class, the assignment will be considered extra credit in the ALEKS gradebook. This ensures that the assignment will not hurt any student’s grade.

Next, you will be given the choice of how your students will access the Homework assignment. There are two options:

Students choose when to start Homework assignment after it is available

Students have the flexibility to choose when to start the Homework assignment so that they can continue to work in other parts of ALEKS without being forced into the assignment.

Included in this option is the ability to password-protect the Homework assignment, providing more control of when and where the Homework assignment can be taken.

Students must begin the Homework assignment as soon as it is available

Students are “forced” into the Homework assignment as soon as they log in, once it becomes available. With this option, students will not be able to work in any other areas of ALEKS until they have completed the Homework assignment. See Sec. 7.5.10 for examples of how ALEKS will behave when this option is used.

7.5.7 Grading Scale

STEP 5: Grading Scale

To change the grading scale, drag the green bars to the desired percentages. Type in new grading terms to replace the letter grades, as needed. (As the Homework is completed, results are tallied using blue bars.)

NOTE: To view student grades once this Homework is completed, select the Homework from the gradebook, click on the "View Assignment Gradebook" link, and view the Student Scores report.

Score in percent

Display Options:

- Do not show letter grades on reports
- Show letter grades on instructor reports only
- Show letter grades on instructor and student reports

Apply these settings to all future assignments created in the "Homework" category. (Excludes name, content, and start and end dates)

Save Cancel

Figure 7.55: New Homework (cont.)

STEP 5. By default, no grading scale is used, and the students see only a percentage score. If the grading scale is used, its default is a conventional scale (A, B, C, etc.) using standard percentage breakpoints (Fig. 7.55). The sliders on the scale can be moved and renamed, and you can add or remove sliders to set practically any scale desired. The labels on the sliders, which are used as grade notations, are limited to a few letters or numbers; to set the label, click on the existing label, type in the new label, then press **Return**.

Use the **Display Options** under the grading scale to set whether the scale will be used. Even if the scale is not used, the graph will be populated as a histogram once the students begin taking the Homework, giving a useful illustration of the students' performance on that assignment.

NOTE. You can choose to apply the settings on this screen to all future assignments created in this category, in the class by checking the box underneath the display options. This will not include the name, content, and start and end dates.

To complete the process, click **Save** at the bottom of the New Homework page. After you click the **Save** button, the Homework assignment can be edited if changes are required (Sec. 7.5.8). If you do not wish to save the Homework Assignment, click the **Cancel** button.

7.5.8 Edit Homework

To edit a Homework assignment, click on the Assignment List link. Next, check the box next to the Homework name that you want to edit. Click the **Edit** action to edit the assignment. Homework can be modified up to the moment when the first student begins to take it; extensions can be created at any time.

STEP 1 through **STEP 5** can be edited on this screen. Also, at the bottom of the Edit Homework screen is a **Delete this homework** button. Clicking this button will delete the Homework assignment.

Create Extension. When students are enrolled in a class, the **Create Extension** feature is available on the Edit Homework page. Extensions can be created for one or more students. To create the extension, click on the **Create Extension** button, select the date and time through which the extension will be in effect, choose the student(s) who will be given the extension, and click the **Create Extension** button.

7.5.9 Scheduled Assessments

Scheduled Assessments have many of the same options as Homework, Quizzes, and Tests (Fig. 7.56). The fundamental difference is that you do not specify the content of an assessment; the assessment is produced by ALEKS automatically, as with all other assessments (Sec. 4.1).

Here are some noteworthy features of Scheduled Assessments:

- When creating a Scheduled Assessment, the instructor has a choice between a “Progress”-style assessment and a “Comprehensive”-style assessment. Progress Assessments are slightly shorter and focus on the student’s most recent learning history; Comprehensive Assessments are slightly longer and probe more deeply into the student’s overall knowledge of the class content.
- Scheduled Assessments will not allow access to worked examples, integrated eBooks, or multiple attempts.
- It is helpful to block automatic assessments for a number of days prior to the Scheduled Assessment, using the Prevent automatic assessment option. A Scheduled Assessment will “reset the clock” for automatic assessments, so that the “blocked” assessments do not kick in when the assessment is completed.

Assessments and Grading. The score for all ALEKS assessments, including those scheduled as assignments, is always a percentage representing the student’s knowledge

STEP 1: Name & Date

Scheduled Assessment Name:

Status: ⓘ

Goal: % ⓘ

Scheduled Assessment Type: Progress Assessment ⓘ
 Comprehensive Assessment ⓘ

Scheduled Assessment Dates:

Start Date: Month: Jul, Day: 28, Year: 2016, Time: 10:44 am

End Date: Month: Jul, Day: 28, Year: 2016, Time: 11:59 pm

Publish this Scheduled Assessment to the student calendar.

STEP 2: Advanced Options

Prevent automatic Assessments

Assign to entire class
 Assign to specific student(s)

Assignment Access Options: [Learn more](#)

Students choose when to start assignment after it is available
 Require Password [Show Password](#)
10 characters max.

Students must take assignment as soon as it is available

STEP 3: Grading Scale

Indicate the grading scale to use with this Scheduled Assessment. When choosing a grading scale, please keep in mind the expected mastery for your students on the Scheduled Assessment date. Since ALEKS is a mastery based program, your scale will not follow a traditional scale. You can adjust the categories by dragging the bars from left to right, add or remove categories by dragging the leftmost or rightmost bar.

Display Options:
 Do not show letter grades on reports

Figure 7.56: Add an Assessment

of the entire class contents. Assessments do not measure the students' knowledge exclusively of a particular chapter, unit, or other portion of the class contents. Many instructors prefer not to use Scheduled Assessment results as part of the grading scheme. If Scheduled Assessments are used for grading the grading scale should be set carefully, to reflect your expectation of what the students will have learned at the time the assessment is taken. For more information on setting a goal percentage for a Scheduled Assessment, see Sec. 7.6.2.

7.5.10 Scheduled Assignment Behaviors

The following are several examples of how the ALEKS system will behave when a student must begin a scheduled assignment as soon as it becomes available in ALEKS.

- If a student is working on any kind of assessment (except Initial Assessment), and a Scheduled Test or Scheduled Quiz becomes available, the system will interrupt the assessment, and the student will be prompted to take the Scheduled Test or Quiz immediately. After the student completes the Scheduled Test or Quiz, the assessment will continue where the student left off.

- If a student is working on any kind of assessment, and a Scheduled Assessment becomes available, the system will stop and **discard the current assessment**. The student will see a message that says the assessment was canceled. The student will be prompted to take the Scheduled Assessment immediately.
- If a student is working on a Homework, Quiz, or Test, and another Homework, Quiz, Test, or Scheduled Assessment becomes available, the system will not interrupt the student's work. The system will wait until the student has completed the current assignment before prompting the student to take the scheduled assignment.

7.5.11 Pie Mastery, Time, and Topic Categories

The screenshot shows a web form titled "New Pie Progress Goal". It contains the following elements:

- Name:** A text input field containing "E.g. Pie Progress Goal 1".
- Due Date/Time:** A date input field showing "07/28/2016" with a calendar icon, followed by time dropdowns for "11", "59", and "pm".
- Percent of Pie to be Mastered:** A text input field followed by a "%" symbol.
- Award Points:** A dropdown menu with a blue highlight on the second option. The visible options are "(Choose one)", "(Choose one)", "All or Nothing", and "Partial Credit by Percentage".
- Buttons:** A green "Save" button and a blue "Cancel" button.

Figure 7.57: Pie Mastery Grade Settings

The following categories require specific components to be added via the Gradebook Setup Page, to be included in the Gradebook.

Pie Mastery

The Pie Mastery category is used to grade students based on their mastery of a percentage of the ALEKS Pie by a specified due date and time (Fig. 7.57).

Time

The Time category is used to grade students based on the amount of minutes/hours spent in ALEKS for a specified date range (Fig. 7.58).

Topic

The Topic category is used to grade students based on the number of topics mastered in the ALEKS Pie for a specified date range (Fig. 7.59).

New Time Goal

Type: One Time
 Recurring

Name:

Start Date/Time:

End Date/Time:

Time Spent in ALEKS: h m

Award Points:

Figure 7.58: Time Grade Settings

New Topic Goal

Type: One Time
 Recurring

Name:

Start Date/Time:

End Date/Time:

Topics Mastered:

Award Points:

- (Choose one)
- All or Nothing
- Partial Credit by Percentage

Figure 7.59: Topic Grade Settings

The screenshot shows the ALEKS Gradebook interface. At the top, there are tabs for 'CLASS' (ALEKS, 27 students) and 'STUDENT' (search bar). Below are navigation tabs: 'Class Administration', 'Gradebook', 'Reports', and 'Assignments'. The main area is titled 'Gradebook' and shows a table of student grades. A 'Gradebook Legend' is visible on the right side.

AI	Students (Name Logout Student ID)	Total Grade	Time - Week 1	Topic - Week 1	Time - Week 2	Topic - Week 2
			Edit	Edit	Edit	Edit
			Jul 10, 2014	Jul 10, 2014	Jul 17, 2014	Jul 17, 2014
	Alberti, Maria E.	62%	72%	100%	59%	100%
	Anderson, Joel C.	64%	65%	83%	76%	100%
	Bolzano, Carlos	59%	98%	50%	100%	42%
	Browning, Herbert K.	63%	100%	83%	80%	100%
	Chang, Karen V.	58%	93%	83%	78%	83%
	Clark, Tracy L.	63%	93%	100%	54%	100%
	Collins, Jennifer A.	64%	67%	100%	46%	100%
	Fisher, Kelly V.	67%	86%	92%	93%	100%

Gradebook Legend

- score: Dropped score
- *score: Extra credit
- score: Submitted but not due yet (not part of grade)

Figure 7.60: Gradebook

7.6 Gradebook

The Gradebook records student grades for assignments in the categories selected in the Gradebook Setup.

The following types of assignment categories can be used by the Gradebook:

- Pie Progress
- Time
- Topics
- Objectives (Chapter Completion)
- Scheduled Assessments
- Quizzes
- Tests
- Homework
- External Assignments

When configuring the Gradebook for a class, the instructor can choose any selection of these assignments. Also, it is possible to use these kinds of assignments and not include them in the Gradebook configuration; for example, the instructor may choose to set up a series of Homework assignments for the class to prepare students for Quizzes or Tests, but not make the Homework assignments part of the grade.

The External Assignment category assignments require specific components (goals or assignments) to be added via the Gradebook Setup page, in order to be included in the gradebook (Secs. 7.5.11 and 7.6.5).

NOTE. The full benefit of the ALEKS Gradebook will be obtained if the configuration is thought out carefully before the beginning of the class, and then left unchanged while the class is in progress. In particular, if the students have begun to complete assignments, and grades for the assignments appear in the Gradebook, changes to the configuration may be confusing to students when they check their Gradebook data.

7.6.1 Gradebook Interface

To see the Gradebook for a class select **Gradebook** from the sub-navigation menu and then select **Class Gradebook** (Fig. 7.60). Several options are available for this display. By default, all gradebook assignment types are displayed, but the **Show** menu allows the gradebook data to be filtered by assignment type. Each assignment is color-coded by category. If student groups have been set up, gradebook data can be filtered by group.

Send Message to Selected Students

Instructors can send a message to students while viewing the Gradebook without having to navigate to the ALEKS Message Center. The default is to sort students by name, but by sorting on a grade column instructors can send messages to groups of students who have high or low values for that column.

Display Options

Grading information may be displayed in terms of points (based on the points allotted for each category in the Gradebook configuration) or by percentage of the total points possible. A date range can also be set for the display. After making any changes to the display, click the **Update Display** button.

Full Screen View

Click on the link to view the Gradebook in an expanded screen.

Download to Excel

As with other reporting displays in ALEKS, the contents of the Gradebook can be downloaded into an Excel spreadsheet for use outside of ALEKS. It is recommended that you download the Gradebook into Excel on a regular basis in order to have a backup file on hand. This can be useful in the event of a discrepancy or if edits need to be made to student scores.

Student Information

Students are listed in the left-hand column; there are also options to show their ALEKS Login Names or student ID numbers instead of names.

Total Grade

The Total Grade column will be displayed when **All** is chosen from the **Show** drop-down menu. This column computes the student's current grade based on assignments completed or for which the due date has passed. This grade predicts the student's grade for the class based on any work completed to date. For example,

if the class is half completed and a student has 70% in this column, it means that if the student's work continues at the same level for the remainder of the class, the final grade will be around 70%. If a particular category (e.g. Quizzes) is chosen rather than **All**, a total grade (Quiz Grade) will be displayed, based only on that category of assignments. If a date range is specified other than the entire period of the class, the display will use only the assignments whose dates fall within that range.

Student Grades

In the Gradebook, student grades for specific assignments are ordered chronologically by due date. As the students complete the assignments, values are inserted into the corresponding cells as follows:

Empty cells

The student has not completed the assignment.

Zero

The due date has passed.

Grey

the student has completed the assignment but the due date has not passed (the value will not be used in computing the current **Total Grade**).

For some types of assignments (e.g., Homework with multiple attempts), students have the option of redoing or retaking the assignment, so that values in grey may change before the due date.

Clicking on the [**Edit**] link in any column, for a specific assignment, will open a box containing options to view and edit student results.

7.6.2 Gradebook Setup

After selecting a class, select **Gradebook** followed by **Gradebook Setup** to access the setup page. **Gradebook Setup** can also be found by selecting **Class Administration** followed by **Class Summary**.

For each of the grading assignment categories, a category weight percentage can be assigned (Fig. 7.61). To include that category in the Gradebook, you must set this percentage greater than 0. The total percentage weight of all categories combined must equal 100%, or an error message will display when attempting to save the Gradebook Setup page.

Assignment Weights

The assignments within each Gradebook category can also have different weights. The weight of each individual assignment can be assigned by clicking on the **Edit** link found below the category name. When you are entering the weight for each assignment, there is a toggle link to **Show or Hide** the details of the weight of each assignment. These details include the percent value of each assignment within the category and the percent value as a component of the total grade (Fig. 7.62).

Gradebook Setup View Gradebook Disable the Gradebook for this Class

Gradebook Category	Category Weight (%)
Pie Progress Edit	13 %
Time Edit	13 %
Topic Edit	13 %
Objective Edit	12 %
Scheduled Assessment Edit	12 %
Quiz Edit	13 %
Test Edit	12 %
Homework Edit	12 %
Gradebook External Assignment Category Add New Row	
External Assignment Edit Name Edit Add External Assignment	0 %
Total: 100 %	

Total Grade Display Settings

Show total grades to students
 Hide total grades from students

Need a suggestion? The guides below can help you set up a basic weighting system.

[Gradebook Setup Guide](#)

Figure 7.61: Gradebook Setup

Gradebook - Homework Weight Return to Gradebook Setup

Default weight: 10 points Drop the lowest 0 score(s)

Name	Due Date	Extra Credit	Weight	Weight Within Category (%)	Contribution to Total Grade (%)
Homework 1 Edit Student Scores	07/22/2014	<input type="checkbox"/>	10 points	9.1%	0%
Homework 2 Edit Student Scores	07/29/2014	<input checked="" type="checkbox"/>	10 points	9.1%	0%

Figure 7.62: Assignment Weights

Dropping Low Scores

On the assignment weighting page there is a drop-down menu that allows the instructor to specify how many (if any) of the lowest scores will be dropped from the gradebook (Fig. 7.62). Only regular (non-extra credit and non-zero weight) assignments can be dropped. Suppose that 10 ALEKS Quizzes have been set up for the term and the 2 lowest quiz scores have been set to be dropped. ALEKS will not drop any scores until the 9th Quiz has been completed by the students. At that time, the lowest of the 9 scores is determined, and it is dropped when ALEKS computes the overall score for the Quiz category in the Gradebook. When the 10th Quiz has been completed by the students, the 2 lowest of the 10 scores are determined, and they are dropped when ALEKS computes the overall score for the Quiz category in the Gradebook. **ALEKS recommends that you wait until the end of the class to drop the lowest score(s).**

Extra Credit

Also on the assignment weighting page, there is a check box that can be used to designate the assignment as extra credit (Fig. 7.62). Students who do not complete the extra credit assignment will not be penalized. (Students who do complete the assignment can only improve, never hurt, their grades.) Extra credit assignments are differentiated from regular assignments in the gradebook by a + next to the score.

NOTE. In ALEKS, assignments not assigned to the entire class are automatically flagged as Extra Credit. This ensures that the assignment to only some students will not hurt the grades of other students.

Assessments

In the Gradebook, assessments refer only to Scheduled Assessments; results from other assessments cannot be used in the Gradebook (Sec. 4.3).

Each Scheduled Assessment in the class can be assigned a goal percentage. The **Goal** is the percentage of the class that grades on the assessment are based on. For example, midway through the class, the goal for an assessment might be set at 50%. Then, a student who assessed as knowing 40% of the entire class would get a score of 80% on the assessment. (Meeting or exceeding the goal percentage gives a score of 100% for the assessment.)

Disable Gradebook

The Gradebook can be disabled by clicking **Disable the Gradebook for this Class** on the **Gradebook Setup** page. Disabling the Gradebook for the class will hide the class Gradebook from you and the students in the class. The Gradebook can be reactivated at any time by clicking on the link **Enable the Gradebook for this class** link.

Total Grade Display Settings

By default, the option **Show total grades to students** will be selected in this section of the Gradebook setup. If desired, you can elect to hide the total grades from students by selecting **Hide total grades from students**.

7.6.3 Grading Scale for Total Grade

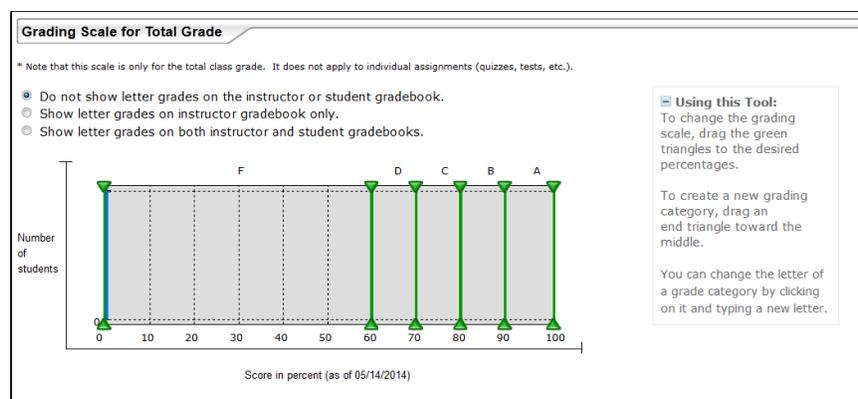


Figure 7.63: Grading Scale for Total Grade

This feature allows the instructor to assign a grading scale for the total class grade (Fig. 7.63). By default, no grading scale is used, and the students see only a percentage score. The default grading scale is a conventional scale (A, B, C, etc.), using standard percentage breakpoints. The sliders on the scale can be moved and renamed, and you can add or remove sliders to set practically any scale desired. The labels on the sliders, which are used as grade notations, are limited to a few letters or numbers; to set the label, click on the existing label, type in the new label, then press your **Enter** key.

Use the options above the grading scale to set whether the scale will be used or not, and who will see it. Even if the scale is not used, the graph will be populated as a histogram, giving a useful illustration of the distribution of students' overall scores.

7.6.4 Chapter or Objective Completion and the Gradebook

Scores for the Objective category will be calculated in one of the following two ways, based on the class setup:

Chapter or Objective completion with End Dates

Each chapter or objective has a due date by which students are expected to complete the material in that unit. If a student completes the chapter or unit before the due date, a grade of 100% is entered into the student's cell for that assignment. The score will appear in grey, and it will not be used to compute the Total Grade until the due date has passed. It is not, however, subject to change; even if the student loses material in a subsequent assessment, the 100% score will remain. If the student does not complete the unit by the due date, the percentage of goal topics that the student did complete will appear in the cell as the student's score. **If multiple objectives have the same end date, they will be treated as a**

single objective, and there will only be one column for these objectives in the gradebook.

Chapter or Objective completion without End Dates

All chapters or objectives have a single end date by which students are expected to master all objectives. This feature includes a mastery level completion percentage for the objectives. The mastery level completion defaults to 90% but can be adjusted. Students must master this percentage of the topics in an objective before they can advance to the next objective. The student's score is entered into the student's cell for that assignment and will appear in grey until after the end date has passed. When students meet the mastery level they will be moved to the next objective and will be able to access the remaining unmastered topics from all previous objectives. The **Total Grade** column will not include the chapter or objective assignment score until after the end date for the class has passed (Sec. 7.4.6).

Students using ALEKS have access to Gradebook information for their own work, similar to the information described in this chapter.

7.6.5 External Assignments

PreCalculus - Gradebook - Edit External Assignment

[<< Return to External Assignment Weights](#)

External Assignment Category:

Assignment Name:

Assignment Date: Month Day Year

Maximum Score: points

Student Name	Score
1. Bunton, Fiona	<input type="text" value=""/> /10
2. Robbins, James	<input type="text" value=""/> /10

Figure 7.64: External Assignment Setup

The External Assignment feature is ideal for including student scores on assignments or

exams completed outside of ALEKS. These assignments must be added to the Gradebook in the Gradebook Setup page.

External Assignments can be created in **Gradebook Setup** as follows (Fig. 7.64):

1. Click on **Add External Assignment** in the External Assignment Category.
2. Enter the name of the assignment.
3. Adjust the assignment date if necessary.
4. Assign a maximum score.
5. Click on the **Set Maximum Score** button.
6. Enter student scores either by typing or paste from a spreadsheet and click **Save**.

Instead of recording all non-ALEKS assignments in the catch-all **External Assignments** category with a single weighting, you can create an unlimited number of External Assignment categories, each with its own weight. New External Assignment categories can be created in **Gradebook Setup** as follows:

1. Click on the **Add New Row** link in the Gradebook External Assignment Category.
2. Enter a name for the category.
3. Assign an overall weight to the category and click **Save**.

If you wish to delete an external assignment category, either delete any assignments in the category, or set the category weight to zero.

7.6.6 Adjust Student Scores

Instructors can adjust student scores for ALEKS assignments and external assignments directly through the Gradebook, as follows:

1. Click on **Class Gradebook**.
2. Click on **Edit** for the assignment you want to adjust.
3. Click on **Edit Student Scores**.
4. Edit the scores as necessary.
5. Click the **Save** button.

7.6.7 Gradebook Log

From the class **Gradebook** sub-navigation, select **Gradebook Log** to access this feature (Fig. 7.60). The Gradebook Log is a record of any adjustments made to student scores in the ALEKS Gradebook. Adjustments may be made to Gradebook scores

by you, the primary instructor, teaching assistants, or other instructors who have edit privileges for the class Gradebook. This feature can also be used to monitor adjustments made to the Gradebook by anyone with Share Class Access (Sec. 7.4.31).

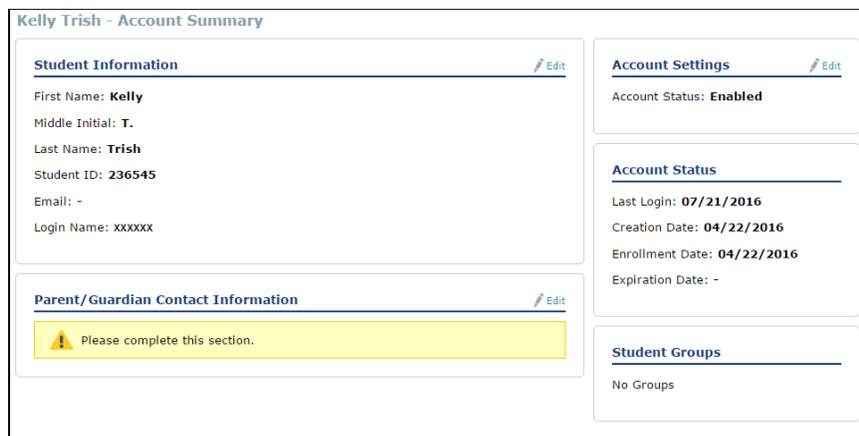
7.7 QuickTables

This menu allows instructors to manage their QuickTables settings, and QuickTables-related features including creating tables, assessments, worksheets, quizzes, and viewing reports. For full details about QuickTables, see Chap. 6.

7.8 Student Administration

Student Administration allows the instructor to manage individual student accounts and progress. Selecting a student account will display the student-related menus and actions in the sub-navigation.

7.8.1 Account Summary



Kelly Trish - Account Summary	
Student Information Edit	Account Settings Edit
First Name: Kelly	Account Status: Enabled
Middle Initial: T.	
Last Name: Trish	
Student ID: 236545	
Email: -	
Login Name: XXXXXX	
Parent/Guardian Contact Information Edit	Account Status
Please complete this section.	Last Login: 07/21/2016
	Creation Date: 04/22/2016
	Enrollment Date: 04/22/2016
	Expiration Date: -
	Student Groups
	No Groups

Figure 7.65: Student Account Summary

Student **Account Summary** allows instructors to make corrections or changes to a student's name, email address, ID, and account status (Fig. 7.65). For each student, instructors can add a parent/guardian contact information. In addition, instructors can view Student Groups and Share Class Access information (Sec. 7.4.31). To edit a student's account preferences, click **Edit** next to the corresponding category.

The screenshot shows a web interface for student management. At the top, there are two tabs: 'CLASS »' and 'STUDENT »'. Below the tabs, there are two dropdown menus: 'Hastery %' and 'Aleks, Nhi'. A navigation bar contains links for 'Student Administration', 'Gradebook', 'Reports', 'Assignments', and 'QuickTables'. The main content area is titled 'Nhi Aleks - Move and Unenroll'. Under the heading 'Student Options', there are two radio buttons: 'Move Student To:' (which is selected) and 'Unenroll'. The 'Move Student To:' option has a dropdown menu labeled 'Select a Class...'. At the bottom center of the form is a green 'Confirm' button.

Figure 7.66: Move and Unenroll Student

7.8.2 Move and Unenroll Student

Selecting a student account and clicking on **Student Administration** displays **Move/Unenroll** (Fig. 7.66). This feature allows you to move or unenroll the selected student from the class.

Move Student

To move a student from the current class to another class:

1. Select **Move Student To:**.
2. Use the drop-down menu to select a new class.
3. Click on **Confirm** to save your action.

Unenroll Student

To unenroll a student from the current class:

1. Select **Unenroll**.
2. click on **Confirm** to save your action.

To move or unenroll multiple students at once, see Sec. 7.4.35.

NOTE. See Sec. 7.4.30 for more information on what happens to students' records when they are moved to a new class.

7.8.3 Student Cleanup Tool

Selecting a student account and clicking on **Student Administration** displays **Cleanup Tool**. This feature allows you to clear statistics for an individual student. For the class level Cleanup Tool, see Sec. 7.4.34.

7.8.4 Student Gradebook

Selecting a student account and clicking on **Gradebook** displays the following information:

- Student Gradebook information
- Class Gradebook (Sec. 7.4.28)

7.8.5 Student Reports

Selecting a student account and clicking on **Reports** displays the following information:

- ALEKS Pie (Sec. 7.3.8)
- Progress (Sec. 7.3.16)
- Time & Topic (Sec. 7.3.19)
- Knowledge Per Slice (Sec. 7.3.20)
- Assignments (Sec. 7.3.21)
- Objective (Sec. 7.3.9)
- Time Line
- Standards (Sec. 7.3.24)
- QuickTables (Sec. 6.3)

All reports listed here are links to other parts of the Instructor Module.

7.8.6 Student Assignments

Selecting a student account and clicking on **Assignments** displays the following options (Fig. 7.67):

- Edit Extensions (Sec. 7.8.7)
- Worksheet (Sec. 7.8.8)
- Class Assignments (Sec. 7.5.1)
- Request Assessment (Sec. 7.8.9)
- Cancel Assessment (Sec. 7.8.10)

Please see each section referenced for more details.

7.8.7 Edit Extensions

Selecting a student account and clicking on **Assignments** displays **Edit Extensions**. Instructors can give individual students extensions for class objectives and Assignments, which includes Scheduled Assessments, Homeworks, Tests, and Quizzes.

Nhi Aleks - Edit Extensions

The **Post Objective Assessment** for this class is enabled. Students who complete the current Objective before the End Date will be given an assessment to ensure mastery of the Objective material.

View: Assessments (0) | Homework (1) | Objectives (0) | Quizzes (1) | Tests (1)

Name	Start	End	Time Limit	Type	Extension End Date/Time
Quiz 1	12/12/2014 (9:00 AM)	12/12/2014 (9:30 AM)	-	Quiz	Add Extension
Homework 1	12/12/2014 (9:48 AM)	12/12/2014 (11:59 PM)	-		Add Extension
Test 1	12/12/2014 (9:49 AM)	12/12/2014 (11:59 PM)	-		Add Extension

Figure 7.67: Edit Extensions

7.8.8 Student Worksheets

Selecting a student account and clicking on **Assignments** displays **Worksheet**. You can create a new worksheet or view previously created worksheets for the student. For a description of the Worksheets feature, see Sec. 7.4.24.

7.8.9 Request Assessment

Nhi Aleks - Request Assessment

Action:

Progress Assessment (**recent learning -- approx. 25 questions**)
 Comprehensive Assessment (**whole course -- approx. 30 questions**)

Notify Student:

A new assessment has been requested.

[Click to Confirm](#)

Figure 7.68: Request Assessment

Selecting a student account and clicking on **Assignments** displays **Request Assessment** (Fig. 7.68). This feature allows you to request a "Progress"-style assessment or a "Comprehensive"-style assessment for a single student, effective immediately. Via the

drop-down Action menu, you can choose between **Request new assessment (taken in Institution only)** or **Request new assessment (taken anywhere)**. If your college has IP addresses in place at the school level, you can restrict the assessment to be taken on campus by selecting the option marked "Institution Only." The comment box allows the instructor to type a message that the student will see when they log in to take the assessment.

7.8.10 Cancel Current Assessment

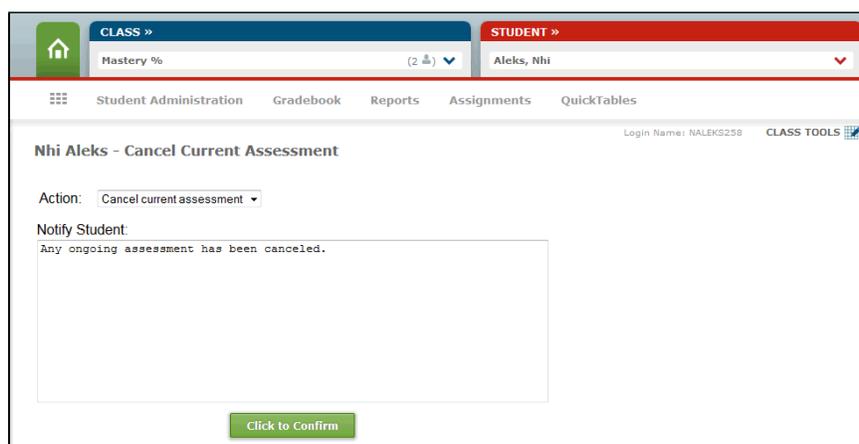


Figure 7.69: Cancel Current Assessment

Selecting a student account and clicking on **Assignments** displays **Cancel Current Assessment** (Fig. 7.69). This feature allows you to cancel any current or pending assessment for the student, until midnight of that day. An automatic reassessment that is cancelled in this way will become active again on the following day.

7.8.11 Student QuickTables

Selecting a student account and clicking on **QuickTables** displays the following options:

- Worksheets (Sec. 7.8.12)
- Progress Report (Sec. 6.3.1)
- Quiz Report (Sec. 6.3.2)

Please see each section referenced for more details.

7.8.12 Student QuickTables Worksheet

Selecting a student, clicking on **QuickTables**, and then **Worksheet** displays the following options:

- Select a table from the list (if tables have been created) to create a QuickTables Worksheet for that student.
- View a previously created Worksheet for that student.

7.9 Administrator Features

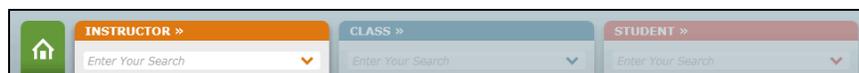


Figure 7.70: Three levels of hierarchy

ALEKS administrators have access to three account levels: instructor, class, and student (Fig. 7.70). This section will focus on the Instructor level. The class and student levels are described earlier in detail (Sec. 7.1.2). Administrators begin with the **INSTRUCTOR** tab on the far left and then can make selections in the succeeding tabs until the desired level is reached. To move between levels, they need to click on the tab they want to make active again. Features from this menu allow administrators to perform actions such as updating their institution’s settings, creating new instructor accounts, and managing all classes and instructors at the institution, creating Master Templates, managing subscriptions, and other features.

7.9.1 Institution Account Summary

Selecting **Institution Administration** and clicking **Account Summary** displays the following options:

Account Information

Administrators can modify the state and time zone settings for the institution under the Account Information section. Usually, these are set correctly when the institution account is first created and do not need to be changed. The institution and billing address can also be modified in this section.

Important Contacts

Administrators can add important contacts such as the school’s Billing Contact, Technical Contact, Implementation Specialist, and Course Product/Feature Upgrade Contact under this section.

Settings

The Institution Network Information section allows you to enter an IP range or Internet Protocol for the computers in your institution. They will be used if you wish to restrict student access to assessments, Homeworks, Quizzes or Tests to the campus network (Sec. 7.5.3). Single IP School Assignment will require students to complete all assessments from the same IP address where they began them. This reduces the flexibility of access that students usually have to their ALEKS accounts, but in some cases it may be desired.

Incoming & Exiting

The Incoming and Exiting Student Options allow you to select whether incoming students from a class within the same course family or same course product should pick up where they left off or start fresh with a new Initial Assessment. See Sec. 7.4.30 for more information about this option.

Administrators and Instructors

Administrators can view a list of administrators and instructors under this section. All accounts are regular instructor account types unless they include one of these labels: (A) for Administrator or (TA) for Teaching Assistant. There is a link to the Admin/Instructor Roster under this section.

7.9.2 Schedule Domain Upgrade

ALEKS Corporation periodically releases new versions of its class products. When this occurs, there is an announcement to users explaining the nature of the upgrade, window of time during which users may upgrade, and the default date on which the upgrade will occur if no action is taken. If the college wishes to schedule the upgrade earlier than the default date, the administrator can use this tool to select the desired date.

NOTE. If an update is available, the changes in the upgrade will be described in detail on this page. **Schedule Domain Upgrade** can be found under Institution Administration on the main page.

7.9.3 Learning Management System (LMS) Integration

You can set up Single Sign On (SSO) by integrating ALEKS with your school Learning Management System (LMS). This will allow instructors and students to link from your LMS to ALEKS without having to remember separate login names and passwords. It will also remove the need to share Class Codes by letting the LMS feed class information directly to ALEKS. LMS integration is available for all regular ALEKS Higher Ed classes.

ALEKS is a Learning Tools Interoperability (LTI) 1.1 compliant Tool Provider. Your school can integrate ALEKS with any LTI compliant LMS. It is a two-part process, which involves (1) logging into ALEKS to obtain the LTI parameters (2) logging into the school's LMS to input the parameters.

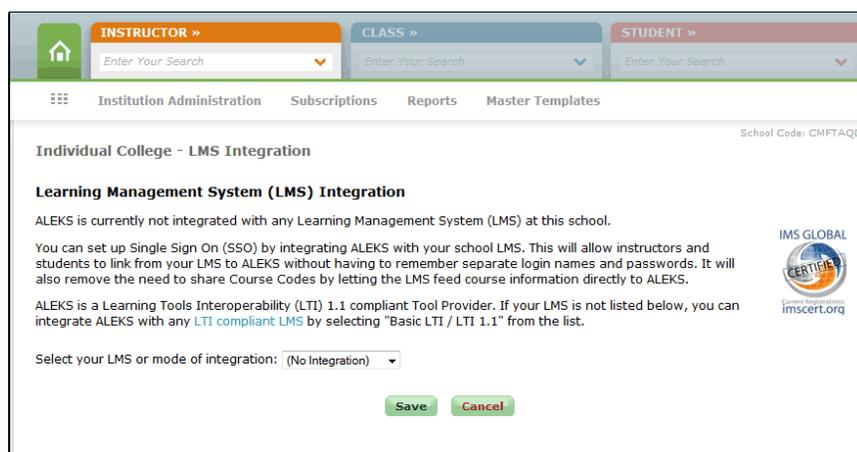


Figure 7.71: Learning Management System (LMS) Integration

Part 1: Obtain Parameters

After logging into ALEKS, under the **Institution Administration**, select **Integration**. You will arrive at the Learning Management System (LMS) page (Fig. 7.71). To obtain the parameters for the college, use the drop-down menu to select the LMS that the college is using or the mode of integration. If your LMS is not listed, you can integrate ALEKS with any LTI compliant LMS by selecting “Basic LTI/LTI 1.1” from the list as your mode of integration. If you wish to integrate your LMS with ALEKS using McGraw-Hill (MH) Campus, a service that allows instructors using a LMS to have access to McGraw-Hill educational materials within their LMS, select MH Campus from the list.

After making a selection in the drop-down menu, the parameters for the selected LMS or mode of integration will appear on the screen. Enabling LMS Gradebook Integration will allow instructors to synchronize the overall score for each student in their ALEKS gradebook with their LMS gradebook. Review the parameters carefully and then click on the **Save** button. This will complete the first part of the integration.

Part 2: Configure a School’s LMS with ALEKS

Administrators now log into their college’s LMS to configure the integration with ALEKS using the parameters obtained from the ALEKS “LMS Integration” page. Some of the LMS selections will show one or more “?” icons on the page. Clicking on a “?” will open a pop-up with additional instructions.

Once the setup between the LMS and ALEKS is complete, instructors and students can pair their LMS accounts and classes with their ALEKS classes. For detailed instructions on institution, instructor, class, and student pairing, visit the ALEKS Training Center.

7.9.4 Instructor Roster

Individual College - Instructor Roster

0 instructors selected Displaying 752 instructors

View: Active (752) | Archived (69) | Instructor (701) | Admin (46) | TA (5) Download

[+ New Instructor](#)

Name	Account Type	Student History	Last Login	Creation Date
<input type="checkbox"/> Lorenz, Patrick, Prof.	Instructor		08:40 am 09/01/14	07/16/14
<input type="checkbox"/> Chong, Kyn, Prof.	Instructor		04:01 pm 09/01/14	07/16/14
<input type="checkbox"/> Kazamaki, Kristin, Prof.	Admin	✓	11:55 am 09/02/14	01/09/14
<input type="checkbox"/> Habibi, Shidan, Prof.	Instructor		06:56 am 09/03/14	04/29/13
<input type="checkbox"/> Rubio, Isaac, Prof.	Instructor		09:43 am 09/05/14	12/03/08
<input type="checkbox"/> Ponderer, Ralph, Prof.	Instructor		02:00 pm 09/05/14	12/09/13

Figure 7.72: Instructor Roster

Administrators can view a roster for all instructors at the school by selecting **Instructor Roster** from **Institution Administration**. The Instructor Roster displays detailed instructor information (Fig. 7.72). The roster can be used to manage other instructor's account settings, including permission levels, viewing dashboards, sending messages, and archiving or deleting accounts. Multiple instructor accounts can be updated at the same time through the Instructor Roster, and individual instructor accounts can be edited through each instructor's Account Settings from their Account Summary. There are features in the Instructor Module that can be used to manage ALEKS subscriptions, register students, and manage student accounts. Some features consume purchased ALEKS subscriptions; therefore, administrators can limit instructors' access to these features by enabling or disabling permissions per Instructor. Edit Multiple Permissions can be done from the Instructor Roster under Institution Administration. To edit a specific instructors's permissions, select the instructors's account summary.

NOTE. Archiving can be used to simplify the Instructor Roster so that only current instructors appear in the roster. Archived accounts can be accessed and un-archived at any time; archiving does not impact the instructors' ability to access their accounts.

7.9.5 Create New Instructor Account

Frequently, instructor accounts are created by ALEKS Corporation for the college. Administrators, however, are able to create them independently by selecting **Institution Administration** and clicking **New Instructor**. Note that new instructors may be set up with administrator privileges.

7.9.6 Subscription Management System

This page does not show the use of access codes at the college. Many institutions use only access codes; in such cases, no information will appear on this page.

For some purposes, it may be preferable to use “subscriptions” (or virtual account inventory) rather than access codes for creating student accounts in ALEKS. If the college has used subscriptions for any of its students’ access to ALEKS, a summary of subscription activity will appear on this page.

Administrators can monitor the number of available subscriptions for student registration. When subscriptions are purchased at the district level, the Administrator can move subscriptions between institutions, put subscriptions on hold, or move subscriptions from one institution to another for their districts and schools through the Subscription Management System (SMS). District administrators will see subscriptions for the district and for schools within the district.

Using the SMS system, school administrators can put subscriptions on hold at their school. School administrators will see only the subscriptions for their school. To access the SMS, the school administrator clicks **Subscriptions**, and then clicks on **Subscription Management**.

There are three tabs in the SMS:

Subscription Management

The subscription information will be displayed for the district or school. This includes the subscriptions type or length and whether the subscriptions are “Usable Now” or “On hold.”

Orders

The Orders tab displays a detailed history of the ALEKS subscriptions purchased at the school or district. The information includes the purchase date, invoice number, subscription type, quota purchased, number used, and number remaining. At the bottom of the screen is a link that administrators can use to send an Excel document to their ALEKS Message Center inbox containing a list of subscriptions used within a specified date range. There is also an option to exclude expired subscriptions from the report.

Activity Log

The Activity Log tab displays the history of subscription movements and holds performed via the Subscription Management tab. Each entry contains detailed information about the action.

7.9.7 Administrative Reports

There are a variety of reports available to administrators. These reports help monitor the institution’s progress in terms of student and class performance across applicable standards. To access the reports, click on **Reports** and then select a report.

Custom Reports

Is a powerful tool that can help administrators gather important metrics to show how institutions, instructors, and classes are performing in comparison with each other. To access the report, make a selection in each tab until the level of the desired report is reached, click **Reports**, and then click **Custom Reports**. See Sec. 7.3.26 for more details about this feature.

Enrollment/Activity

Shows the total number of students ever enrolled in ALEKS at the institution, and the numbers of students active in the system during the last week, the last month, and the last three months (optionally 12 months). For each of these intervals, it also shows the average number of hours spent weekly by the students who were active in ALEKS.

Class Activity

Shows the number of students who worked in ALEKS or QuickTables each month and the average hours worked each week.

Common Core Report

Details student performance against applicable standards, for all students at the college who have taken an Initial Assessment between specified dates. Additional selection criteria are Mastery Criterion, the percentage used by ALEKS to determine that a standard has been mastered, and the “Hours cut off,” the amount of time used to compare two groups of students. For example, if the “Hours cut off” is set to 30 hours, the performance of students who have used ALEKS for less than 30 hours will be compared with that of students who have used ALEKS for at least 30 hours.

Server Stats: Page Hits

Presents a graph of page hits over time by users of ALEKS at the college. The “Data Range” menu can be used to set the time period that is graphed. Beneath the graph a range of summary statistics may appear, depending on the time span chosen.

Server Stats: User Hour

Is similar to the “Server Stats: Page Hits” report, but graphs the number of user-hours over time.

7.9.8 Student Roster (Institution Level)

Administrators can view a roster for all students at the school by selecting **Student Roster** from the **Institution Administration**. This default roster setting shows all active classes that students are currently enrolled in (Fig. 7.73). If students have more than one ALEKS class, their classes are grouped under the Class column. Select the “Plus” icon to see more rows.

Administrators can use the following filters to display various groups of students in the roster:

ALEKS - Student Roster

0 Students Selected | Last updated: 12/11/2014 (5:40 pm) | Refresh | Displaying 5 students

Enrolled (22) | Unenrolled (0) | Subscription: Valid (6) | Expired (16) | Search | Download

Please select one or more rows to perform an action.

<input type="checkbox"/>	Name	Class	Instructor	Login	ID	Enrolled	Expires	Last Login
<input type="checkbox"/>	Alaks, Nhi	Mastery %	Sharp	NALAKS	-	12/11/14	12/28/14	12/11/14 4:59 PM
<input type="checkbox"/>	Aleks, Nhi	Mastery %	Sharp	NALEKS258	-	12/11/14	12/28/14	12/11/14 4:44 PM
<input type="checkbox"/>	Dall, Barbie	Mastery %	Sharp	BDALL	-	10/31/14	01/26/15	11/18/14 4:34 PM
<input type="checkbox"/>	Dimpy, Apple	Mastery %	Sharp	ADIMPY	-	08/25/14	01/08/15	08/25/14 2:13 PM
<input type="checkbox"/>	Foss, Nhia	Mastery %	Sharp	NFOSS15	-	10/17/14	01/02/15	10/27/14 4:24 PM

Figure 7.73: Student Roster (Institution Level)

Enrolled

Displays students who are currently enrolled.

Unenrolled

Displays students who are currently unenrolled.

Valid Subscription

Displays students with a valid ALEKS subscription.

Expired

Displays students with an expired ALEKS subscription.

For information about student roster at the Instructor level and Class Roster, see Secs. 7.2.9 and 7.4.35.

7.10 Master Templates

The Master Templates are one of the most powerful features in ALEKS. They provide an efficient way to create and control class instances based on a master class (Fig. 7.74). Instructors who have administrator privileges can create a Master Template, add assignments, and create any number of linked classes based on the Master Template. Instructors teaching the linked classes can edit their individual class settings and assignments and add their own assignments (unless “Lockout” is used; see Sec. 7.10.5). Changes made subsequently to the Master Template will propagate to the linked classes, overriding previous settings as well as any changes made by individual instructors.

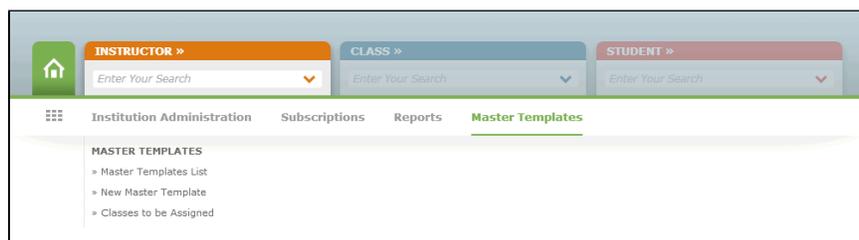


Figure 7.74: Master Template Sub-Navigation

7.10.1 Master Templates List

The Master Templates List displays all Master Templates at the institution. When one or more Master Templates are selected, the following actions may become available:

- New Master Template (Sec. 7.10.2)
- Master Template (Class Summary) (Sec. 7.10.4)
- Duplicate (Sec. 7.10.10)
- Archive (Sec. 7.10.11)
- Delete (Sec. 7.10.12)
- Reports (Sec. 7.10.13)

7.10.2 Getting Started



Figure 7.75: New Master Template

Selecting **New Master Template** displays the following options (Fig. 7.75):

Create a New Master Template

This option allows you to customize your own class settings and assignments. Select this option to go through the Master Template creation wizard (Sec. 7.10.3).

Create a Master Template from an Existing Class

This timesaving option allows you to copy all class settings and assignments from an existing class into the new Master Template (Sec. 7.10.9).

Duplicate a Master Template

This timesaving option allows you to copy all class settings and assignments from an existing Master Template into a new one (Sec. 7.10.10).

After the Master Template is created, administrators can view it under the the Master Templates List.

7.10.3 Master Template Basic Settings

Clicking on **Create a New Master Template** displays the following basic settings:

Master Template Basic Information

- Select the ALEKS Course Product for the template. The ALEKS Course Product should not be changed after the class has begun, as doing so will be disruptive to the students' learning and to the class reports and records.
- The Master Template is required to have a name; this name can be the name appearing in your institution's class catalogue or anything else you wish. The Master Template name will be a part of the linked classes' names.
- Class Dates are used to configure the Class Calendar, and should include the entire period of time that the students will be using ALEKS. All linked classes created with this Master Template will have the same Start and End dates. The option to automatically archive the Master Template is also available in this step.

QuickTables

QuickTables may be added to the template during this step or at a later time. For complete details about QuickTables, see Chapter 6.

Class Specific Settings

These are specific settings that apply to this class template, such as providing ALEKS graphing calculator functionality.

Accessibility mode for visually impaired students can be set in the **Show Accessibility Options** area. The link will appear for any class where accommodations for visually impaired students is available.

To edit the Master Template Basic Information and Course Specific Settings sections at a later time, select **Master Template List**, select the desire Master Template, and then select **Class Summary**, followed by **Edit** next to the Master Template Information section.

Adminstrators will click **Create Master Template Now** to generate the template.

On the page that follows, Administrators have the following choices:

- **Continue to Master Template Summary** (Sec. 7.10.4) to view setup details; or select
- **Customize This Master Template** to set objectives, edit content, or integrate a textbook. For complete details, see Secs. 7.4.4 and 7.4.5.

7.10.4 Master Template (Class Summary)

The Master Template Summary displays all settings and options for the template. Administrators can view and edit any section by selecting **Edit**.

The available options are:

- Master Template Information (Sec. 7.10.3)
- Syllabus (Sec. 7.4.17)
- Class Content (Sec. 7.4.18)
- Class Options (Sec. 7.4.19)
- QuickTables Settings (Sec. 7.4.25 and Chap. 6)
- Implementation Information (Sec. 7.4.26)
- Resources (Sec. 7.4.29)
- Lockout Options (Sec. 7.10.5)
- Gradebook (Sec. 7.4.28)
- Assignments (Sec. 7.10.6)
- Linked Classes (Secs. 7.10.7 and 7.10.8)
- Incoming and Exiting (Sec. 7.4.30)

7.10.5 Lockout Options

This feature allows administrators to prevent instructors from editing the class content or assignments in classes linked to the Master Template.

Class Content

If this option is selected, instructors of linked classes cannot edit the class content for their linked classes. Additionally, if administrators use textbook integration or objectives with the Master Template, instructors of linked classes can edit the due dates for each objective, but not edit the content within an objective.

Assignments

If this option is selected, instructors of linked classes cannot edit or delete their assignments linked to the Master Template. They can adjust the dates for these assignments and also create additional assignments for the linked classes.

Incoming and Exiting Student Options

If this option is selected, instructors of linked classes cannot edit Incoming and Exiting Student Options.

7.10.6 Create Assignments in Master Template

Summer - Create Assignments Introduction

All assignments created in the Master Template will be copied into each linked class. Instructors have the option of adding or editing assignments within their individual class.

Select if you want to create a new assignment or duplicate an existing assignment

Create a new assignment
 Duplicate an existing assignment

Select the assignment type

Homework
 Quiz
 Test
 ALEKS Assessment

Click on "Create Assignments" to start.

[Create Assignments](#) Or [View Master Template Summary](#)

Master Template
 Math 60
 Homework #1
 Quiz #1
 Test #1

Assignments set up in the Master Template will be applied to each linked course.

Linked Course #1
 Math 60
 CRN / Section #5225
 Prof. G. Cadin
 Homework #1
 Quiz #1
 Test #1

Linked Course #2
 Math 60
 CRN / Section #7893
 Prof. T. Lee
 Homework #1
 Quiz #1
 Test #1

Figure 7.76: Create Assignments in Master Template

To create assignments in a Master Template:

1. In the **Master Templates List**, click on the name of the template to view the Master Template Summary. Alternatively, you can check the box next to the template and then click **Class Summary**.
2. Locate the **Assignments** section, and click **Edit**.

At the **Create Assignments Introduction** page, you will see two options for creating an assignment (Fig. 7.76):

Create a new assignment

This option takes you through the ALEKS assignment creation process (Sec. 7.5.2).

Duplicate an existing assignment

This option allows you to duplicate an existing assignment (Sec. 7.5.1).

Select the assignment type that you wish to create or duplicate: Homework, Quiz, Test, or ALEKS Assessment.

After creating assignments, you will see an Assignment list with the assignments created in the Master Template. You will also have options to modify or add additional assignments on this page. For more complete details about the Assignments List, see Sec. 7.5.1.

NOTE. If administrators want to create External assignments in the Master Template, they can do this from the **Gradebook Setup** page. Only the assignment name and date can be set at the Master Template level; the students' grades and maximum point values are set at the linked class level.

7.10.7 Create Linked Classes

Figure 7.77: Create Linked Classes

After you have defined the Master Template settings, content, and created assignments, you can create linked classes and assign instructors to these classes (Fig. 7.77). A linked class contains the same content and settings as the Master Template. Both the administrator and the instructor assigned to the class will receive a message in their ALEKS Message Center containing important information about the linked classes.

To add linked classes:

1. In the **Master Templates List**, click on the name of the template to view the Master Template Summary. Alternatively, you can check the box next to the template and then click **Class Summary**.
2. Locate the **Linked Classes** section and click **Edit**.

On the **Create Linked Classes** page, enter the name of the Class CRN/Section and assign an instructor to the individual linked class. (The name of the linked class will consist of the name of the template plus the name of the CRN/Section.) There are three options for the “Instructor” field:

Existing ALEKS Instructor

Select this option and then use the drop-down menu to select the name of the Instructor teaching the linked class.

Instructor to be announced (TBA)

Select this option if the name of the instructor is unknown. The linked class can be assigned to an instructor at a later time (Sec. 7.10.8).

Create a new Instructor

Select this option if the instructor does not have an existing ALEKS account. Enter the title, first and last names, and e-mail address of the instructor teaching the linked class. ALEKS will send an email message containing login information to the instructor. If an email address is not provided, the administrator will need to edit the instructor account, change the password, and send it to the instructor at a later time (Sec. 7.2.1).

A maximum of 15 linked classes can be created at a time. To add more linked classes, repeat the steps.

Once saved, you will receive a confirmation and arrive at the Linked Class List page with the linked classes that have been created. You can create another linked class by selecting **New Linked Class**, edit the linked classes by clicking on the CRN/Section name of each class, or complete the Master Template set-up process by clicking **I am done creating linked classes**.

NOTE. There is no limit on the number of linked classes you can associate with a Master Template. The interface allows you to link up to 15 at a time: to add more than 15 linked classes, just return to the Master Template Summary page, locate the Linked Classes section, and select **Edit**. On the Linked Class List page, select **New Linked Class**.

7.10.8 Classes to be Assigned

<input type="checkbox"/>	Class ^	Product	Instructor	Enrollment	Class Code
<input type="checkbox"/>	Summer - Sec. 3	Basic Math	Classes to be assigned (no instructor)	0	6QKEQ-JMFTJ
<input type="checkbox"/>	Summer - Sec. 4	Basic Math	Classes to be assigned (no instructor)	0	T4HEF-MXV46

Figure 7.78: Classes to be Assigned

The **Classes to be Assigned** page contains linked classes that were set to “Instructor to be announced (TBA)” (Fig. 7.78).

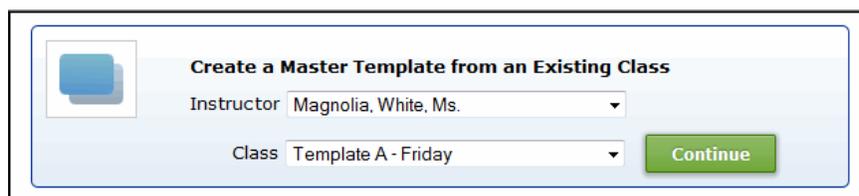
To assign a linked class to an instructor:

1. From the **Master Templates** sub-navigation, select **Classes to be Assigned**.
2. Check the box next to the name of the linked class that needs an instructor.

3. Click **Move**.
4. Select the instructor who is going to teach the class.
5. Click **Apply**.
6. Click **Confirm**.

Once a linked class has been assigned, the instructor assigned to the class will receive a message about the new class information in their ALEKS Message Center. The Master Template name will be part of the linked Class Name; instructors can view this information or edit the information by clicking on **Class Summary**.

7.10.9 Create a Master Template from an Existing Class



The screenshot shows a dialog box titled "Create a Master Template from an Existing Class". On the left is an icon of a folder. The dialog contains two dropdown menus: "Instructor" with the value "Magnolia, White, Ms." and "Class" with the value "Template A - Friday". A green "Continue" button is located to the right of the "Class" dropdown.

Figure 7.79: Create a Master Template from an Existing Class

After selecting **Create a Master Template from an Existing Class**, use the drop-down menu to select an instructor and a class. Then, click on **Continue** (Fig. 7.79).

On the page that follows, fill in the new Master Template information, including Name and Start Date/End Date. At this time, you also have the option to select the settings you wish to copy into the new Master Template. Click **Save** to create the template.

If there are assignments in the previous template, you will arrive at the **Edit Due Dates** page to adjust the start and end dates to correspond to your new Master Template or select **Continue to Master Template Summary**.

7.10.10 Duplicate a Master Template



The screenshot shows a dialog box titled "Duplicate a Master Template". On the left is an icon of a grid of three squares. The dialog contains a dropdown menu labeled "Select a Master Template:" and a green "Continue" button to its right.

Figure 7.80: Duplicate a Master Template

After selecting **Duplicate a Master Template**, use the drop-down menu to select a Master Template, and click **Continue** (Fig. 7.80).

On the page that follows, fill in the new Master Template information, including Name and Start Date/End Date. At this time, you also have the option to select the settings you wish to copy into the new Master Template. Click **Save** to create the template.

If there are assignments in the previous template, you will arrive at the **Edit Due Dates** page to adjust the start and end dates to correspond to your new Master Template or select **Continue to Master Template Summary**.

Duplicating a Master Template does not copy the linked sections (nor would you generally want to). Administrators will need to link sections from the **Master Template Summary** page.

7.10.11 Archive Master Templates

The **Archive** feature allows administrator to simplify the list of Master Templates without removing templates from the system.

To archive a Master Template:

1. From the **Master Templates** sub-navigation, select **Master Templates List**.
2. Check the box(es) next to the Master Template(s) you wish to archive.
3. Select **Archive**.
4. Click **Confirm** to save the action.

This will hide the archived Master Template(s) from the list.

Please note that archiving the Master Template does not archive its linked classes. Individual instructors will need to archive their own linked classes from the **Class Summary** page (Sec. 7.4.16) or the **Class List** page (Sec. 7.4.33).

7.10.12 Delete Master Template

Administrators can delete a Master Template if no linked classes are set up.

To delete a Master Template:

1. From the **Master Templates** sub-navigation, select **Master Templates List**.
2. Check the box next to a Master Template you wish to remove.
3. Select **Delete**.
4. Click **Confirm** to proceed with the deletion.

This will remove the selected template from the list.

7.10.13 Master Template Reports

Administrators can run reports quickly and easily at the Master Template level using the Master Template Reports feature. This feature allows administrators to generate a single report for all classes linked to a Master Template.

For each Master Template in use, Administrators can select from a variety of reports. ALEKS will generate the report and email it to the administrator as an Excel attachment. The report will include the students' names, instructors' names, class sections, and the relevant report data.

To access the Master Template reports:

1. From the **Master Templates** sub-navigation, select **Master Templates List**.
2. Locate the Master Template you wish to run reports for.
3. Under the **Reports** column, select the paper-like icon for the pre-built Master Templates Reports options. (Or, select the tool-like icon to create a Custom Report; Sec. 7.3.26.)
4. You will see a list of available reports. Click on the link of the report you would like to generate.
5. Select the **Send Me the report** button.

At the end of the process, you will see a confirmation message letting you know that the request is being processed.

NOTE. Blank Excel attachments will be generated if linked classes to a Master Template do not contain students.

7.10.14 Effects of Editing a Master Template

The effects of editing a Master Template are as follows:

- Edits to the Master Template will apply automatically to all linked classes under the Master Template.
- A change made to the Master Template will override changes made in individual linked classes. If something was changed in the course settings on the Master Template, then that specific change is made to all linked classes. Changes are modular. Changing one part in a module will save all settings of that particular module. For example, if something is changed in the template basic settings, all settings from that part of the wizard are saved and will override the linked courses. If a due date is changed in a homework assignment, clicking on the **Save** button will resave all settings for that assignment.
- Instructors of linked classes will receive a message in their ALEKS Message Center (Inbox) when an administrator has made a change to the Master Template.

7.11 District Features



Figure 7.81: Tab Indications

In addition to all the features that are available to school administrators, district administrators have access to the features described below. District administrators have access to four levels of account: institution, instructor, class, and student (Fig. 7.81).

7.11.1 Account Summary

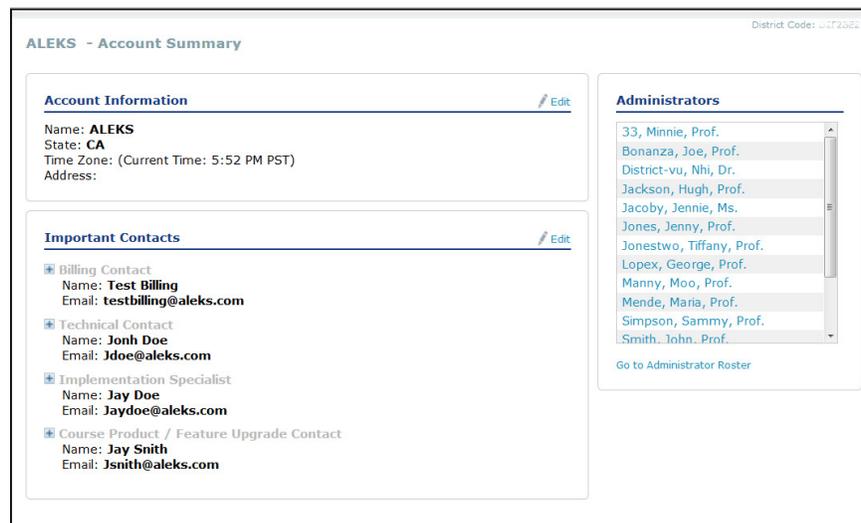


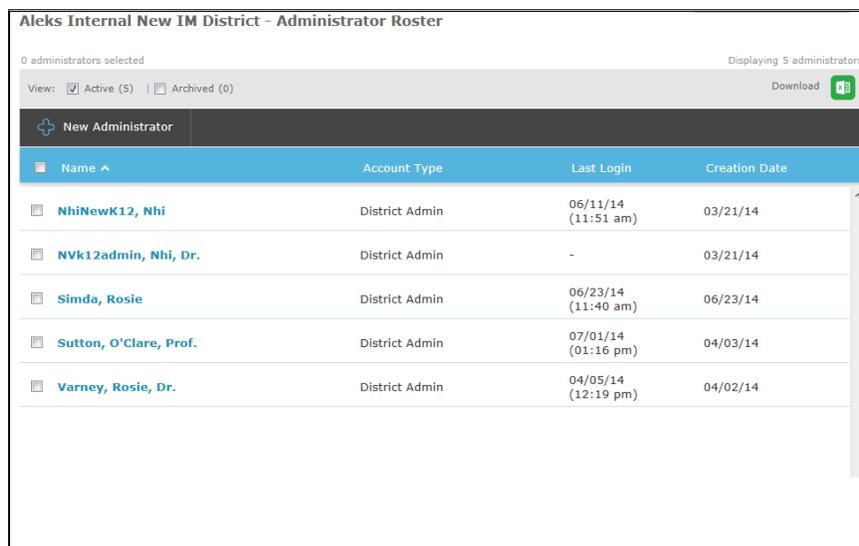
Figure 7.82: Account Summary

Selecting **Institution Administration** and then **Account Summary** displays a page containing account settings and important contact information for the district (Fig. 7.82).

7.11.2 Learning Management System (LMS) Integration (District Level)

LMS Integration is also available at the multi-campus level. Integration at this level should only be done when the same LMS instance is shared across ALL campuses. If each institution has its own instance of the LMS, the integration should be done at school level. For more information about LMS Integration, see Sec. 7.9.3.

7.11.3 Administrator Roster



Name	Account Type	Last Login	Creation Date
NhiNewK12, Nhi	District Admin	06/11/14 (11:51 am)	03/21/14
NVki2admin, Nhi, Dr.	District Admin	-	03/21/14
Simda, Rosie	District Admin	06/23/14 (11:40 am)	06/23/14
Sutton, O'Clare, Prof.	District Admin	07/01/14 (01:16 pm)	04/03/14
Varney, Rosie, Dr.	District Admin	04/05/14 (12:19 pm)	04/02/14

Figure 7.83: Administrator Roster

District administrators can view a roster for all administrators in the district by selecting **Administrator Roster** from **Institution Administration**. The administrator roster displays administrator information (Fig. 7.83). This roster can be used to manage administrator accounts, including viewing their dashboards, sending messages, and moving and unenrolling students. Many functions are streamlined on this page for updating and managing accounts efficiently.

7.11.4 New Administrator

New district administrator accounts can be created through this feature (Fig. 7.84).

7.11.5 Class Activity

Administrators can view the number of students who worked in ALEKS at each school each month and the average hours worked each week.

7.11.6 Student Roster (District Level)

Like the student roster at the institution level, district administrators can manage many student accounts within the district, including viewing their dashboards, sending messages, and moving and unenrolling students. Many functions are streamlined on

Aleks Internal New IM District - New Administrator

Basic Information * Required

Title (Choose one) ▾

Salutation ▾

First Name *

Middle Initial

Last Name *

ID (optional) ⓘ

Login Name

New Password:

New Password (again):

Contact Information

Address

City

State (Choose one) ▾

Zip Code

Phone Number

Email *

Forward all ALEKS messages to my email address.

Save **Cancel**

Figure 7.84: New Administrator

this page for updating and managing accounts efficiently. For full details on the student roster, see Sec. 7.9.8.

7.11.7 Subscription Management System (District Level)

District administrators can also view and manage subscriptions for the district and for schools within the district. For more information about Subscription Management System, see Sec. 7.9.6.

7.11.8 Administrative Reports (District Level)

District administrators can also generate administrative reports for the district and for schools within the district. For more information about administrative reports, see Sec. 7.9.7.

Chapter 8

Teaching with ALEKS

8.1 The ALEKS Educational Paradigm

ALEKS is based on the understanding that students learn mathematics in different ways, at differing speeds. Starting from an accurate assessment of their current knowledge, students in ALEKS are only offered what they have shown themselves ready to learn. (The term “knowledge check” is synonymous with assessment.) They therefore experience less frustration from material that is too difficult and boredom from material that is too easy. Students are engaged in the learning process, and grow in confidence and independence as they use the program. ALEKS periodically reassesses students to test their retention of new knowledge, and if they forget what was once learned, ALEKS smoothly and efficiently guides them through necessary review and reinforcement. With time and persistence, every ALEKS student will progress toward mastery, in a way clearly visible to both student and instructor.

It is normal for students to be in disparate knowledge states; ALEKS puts this information clearly at the instructor’s disposal. The relative mastery attained by students appears clearly from the “Learning Progress Since Latest Assessment” report in the Instructor Module. ALEKS does not require students to progress as a unified group. ALEKS will permit a student to work on any topic in the category “ready to learn,” a list of topics that the student has not yet learned, but has demonstrated (within ALEKS) the readiness to begin learning.

Students using ALEKS will experience new independence and excitement in learning. Instructors also may find different opportunities for optimizing their role in the learning process, with a greatly expanded ability to accurately monitor and effectively promote their students’ learning. The role of the instructor is critical in providing structure, support, and reward for the students’ effective use of ALEKS. If ALEKS is used properly, the instructor’s scope for individual coaching and small-group instruction will be greatly expanded, as will the freedom to teach mathematics in a broader and richer way.

ALEKS gives the instructor a set of powerful resources. Various styles of use of ALEKS

are possible. The following should be understood as suggestions, designed to give instructors a sense of the possibilities offered by ALEKS's extensive library of tools.

8.2 The Instructor and ALEKS

ALEKS is often used in regular classroom settings.

The instructor in an ALEKS class need not be collecting, correcting, or distributing papers, organizing groups, managing materials, giving instructions, or supervising activities. The instructor in an ALEKS class may be just as busy teaching mathematics to individual learners: getting one student started on a new topic, checking another student's work, responding to questions, suggesting alternate methods and explanations, making or reinforcing connections among concepts, and congratulating those who add an item to their pie. ALEKS provides comprehensive support to the student in every phase of its use; the instructor will find that the additional direct support given this way is especially productive. The relation of teacher and student is based on knowledge and discovery, not management and sanction. No one is "behind" in ALEKS; setbacks are readily addressed and overcome; every student can expect to make progress and be recognized.

It is important, especially in the early stages of an ALEKS class, to be generous in recognizing student progress. Students need to understand that when they add an item to their pie, or show progress in a new assessment (knowledge check), it is an achievement. At the same time, formal rewards for the effective use of ALEKS need to be built into the class structure and made clear from the outset (Sec. 8.3).

Students will be assessed at the beginning of their use of ALEKS (following Registration and the Tutorial), and at regular intervals after that. The instructor does not need to supervise all ALEKS assessments; normally, students will be using ALEKS both in and out of the classroom, and taking assessments at various times and locations. Once the students realize that the purpose of the ALEKS assessment is to provide appropriate material in the Learning Mode, there will be little reason to get help, use the textbook or calculator inappropriately, or in any other way achieve inaccurate assessment results.

We recommend supervising the Initial Assessment (Knowledge Check). The students may need assistance in their first use of the system, they will need to be reassured that the assessment is not for a grade, and it is important to get valid results on this Initial Assessment, so that that the students' work in the Learning Mode will be productive from the start. For the instructor's own information, other supervised assessments may also be held at regular intervals to provide accurate "snapshots" of overall progress by the class (Sec. 8.11). We suggest that such supervised assessments be scheduled at the midpoint and end of the class. Also, any assessment results which may be used as a component in the students' grades should, of course, be obtained from supervised assessments.

NOTE. In cases where students do not seem to be making adequate progress in ALEKS,

the student may have received help, or inappropriately used a calculator on an unsupervised assessment, skewing the assessment results and leading to inappropriate material in the Learning Mode. This can be corrected by requesting a new assessment for the student.

8.3 Planning the ALEKS Class

In ALEKS, the instructor has complete freedom in planning lectures, lessons, and assignments, while ALEKS ensures that students can progress toward mastery regardless of their level of preparation. To the extent that students will be working independently in ALEKS, the content of lab classes is provided by their work in ALEKS. Instructors can, however, plan focused small-group instruction from week to week (Sec. 8.5).

It is important to make ALEKS an integral part of the class requirements and grading scheme. The main factor influencing the success of students using ALEKS is the time that they spend in it. This means that the students must be required to spend a suitable amount of time in ALEKS on a weekly basis. (A minimum of three hours is recommended.) They should be informed of this at the beginning of the class, and the instructor should monitor their fulfillment of this obligation. The amount of time required must be reasonable and in balance with other requirements for the course; the instructor should not simply include an ALEKS requirement without reducing the other requirements that the students have to fulfill. For example, the quantity of homework problems may be reduced, as the students will be solving problems in their ALEKS sessions.

These are only suggestions, and experienced instructors may well find approaches that will be more effective with their own students. There must, however, be clear, formal support for the use of ALEKS.

One approach is to provide a certain number of points toward the final grade for each week that the student fulfills their required hours. It is advisable to reward each week, so that the student does not fall into the expectation that all of the required hours can be done at the end; consistency should be rewarded, along with total hours. If a student falls short of the specified hours during a particular week, that week is not rewarded, but the “deficit” is not carried forward; the next week begins with a clean slate (the primary concern is regular use of the system; for this reason a surplus is also not carried forward). Proportional rewards can also be used; each hour spent has a point value, up to the required minimum.

In order to effectively monitor the students’ use, the instructor should check the hours on the “Learning Progress Since Latest Assessment” page or the “Time and Topic” report. This page can be printed out every week for record-keeping. In rare cases, students may try to fool ALEKS by logging on to their accounts and doing something else; this can be seen when the number of items gained per hour is far too low. ALEKS will log the student off if there is no activity after a certain amount of time. Instructors can obtain

a precise record of a student's actual work in ALEKS by viewing the student's "Time and Topic" report.

The students' achievement in ALEKS (as opposed to their use of the system) may also be used as a component in their final grade. For information on how to do this, see the **Instructor Manual**.

8.4 Preparing Your Students

The following considerations may be useful in preparing your students to begin to use ALEKS.

Difficulty of Assessment Questions

The ALEKS Initial Assessment (Knowledge Check) is always comprehensive, in order to achieve the highest accuracy and reliability. In the course of the assessment, some questions may be too easy or too difficult for some students. The students should be told to click the **I don't know** button only if a question is completely unfamiliar to them; otherwise they should do their best to answer. As the assessment proceeds, the questions will focus more and more closely on the outer limits of the student's actual knowledge. In Learning Mode (following the assessment), students will be provided only material that they are prepared to learn.

Length of Assessments

The number of questions asked in an ALEKS assessment varies. Normally, an assessment in Basic Math requires between 20 and 30 questions.

No Help in Assessments

Explain to the students that they will need paper and pencil for answering assessment questions, but that no help or collaboration whatsoever is permitted during assessment. If the teacher or anyone else helps the student during assessment, even just explaining or rephrasing a question, assessment results may be inaccurate and the student's learning in ALEKS may initially be hindered. Be sure students understand that the purpose of the Initial Assessment is to gain a precise, detailed understanding of what they know, so that in Learning Mode they are given material they are ready to learn. It is not a "test" to pass or fail, and they will not receive a grade on an ALEKS assessment (unless the instructor chooses to use assessments for grading).

8.5 Focused Instruction with ALEKS

The features of the Instructor Module make it possible to prepare students for specific topics that they are going to work on, and to reinforce and expand on knowledge that students have recently acquired. This involves either guiding lectures or focused instruction to small groups of students based on data obtained from ALEKS.

The two kinds of teaching opportunities cued by ALEKS come from two types of information maintained by the system for students over the entire time that they use it: the set of items a student is “ready to learn” (or “outer fringe” of the student’s knowledge state), and the set of items most recently learned (“what students can do,” the “highest” topics in the student’s knowledge state, called the “inner fringe”). (See the Instructor’s Manual under “Inner and Outer Fringes of a Knowledge State,” in the chapter “Knowledge Spaces and the Theory Behind ALEKS”.) The items “ready to learn” are the topics a student may normally choose to work on in ALEKS; the items recently learned (“what a student can do”) are considered the least secure and most likely to need reinforcement. (These items can be reviewed by clicking the **Review** button.) When the students are logged on to ALEKS, these two types of information are used automatically to guide and manage their learning. The instructor, however, can also view the inner and outer fringes in a convenient format to plan focused instruction that will parallel, supplement, and enhance the individual work that their students are doing in ALEKS.

To find this information for a class, the instructor can enter the Instructor Module and select the class, then click on **Reports** and select the **ALEKS Pie** report. This report represents the average student in the given class, and displays the weaknesses and strengths of the class as a whole. The **Show** drop-down box can be used to filter the report by “Current Learning,” “Most Recent Knowledge Check,” or “Initial Knowledge Check.” Complete details on which topics students have mastered, not mastered, and are ready to learn in the class are available in the section below the pie chart and can be viewed by Objectives (if textbook integration or intermediate objectives are being used) or ALEKS Table of Contents.

Using the ALEKS Pie Report we can see a breakdown of student mastery for each topic, send messages directly to students, and view additional topics that a group of students is ready to learn. The purpose of this analysis is that the instructor may pick one or more topics from the list and schedule small-group sessions of focused instruction.

The following are examples that illustrate how these features may be used.

Example 1: Basic

On a Friday evening, the instructor sits down to plan lessons for the following week. He or she logs onto ALEKS, selects the name of a class in Basic Math, and clicks on “ALEKS Pie” under “Reports” to access the ALEKS Pie Report. A pie chart appears showing the average profile of mastery in the class. The “slice” of the pie chart for Whole Numbers is full to about 90 percent; the slices for Fractions, Decimals, and Proportions and Percents are filled much less, ranging between 20 and 40 percent. This indicates that lessons for the week may focus profitably on the most advanced Whole Numbers topics as well as on topics of moderate difficulty in Fractions, Decimals, and Proportions and Percents.

Example 2: Intermediate

On a weekend afternoon, the instructor logs on to ALEKS, selects the name of a class in Basic Math, and clicks on “ALEKS Pie” under “Reports” to access the

ALEKS Pie Report. Next the instructor clicks on the “View all topics” toggle, in either the ALEKS tab or the Objectives tab, and when the list of topics appears, the instructor scans this list for items of particular difficulty. “Ordering Numbers with Exponents” has 16 students currently able to choose this topic from their pie charts. The instructor notes this topic down for class discussion early in the week. With the benefit of some timely preparation, the students can be expected to master this troublesome topic with less difficulty.

Example 3: Advanced

On a Monday morning, the instructor logs on to his or her ALEKS account, selects the name of a class in Beginning Algebra, and clicks on “ALEKS Pie” under “Reports” to access the ALEKS Pie Report. Next, the instructor clicks on the “View all topics” toggle, in either the ALEKS tab or the Objectives tab, and the list of topics appears, clearly showing what students have mastered, not mastered and are ready to learn. The experience and expertise of the instructor are used to used to plan with this information. Suppose that there is only time in the week’s schedule for two small group sessions. (The ALEKS class has only one hour in the lab, and ten minutes are set aside to speak with each small group; the remaining forty minutes are for helping students in the lab.) The instructor will look over the topics with two questions in mind: which topics have the greatest numbers of students, and which are most worth discussing.

For example, looking at the list of topics “Ready to learn,” the instructor sees “Solving a Linear Equation with Absolute Value: Problem Type 1.” The instructor knows from experience that students have difficulty with the concept, and that they are more successful with it if they have had a chance to review. This topic has twelve students out of thirty in the class. The instructor uses the message feature to send a note to these students, asking them to meet in the front of the room at the beginning of the lab; the students will receive this note the next time they log on to ALEKS, no later than the beginning of that lab.

Looking over the list of topics “Mastered,” the instructor sees “Marking a point in the coordinate plane,” with ten students. Although the number of students is less than for other topics, this one seems to the instructor richer in its content of mathematical culture than the others; students who have just worked on this topic are may be using the coordinate plane for the first time. Thus this is chosen as the second topic, and a second message is sent to these students, to meet at the front of the room, ten minutes into the lab.

8.6 Models of Classroom Integration

There are numerous ways in which ALEKS can be and is used in concrete educational situations.

Supervised Math Lab

Expert supervision can be provided for the students' use of ALEKS in regularly scheduled mathematics lab periods, whether or not these are part of a conventional class structure. Students benefit from the direct coaching and assistance of qualified instructors in the course of their work with ALEKS.

Math Lab in Structured Course

The supervised mathematics lab may be part of a structure of class meetings, combined with conventional and lecture-style classes. The instructor in such a setting need not gear the sequence of topics covered in classes in any way to what the students are doing in ALEKS; the students' independent work in ALEKS will increasingly benefit their performance on quizzes and tests, as well as their understanding of lectures. ALEKS is not designed to "teach to the test," although experience has shown that students' performance on comprehensive tests improves dramatically when they have worked with ALEKS over time.

Small-Group Instruction

The recommended use of ALEKS in a classroom setting makes use of the detailed analysis of individual student knowledge provided through the Class Report page to tailor the lectures to the skills of students.

Self-Paced Learning

In this scenario students may use the college computer lab on their own, with only informal supervision. ALEKS is used in this case much as it is for distance learning, except that students have the opportunity for closer consultation with the instructor.

Distance Learning

ALEKS is used by students who may never enter the physical classroom, or may enter only on a few occasions for orientation and supervised assessments. ALEKS provides a range of features for communication between instructor and student, as well as powerful facilities for the monitoring and evaluation of student work.

Regardless of which approach is used, you can derive more benefit from ALEKS through monitoring the students' use of ALEKS and communicating with them, whether in direct contact, by email, or by messages through the ALEKS system. As discussed above, we recommend that a certain number of hours in ALEKS each week be required (Sec. 8.3); this should be made clear from the start as part of the published course syllabus and rewarded appropriately through the grading scheme. Students' progress in ALEKS should be recognized and reinforced early on; conversely, students who do not seem to make adequate progress should be contacted promptly.

The following sections of this chapter provide more information on these issues affecting the classroom use and integration of ALEKS.

8.7 Monitoring Student Use

In the day-to-day use of ALEKS by a class, a principal concern of the instructor is to monitor that students are using ALEKS regularly and for at least the required amount of time. The most convenient place to find this information is the “Time and Topic report for all students” (under “Reports”). Each student’s name is displayed on this page along with the total number of hours that student has spent logged on to the system. There is also a breakdown of how much time the student has spent in ALEKS on a daily basis. Students can see this same breakdown of daily usage in their own accounts by using the “Report” link.

It is also important that critical assessments be supervised by the instructor, to ensure that valid results are received (Sec. 8.2).

8.8 Monitoring the Progress of a Class

The instructor can also use the bar graphs on the “Learning progress since latest assessment” page to see how close each student is to mastery of the subject matter. Keep in mind that the bar graphs displayed on this page show only the students’ achievement as of their last assessment (in blue) and any progress made in the Learning Mode since that assessment (in green). For a more panoramic view of the progress made by a group, select the “Total progress” report. This displays the difference between the students’ knowledge on their first and their most recent assessments.

The “Detailed progress history” report is an expanded version of “Learning progress since latest assessment.” It shows the learning history for all students, with one bar graph for each assessment taken. The bar graphs are stacked, with the earliest on the bottom, and the most recent at the top. To the left of each bar there is the date of the assessment and a notation indicating the reason for the assessment.

To see each of the assessments for a given student, with that student’s progress subsequent to each assessment in the Learning Mode, the instructor should view the page “Progress report for a particular student in this class” for the student.

8.9 Monitoring Individual Progress

On the page “Progress report for a particular student in this class” there is a line for each assessment taken by a particular student, with bar graphs showing mastery as of that assessment and subsequent progress made in the Learning Mode. The Initial Assessment is shown in the bottom line, with later assessments “stacked” upward. By following progression from earlier to later assessments, the instructor can see very clearly how a student is progressing toward mastery of the subject matter.

Use caution in interpreting this information. Students vary widely in how they master

material. Progress made in the Learning Mode (green bar) is not always immediately reflected in the student's level of mastery on a subsequent assessment. Some students progress more quickly in Assessment Mode than in the Learning Mode. In such cases the "new" blue line is further ahead than the green line just below it. On the other hand, many students make faster progress in the Learning Mode than in assessment. In such cases the "new" blue line lags behind the green line below it. It is very common for a student to master the entire subject matter two or more times in the Learning Mode before that mastery is finally confirmed in an assessment. Part of the power of the ALEKS system is that it accommodates individual differences in behavior.

NOTE. In cases where a student moves backward in his or her mastery, the instructor should contact the student. If the student did not take the assessment seriously enough, a new one can be requested.

8.10 Moving a Student to a New Class

A student subscription to ALEKS entitles the student to work through as many subjects in the sequence as the student masters during the subscription period (with some exceptions). When a student completes the objectives of a class, the student should be moved to a more advanced class.

8.11 Ordering Assessments

Following the Initial Assessment or Knowledge Check (which should be taken under the instructor's supervision), the ALEKS system will automatically schedule other assessments as needed to guide the students' progress. The instructor, however, can order an individual or group assessment at any time. It is a good practice for the instructor to schedule supervised assessments at regular intervals (midterm and end of the class), as "snapshots" of overall class achievement.

8.12 Independent Study and Distance Learning

The ALEKS system is well suited to use in an independent study or distance learning context. ALEKS is self-contained and adaptable to any syllabus or class materials. Students using ALEKS under these circumstances know exactly what the class goals are, where they stand in relation to those goals, and what they need to do to achieve them.

For the instructor administering an independent study or distance learning program, ALEKS solves nearly every problem of management, oversight, evaluation, and communication. All of the information needed to keep track of far-flung independent learners is at the instructor's fingertips, through the features of the Instructor Module. The

internal message system of ALEKS puts the instructor in constant touch with students, without dependence on telephone or email communication.

8.13 The ALEKS Knowledge Structure

Each ALEKS subject, such as Beginning Algebra, has a knowledge structure associated with it. The number of items comprised in a knowledge structure ranges roughly between 200 and 1000 topics. A knowledge state is a subset of items which may correspond to the knowledge of an actual student (i.e., there may be a student who has mastered exactly those items, and no others). A knowledge structure is the family of all the knowledge states that we may encounter for a given subject.

An ALEKS structure affects virtually every aspect of ALEKS's functioning. In the ALEKS Assessment Mode it enables ALEKS to make inferences from student answers, keeping the ALEKS assessments brief but accurate.

The structure is also crucial in the ALEKS Learning Mode. Using the structure of a given course product, the system knows precisely which items are in the inner fringe and outer fringe of each of the knowledge states in ALEKS. The items in the outer fringe of a student's knowledge state are those items that the student is the most ready to learn next. (From a technical standpoint, an item is in the outer fringe of a state if adding that item to the state results in another feasible knowledge state.) These items are presented to the student in MyPie when the student moves the mouse pointer over the ALEKS Pie Chart. Similarly, an item in the inner fringe of a student's state is an item either recently learned or one whose mastery by the student might be shaky. (Technically, an item is in the inner fringe of a state if removing that item from the state results in another feasible knowledge state.) They are presented to the student when the student is having difficulty in the ALEKS Learning Mode and during ALEKS Review.

An additional benefit of the proliferation of connections among items in ALEKS is its extreme flexibility from the students' viewpoint: for any particular topic, there is a vast number of possible approaches, or learning paths, which may lead students to mastery of that topic. This flexibility does not imply, however, that *any* order is possible. Each learning path leading to a particular topic must contain, at a minimum, the items which are "below" such topic in the ALEKS structure.

8.14 Objectives

ALEKS also provides a facility for creating multiple sets of syllabi within a single class (See the **Instructor's Manual** under **Set Objectives / Modules**, in the chapter **Instructor Module**). The Objectives feature makes it possible to prioritize particular sets of items for particular periods of time, by constraining the choices available to the

students. When Objectives have been set, students will be guided to these items by the shortest possible path.

Chapter 9

Knowledge Spaces and the Theory Behind ALEKS

9.1 History

Knowledge Space Theory has been under development since 1983 by Professor Jean-Claude Falmagne, who is the Chairman and founder of ALEKS Corporation, and other scientists (especially, Jean-Paul Doignon from Belgium) in the United States and Europe.

ALEKS is the first computer system to embody Knowledge Space Theory for assessment and teaching.

9.2 Theory

A complete exposition of Knowledge Space Theory is not intended here. The Bibliography contains a number of references for those interested in further details (Sec. 9.3). Knowledge Space Theory is expressed in a mathematical discipline often referred to as “Combinatorics.” What follows here is a brief, intuitive summary introducing certain fundamental terms employed in discussions of ALEKS.

9.2.1 Domain, Items, and Instances

An academic discipline such as Basic Math or Algebra is represented as a particular set of problems or questions that comprehensively embody the knowledge of the discipline. That set is called the **domain**, and the problems are called **items**. A symbolic representation of the domain of Basic Math uses dots standing for items (Fig. 9.1). One of the items, which might be entitled “Word problem with percentages,” is indicated by a line. The problem in the rectangle is an **instance** of that item.

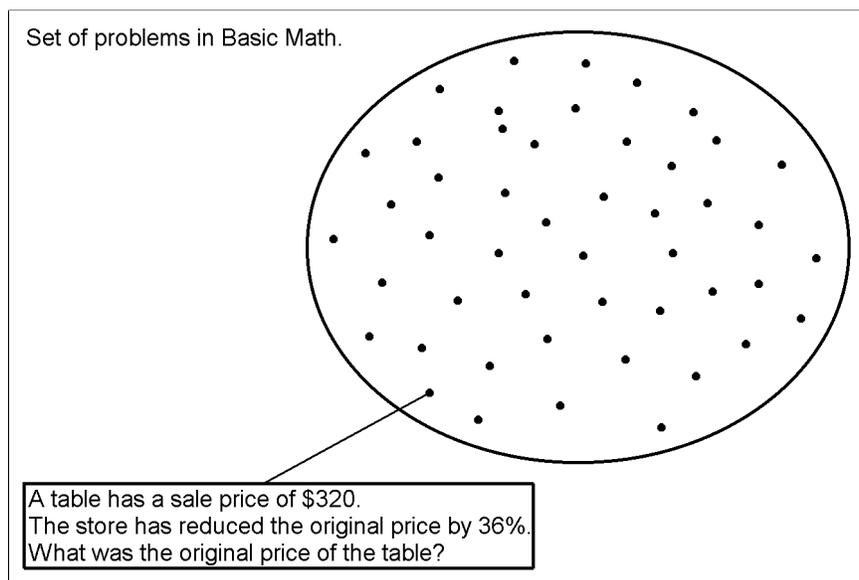


Figure 9.1: Domain of Basic Math

Each item, or problem type, has at least dozens, more often hundreds or thousands of instances. Full mastery of the subject implies the ability to solve problems corresponding to all the items making up the domain.

Determining the set of items that make up the domain is the first step in constructing a “knowledge structure” for that domain. This is done by research in instructional materials and standards and systematic consultation with professionals. Substantial agreement is achieved among expert pedagogues on the choice and definition of items. The set of items finally arrived at and forming the domain must be comprehensive, that is, it must cover all the concepts that are included in the particular academic discipline.

9.2.2 Knowledge States

The **knowledge state** of a student is represented by the set of items in the domain that he or she is capable of solving under ideal conditions (Fig. 9.2). This means that the student is not working under time pressure, is not upset or impaired in any way, etc. In reality, careless errors may arise. Also, the correct response to a question may occasionally be guessed by a subject lacking any real understanding of the question asked. (This will occur very rarely when using the ALEKS system, because multiple-choice answers are not used.) An individual’s knowledge state is not directly observable and has to be inferred from responses to questions.

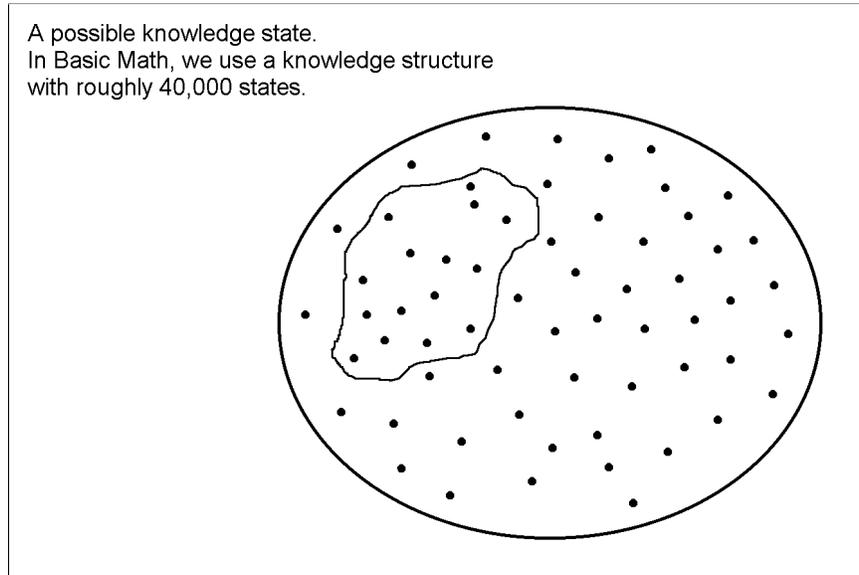


Figure 9.2: Knowledge State

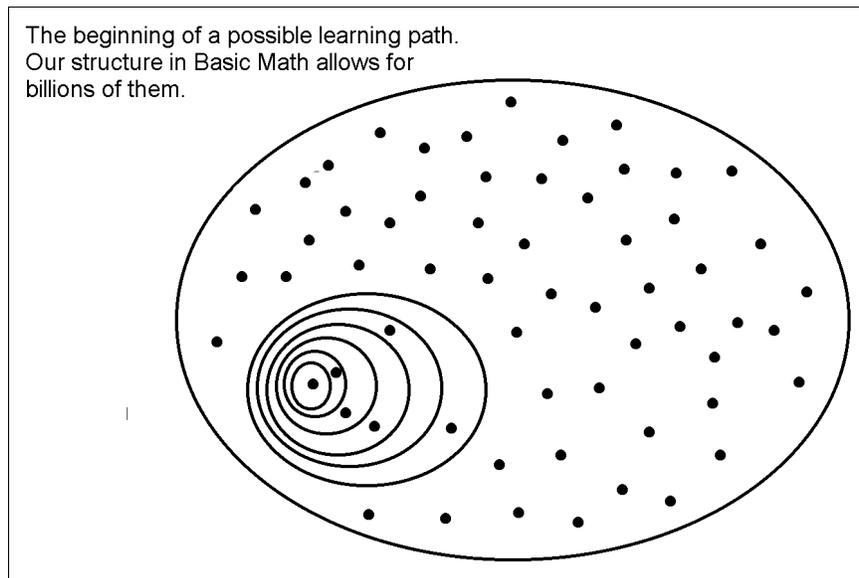


Figure 9.3: Learning Path

9.2.3 Knowledge Structures and Knowledge Spaces

It should be obvious that not all possible subsets of the domain are feasible knowledge states. For instance, every student having mastered “long division” would also have mastered “addition of decimal numbers.” Thus, there is no knowledge state containing the “long division” item that does not also contain the “addition of decimal numbers” item. The collection of all feasible knowledge states is referred to as the **knowledge structure**. The very large number of states for any product means that there are many possible ways of acquiring knowledge, i.e., many learning paths (Fig. 9.3). In the ALEKS knowledge structure there are literally billions of such learning paths. A “knowledge space” is a particular kind of knowledge structure.

As in many real-life applications, “noise” and errors of various sorts often creep in, which require the elaboration of a probabilistic theory. The ALEKS System is based on such a probabilistic theory, which makes it capable of recovering from errors. For instance, ALEKS is capable of deciding that a student has mastered an item, even though the student has actually made an error when presented with a problem instantiating this item. This is not mysterious: a sensible examiner in an oral exam, observing an error to a question about addition would nevertheless conclude that the student has mastered addition, for example, if that student had given evidence of skillful manipulation of fractions.

9.2.4 Inner and Outer Fringes of a Knowledge State

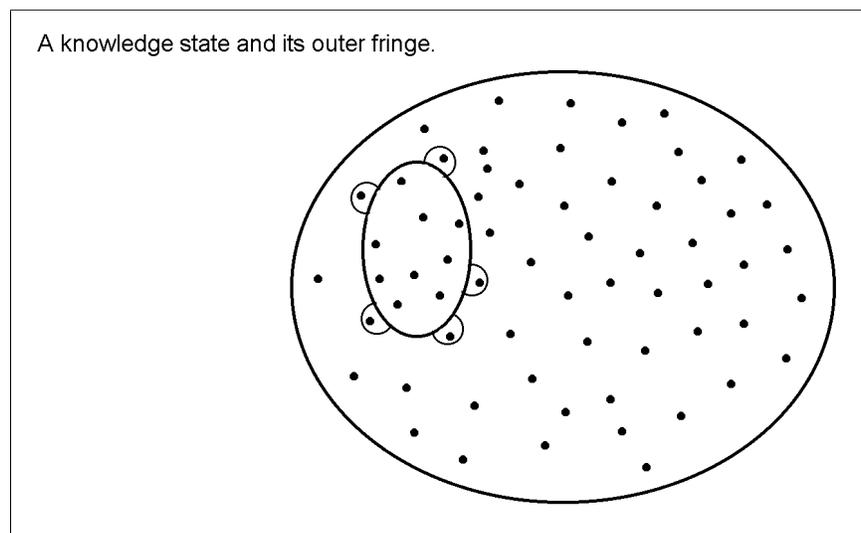


Figure 9.4: Outer Fringe of a Knowledge State

An item that has not yet been mastered by a student may not be immediately learnable by that student. Learning one or more prerequisite items may be necessary. Consider

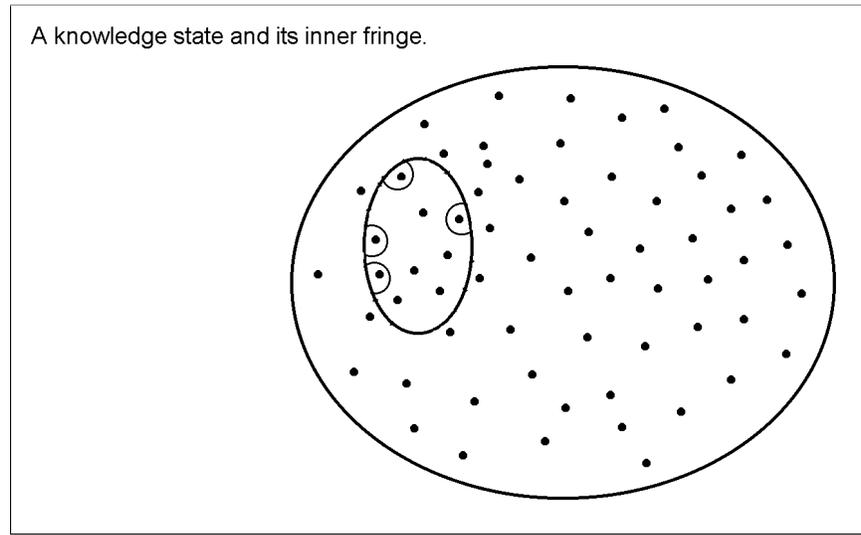


Figure 9.5: Inner Fringe of a Knowledge State

a student in a particular knowledge state \mathbf{K} . The set of all items that may be learned immediately by a student in that state \mathbf{K} is called the **outer fringe** of the state \mathbf{K} . The outer fringe of a state \mathbf{K} is defined as the set of all items, any one of which **may** be the next one learned. An item is in the outer fringe of the state \mathbf{K} if the addition of that item to the state \mathbf{K} forms a new, feasible knowledge state (Fig. 9.4). Typically, the outer fringe of a knowledge state will contain between one and several items.

Similarly, an item is in the inner fringe of a state \mathbf{K} if there is some other knowledge state to which that item may be added to form state \mathbf{K} (Fig. 9.5). The **inner fringe** of a state \mathbf{K} is thus defined as the set of all items, any one of which **may** have been the last one learned.

These two concepts of inner and outer fringes are used in powerful ways in the Learning Mode of the ALEKS system. For example, the system always offers a student problems to solve that are based on items in the outer fringe of his or her state. If ALEKS judges that a student is experiencing difficulties in learning some new item, ALEKS typically reviews the mastery of items in the inner fringe of the student's state that are also related to the new item to be learned.

9.2.5 Assessment

How can ALEKS uncover, by efficient questioning, the particular knowledge state of a student? While the details of ALEKS's method for achieving such a goal are technical, the guiding intuition is straightforward. At every moment of an assessment, ALEKS chooses a question to be "as informative as possible." (In ALEKS, assessments may be called "knowledge checks.") In our context, this means a question which the student has, in the system's estimate, about a 50 percent chance of getting right. The student's

response (correct or false) determines a change in all the likelihood values: for instance, if the question involved manipulation of fractions, and the student's response was correct, then all the knowledge states containing this item would have their likelihood values increased. The specific way the questions are chosen and the likelihood values altered makes it possible for ALEKS to pinpoint the student's state in a relatively short time. In Basic Math, for example, approximately 15–25 questions usually suffice.

Finally, it should be noted that the assessment report given to students, instructors, and administrators is a very precise **summary** of the student's knowledge state. If the structure is known, the outer fringe and inner fringe together completely define the student's knowledge state. Internally, the system registers the student's knowledge or non-knowledge of each item in the domain.

A more thorough but still accessible overview of Knowledge Space Theory is available on the ALEKS website: Cosyn, Doignon, Falmagne, "The Assessment of Knowledge, in Theory and Practice":

https://www.aleks.com/about_aleks/Science_Behind_ALEKS.pdf

A comprehensive treatment of Knowledge Space Theory can be found in Doignon and Falmagne, *Learning Spaces* (Springer-Verlag, Berlin, Heidelberg, 2011).

A comprehensive scientific bibliography on Knowledge Spaces is maintained here:

<http://css.uni-graz.at/kst.php>

For a more selective bibliography, see the following section.

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Chapter 10

Frequently Asked Questions

10.1 General

General questions on ALEKS concern what it is, its purpose, and what it contains.

What is ALEKS?

ALEKS is an online educational software program based on a cycle of assessment and learning. ALEKS course products include Mathematics, Statistics, Accounting, Business, and Chemistry. By knowing exactly which concepts the student has mastered and which are new but within reach, ALEKS enables the student to work on those concepts they are most ready to learn. ALEKS is a full-time automated tutor, including explanations, practice and feedback. ALEKS interacts closely with the student, continuously updating its precise map of the student's knowledge state. ALEKS combines the advantages of one-on-one instruction and evaluation with the convenience of being on-call, on your computer, 24 hours a day, seven days a week. The cost of ALEKS is a small fraction of the cost of a human tutor.

What makes ALEKS different?

A great many important differences exist between ALEKS and other kinds of "educational software," including its finely individualized instructional features, easy access over the Internet, rigorous and comprehensive educational content, and full-featured class-management module for instructors and administrators. A critical difference is the capacity of ALEKS for efficient, precise, comprehensive, and qualitative assessment. This not only makes it a valuable tool for monitoring educational progress, but also enables it to provide students with the material they are most able to learn at a particular time. Students will not be given material they have already mastered, or topics for which they have not yet demonstrated prerequisite knowledge.

ALEKS is a self-contained learning environment, with complete sets of practice and explanatory units needed for the subjects that it covers. The units may also

be referenced or linked to textbooks for extended treatment of mathematical concepts. There is an online student mathematics dictionary accessed by clicking on underlined mathematical terms (hypertext links), and a diagnostic feedback facility that, in many cases, is able to explain the nature of misunderstandings and errors made by students.

For instructors, ALEKS offers a complete administrative and monitoring facility through which individual and group progress can be checked, standards established, enrollment managed, and messages exchanged. ALEKS can be configured for use with diverse educational standards.

ALEKS is not a game or “edutainment.” It is an automated educational tool with robust, carefully-designed features for both learners and educators.

What are the parts or “modules” of ALEKS?

The principal “modules” of ALEKS are the **Assessment Mode** (assessments are also called “knowledge checks”), in which student knowledge is rigorously assessed, the **Learning Mode**, where students work on mastering specific concepts, the **Instructor Module**, in which instructors and administrators are able to monitor student progress and carry out administrative functions, and the **Administrator Account**, which permits management and monitoring of an arbitrary number of separate institutions, such as those making up a multi-campus college system. There is also a **Tutorial** (which students take when first registering with the system), **online help**, a **mathematical dictionary**, **graphic display of assessment results and learning progress**, and many other features.

Why is ALEKS on the Internet?

ALEKS is available on the Internet so that a student who has registered with the system can use it from any suitable computer, in any location. No disks, CD’s, peripherals, or backup facilities are required.

10.2 Technical

The technical information needed to use ALEKS is minimal. These few questions are all that are likely to be asked, even in a large group of users.

What are the system requirements for using ALEKS?

[**Sec. 3.2**] Fig. 10.1 presents the technical requirements for ALEKS in summary form.

Tablets. All courses are desktop and tablet compatible with the exception of Intro. to Statistics, Business Statistics, Statistics for the Behavioral Sciences, Prep. for Statistics, Math Prep. for Accounting, Essential Math Skills for Business, and Business Math. These courses are not compatible with tablet devices.

Note that any of the kinds of Internet connection (cable, ISDN, DSL, or wireless) typical in computer labs are adequate for use with ALEKS.

	PC	Macintosh	Chromebook
Operating System	Windows 7+	MacOS 10.7+	Chrome OS
Processor	Any	Any	Any
RAM Memory	64+ MB	64+ MB	Any
Browser	Explorer 11+, Firefox 25+, Chrome 30+	Safari 6+, Firefox 25+, Chrome 30+	Chrome 30+
Screen Resolution	1024x768	1024x768	Any

Figure 10.1: System Requirements

Where can I get more information on ALEKS? How can I try out the system?

The ALEKS website provides complete information on the ALEKS system, including a Quick Tour, Free Trial use, licensing, history and theory, and technical support.

<https://www.aleks.com>

10.3 Theory

For those interested in looking beneath the surface, these questions concern the principles on which ALEKS is designed and constructed.

What is the theory behind ALEKS?

[**Chapter 9**] ALEKS is based on a field of Cognitive Science (Mathematical Psychology) called “Knowledge Spaces” (or “Learning Spaces”). The purpose of research in Knowledge Spaces is to model human knowledge in any subject, using mathematical tools such as Set Theory, Combinatorics, and Markovian Processes, so as to make possible fast and accurate assessment through interactive computer applications. There are numerous scientific publications in the field of Knowledge Spaces dating back to the early 1980’s. A recent, authoritative treatment (with Bibliography) is Doignon and Falmagne, *Learning Spaces* (Berlin, Heidelberg: Springer-Verlag, 2011).

What is an “item”?

[**Sec. 9.2.1**] In Knowledge Space theory, an “item” is a concept or skill to be learned, the mastery of which is captured by a “problem type” serving as the basis for specific assessment and practice problems. Thus the item “Addition of two-digit numbers without carry” might produce the problem (instance) “What is 25 plus 11?”

What is a “domain”?

[**Sec. 9.2.1**] In Knowledge Space theory, a “domain” is the set of all items making up a particular subject matter, such as Basic Math. A learner is considered to

have mastered the domain when that learner can solve problems corresponding to all the items in the domain.

What is a “knowledge state”?

[Sec. 9.2.2] In Knowledge Space theory, a “knowledge state” is the set of items belonging to a domain that a learner has mastered at some point in time. We speak of knowledge states in relation to a particular learner and a particular domain. Obviously, a learner’s knowledge changes in time, and the goal of learning is that the knowledge state should eventually include (correspond to) the entire domain.

What is the “outer fringe” of a knowledge state?

[Sec. 9.2.4] In Knowledge Space theory, a learner’s “outer fringe” is the set of items, any one of which can be added to the current knowledge state without others to make a new, feasible knowledge state. These are the items that the student is considered most “ready to learn.” Progress is made from one state to another through one of the items in the first state’s “outer fringe.”

What is the “inner fringe” of a knowledge state?

[Sec. 9.2.4] In Knowledge Space theory, a learner’s “inner fringe” is the set of items, any one of which can be taken away without any others from the current knowledge state to make a new, feasible knowledge state. These are the items that the student may have learned recently, and thus whose knowledge might need reinforcement.

What is a “knowledge structure”? What is a “knowledge space”?

[Sec. 9.2.3] In Knowledge Space theory, “knowledge structure” or “knowledge space” (the two concepts differ in a technical way) refers to the collection of feasible knowledge states for a particular domain. It is a key point that not all sets of items from the domain (subsets of the domain) are feasible knowledge states. For instance, in mathematics there can be no knowledge state containing the item “finding the square root of an integer” that does not contain the item “addition of two-digit numbers without carry,” since no one will master the first without having mastered the second.

How was the structure created?

The knowledge structures (or, briefly, “structures”) used by ALEKS are created by analysis of the subject matter and refined on the basis of data obtained from students’ learning experiences. When ALEKS assesses a student, it is actually searching the structure for knowledge states that match the student’s present competence.

What is the educational philosophy behind ALEKS?

The educational use of ALEKS is not tied to any particular theory of education or knowledge acquisition. A key insight underlying ALEKS is the existence of a vast multiplicity of diverse “learning paths” or sequences of topics by which a field can be mastered. Based on an inventory of knowledge states that numbers in the tens of thousands (for the subjects currently covered by ALEKS), the specialized tools of

Knowledge Space theory make it possible for the system to accommodate literally billions of possible individual learning paths implied by the relations among states. ALEKS does not embody a particular philosophy of teaching mathematics; it is compatible with any pedagogical approach.

10.4 Assessments and Reports

Much of the power of ALEKS comes from its capacity for accurately and efficiently assessing the current state of a learner's knowledge.

What is an ALEKS assessment (knowledge check)?

[**Chapter 4**] An assessment by the ALEKS system consists of a sequence of mathematical problems posed to the student. The answers are in the form of mathematical expressions and constructions produced by the system's input tools (no multiple choice). The student can answer "I don't know" where necessary. During an ALEKS assessment, the student is not told whether answers are correct or incorrect. The assessment is adaptive. Each question after the first is chosen on the basis of answers previously submitted. Assessment problems (like practice problems) are algorithmically generated, with random numerical values. The length of the assessment is variable, between 15 and 35 questions. There are no time constraints, but some assessments can take less than a half-hour and a few more than an hour and a half. Students taking an assessment need to have paper and pencil. The ALEKS calculator button will become active when use of a calculator is permitted.

No help whatsoever should be given to students taking a knowledge check, not even rephrasing problems. Outside help can easily lead to false assessment results and hinder subsequent work in the ALEKS Learning Mode.

Students may be assessed when they first register with ALEKS. It is advisable that all assessments from which the instructor uses data for grading or a similar purpose take place under the instructor's supervision. At a minimum, the Initial Assessment should be supervised.

How does the ALEKS assessment work?

[**Sec. 9.2.5**] In assessing a student's knowledge, the system is in fact determining which of the feasible knowledge states for that subject correspond to the student's current knowledge. The assessment is probabilistic, so it is not fooled by odd careless errors. (Lucky guesses are very rare, because multiple choice answers are not used.) Likelihood values (values for the likelihood that the student is in a particular knowledge state) are spread out over the states belonging to the structure. With each correct answer, the likelihood of states containing the item for which a correct answer was given is raised and that of states not containing the item lowered. The reverse occurs for incorrect answers or "I don't know." At each step of the assessment, the system attempts to choose an item for which it

estimates, based on current likelihood values, that the student has about a fifty-fifty chance of success; such questions are maximally informative. When the likelihood values of a few states are extremely high and those of all the rest are extremely low—in technical terms, when the entropy of the structure is lower than a certain threshold value—the assessment ends and results are produced.

If a student makes a careless error or lucky guess, this will appear inconsistent with the general tendency of the student’s responses, and the system will “probe” that area of knowledge until it is sure. For this reason, inconsistent assessments may require more questions.

10.5 Learning Mode

Students spend by far the greatest part of their time in ALEKS in the Learning Mode. The features of the Learning Mode are designed to provide a maximum of support to the student’s growing mastery of course materials.

What is the Learning Mode?

[**Chapter 5**] The Learning Mode in ALEKS contains features to help students practice and master specific mathematical concepts and skills. In the Learning Mode, students are always working on a specific concept that they have chosen and that, in the system’s estimation, they are fully prepared to master. If the learner successfully solves an appropriate number of problems based on that concept, the system will tentatively determine that it has been mastered and offer a new choice of topics. If the student has difficulty, the system will attempt to diagnose and interpret the student’s errors. It will also provide explanations of how to solve problems and definitions of mathematical terms. It may suggest the name of a classmate who can help. If the student is unable to master the concept right now, or if the student wishes to change topics, a new choice of topics will be offered. After a certain amount of time has been spent in the Learning Mode, or after a certain amount of progress has been made, the student will automatically be reassessed.

What is the relationship between the Assessment Mode and the Learning Mode in ALEKS?

The Assessment and Learning Modes work together in a cyclical fashion, beginning with the Initial Assessment (Knowledge Check). A student is assessed, and the results of the assessment serve as a basis for the student’s entry into the Learning Mode (the student works on concepts that the assessment showed that student most “ready to learn”). After a certain time in the Learning Mode, during which the results of the previous assessment are tentatively updated according to whether the student masters or fails to master new concepts, the student is reassessed and the cycle begins again. In this sense, ALEKS is an interactive learning system guided and powered by ongoing diagnostic assessment.

NOTE. Students who do not take an Initial Assessment will begin this cycle in Learning Mode.

10.6 Educational Use

ALEKS also provides a full range of features for successful integration into a variety of teaching styles and class plans.

What is the best way to use ALEKS with my class?

The greatest factor in successful use of ALEKS is regular, structured use, with close monitoring of student progress by the instructor. We recommend scheduling regular lab sessions with ALEKS, totalling at least three hours per week, as part of your class requirements. Not every lab session need be supervised by the instructor, but the Initial Assessment should be. Any other interim and concluding assessments scheduled specially by the instructor normally should also be supervised.

There has been successful use of ALEKS in a very wide variety of contexts and structures, including independent study. ALEKS Corporation is happy to consult with instructors on the best way to use ALEKS with their students. Also, extensive materials on implementation strategies in ALEKS are available on the ALEKS website.

Can ALEKS be used with handicapped and learning-disability students? Is ALEKS a remedial tool?

ALEKS is designed to help all students who can read sufficiently to understand what is being displayed on the screen, and who can use a computer. It has been used successfully with students exhibiting a range of learning disabilities. A large part of ALEKS content is compatible with screen-reading technology.

Does ALEKS need to be used with a particular textbook or curriculum?

ALEKS is designed to be used with any syllabus, curriculum, or textbook. The system may also be referenced or linked to a textbook or online applications for particular classes. The fundamental idea of the ALEKS system is to allow students to pursue individualized paths to mastery of the subject matter. For this reason instructors may often find their students learning material that has not yet been covered in the class.

Does ALEKS have special features for educators?

[**Chapter 7**] Students' use of ALEKS and their progress toward mastery can be monitored using the features of the Instructor Module. The Instructor Module also enables instructors and administrators to establish the syllabi and standards used by ALEKS, to configure accounts, to find statistics on multi-campus college system use, and to exchange messages. An instructor or administrator who has been registered with ALEKS enters the Instructor Module immediately upon login.

How can I contact ALEKS Corporation Customer Support?

[Sec. 11] You can contact ALEKS Corporation using the information in Chapter 12 of this manual. Students should approach their instructor first with any questions or problems regarding the use of ALEKS. Questions the instructor cannot answer should be brought to our attention.

Chapter 11

Support

Current information on ALEKS is available at the ALEKS website:

<https://www.aleks.com>

Technical support and consultation on the effective use of ALEKS is provided to educators by ALEKS Corporation. Please contact the support group via the web:

<https://support.aleks.com>

by telephone:

(714) 619-7090

or by fax:

(714) 245-7190

NOTE. We ask that students using ALEKS not contact us directly, but approach their instructors first. It is hoped that the information in this Instructor's Manual will enable instructors to answer many of their students' questions.

We also welcome any and all comments and feedback on ALEKS. Here is our mailing address:

ALEKS Corporation Customer Support
15460 Laguna Canyon Road
Irvine, CA 92618

Appendix A

ALEKS Student User's Guide

A.1 System Requirements

ALEKS runs on many devices with various operating system and web browser configurations.

- PCs must have at least 64 MB of RAM and Windows 7 or higher. Compatible browsers are Internet Explorer 11.0 or higher, Firefox 25 or higher, and Chrome 30 or higher.
- PowerMacs or iMacs must have at least 64 MB of RAM and operating system Mac OS 10.7 or higher. Compatible browsers are Safari 6 or higher, Firefox 25 or higher, and Chrome 30 or higher.
- All courses are desktop and tablet compatible with the exception of Introduction to Statistics, Math Prep for Accounting, Business Statistics, Essential Math Skills for Business, Statistics for the Behavioral Sciences, Business Math, and Prep for Statistics. These courses are not compatible with tablet devices.

NOTE. The most up-to-date requirements can always be found on the ALEKS website.

A.2 Registration

In order to register as an ALEKS user, you need a **Student Access Code** (20 characters), which may be purchased through your campus bookstore, online as part of the ALEKS registration process, or in some other way. If this booklet was purchased through the bookstore, the Student Access Code may be inside its back cover. You also need a **Class Code** (10 characters) provided by your instructor. When you register with ALEKS, your name is entered into the database, and records of your progress are kept.

1. Go to the ALEKS website:

<https://www.aleks.com>

When entering this URL, pay careful attention to the spelling of **aleks**.



Figure A.1: The ALEKS Website

2. Click on **SIGN UP NOW!** on the left of the page, under the space for Registered Users (Fig. A.1).
3. At the beginning of Registration you will be asked for your **Class Code**. The Class Code is supplied by your instructor. Enter this in the spaces provided, on the **left-hand side** of the window, and click on **Continue** (Fig. A.2).
4. Next, ALEKS will check whether you have ever used ALEKS before. Check the appropriate response and click on **Continue**. If you have used ALEKS before, you will be prompted to enter your ALEKS Login Name and Password before moving on.
5. To continue your registration you will be asked for your **Student Access Code**. It may be packaged with the textbook, or can be purchased directly from ALEKS Corporation by using the link on this page (**PURCHASE AN ACCESS CODE**). Enter the Student Access Code in the spaces provided and click on **Continue** (Fig. A.3).
6. Enter your personal information and choose a Password. Supplying an email enables your site administrator to help you with problems more quickly. You will also be able to enter your Student ID number.

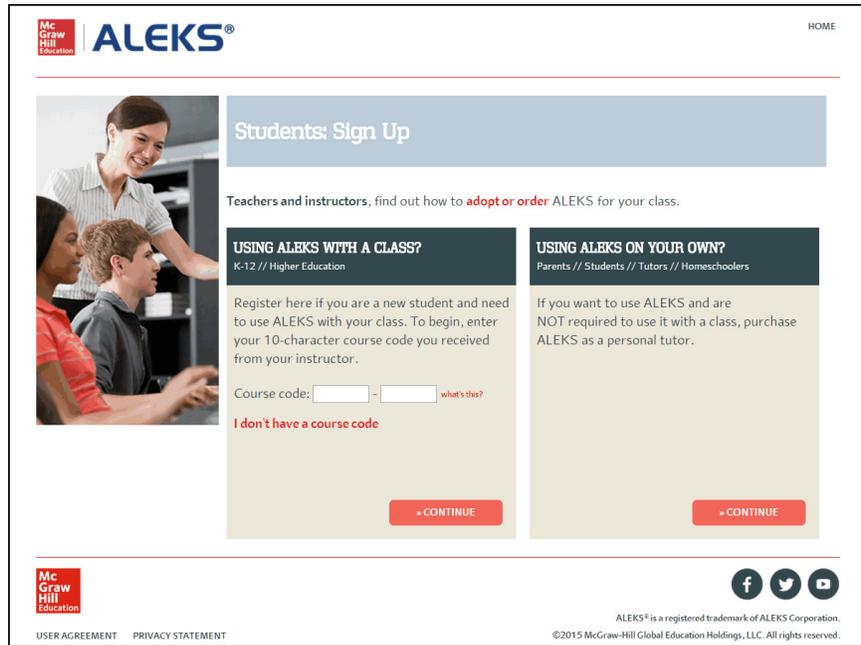


Figure A.2: Class Code

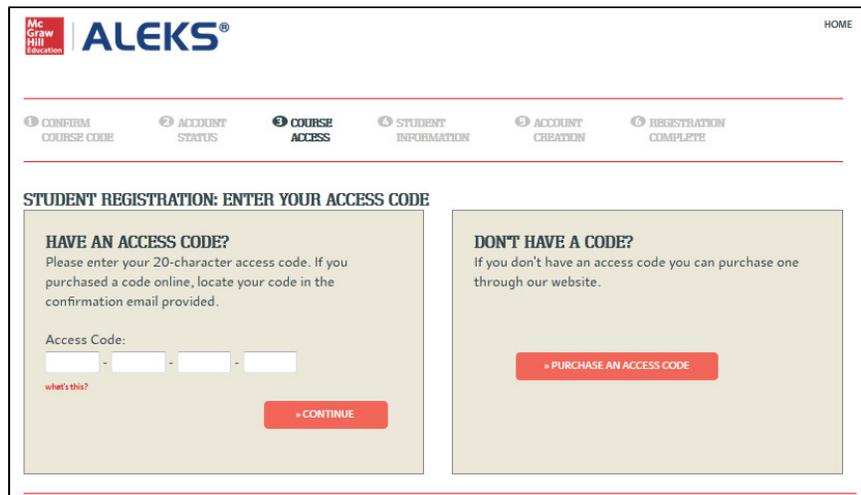


Figure A.3: Access Code

7. At the end of registration you will be given a Login Name. You will need the ALEKS Login Name and your Password to return to ALEKS.

Your Login Name and Password can be typed with upper- or lower-case letters. Neither may contain spaces or punctuation. If you forget your Password, click on the link **Forgot your login info?** located underneath the Password field on the ALEKS Home page.

A.3 Tools Tutorial

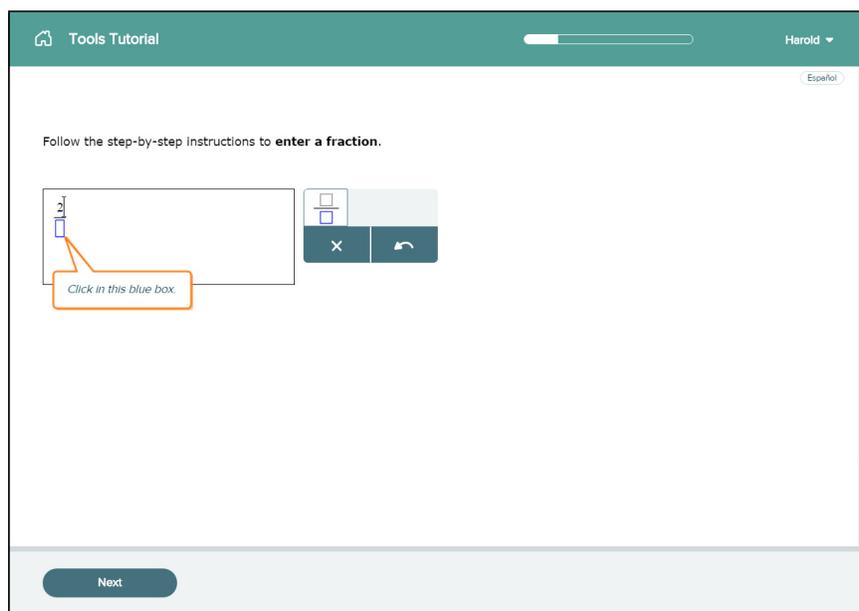


Figure A.4: The Answer Editor

The ALEKS Tools Tutorial teaches you how to enter your answers in ALEKS. ALEKS avoids multiple-choice questions. Most answers are complete mathematical expressions and constructions. The Tools Tutorial is not intended to teach mathematics. The Tools Tutorial teaches you how to use the ALEKS input tools called the **Answer Editor** (Fig. A.4). Online help is also available while you are using ALEKS; just click the ? button next to the input tools when you are working in ALEKS. This will give you access to the various sections of the Tools Tutorial.

A.4 Knowledge Checks

Instruction through ALEKS is guided by a precise understanding of your knowledge of the ALEKS class material. This information is obtained by Knowledge Checks in which

ALEKS asks you to solve a series of problems. (ALEKS's estimate of your knowledge is also updated when you make progress in the Learning Mode.) Your Initial Knowledge Check occurs immediately after the ALEKS Tools Tutorial.

A.4.1 Knowledge Checks in ALEKS

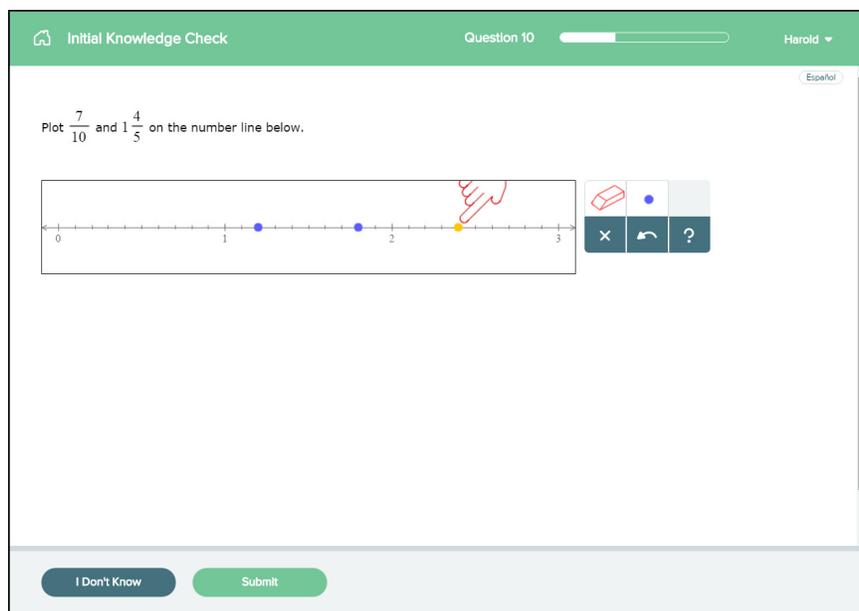


Figure A.5: Knowledge Check

The Initial Knowledge Check determines which class topics you already have mastery of, which topics are not currently mastered, and which topics you are ready to learn. When the Initial Knowledge Check is completed ALEKS will display your unique knowledge state and individualized learning path.

Additional Knowledge Checks may be scheduled for you by your instructor. These may or may not need to be supervised, depending on the instructor's preference. ALEKS also prompts for automatic Knowledge Checks when you have spent a certain amount of time in ALEKS or have made a certain amount of progress (Fig. A.5).

NOTE. Your instructor may require that the Initial Knowledge Check be taken under supervision. **Don't try to begin your Initial Knowledge Check at home until you find out where your instructor wants you to take it.**

A.4.2 Knowledge Check Results

Upon completion of your Initial Knowledge Check you will see your ALEKS Pie along with quick tips that describe how it works and how to use it. The ALEKS Pie will display the number of topics mastered per pie slice and the overall mastery percent in the class based on the Initial Knowledge Check. Clicking on an individual pie slice will give specific information about the topics in that slice.

A.4.3 Knowledge Checks and Your Learning

The purpose of Knowledge Checks in ALEKS is to throughout your learning path to confirm that you have retained material previously learned and to provide review and reinforcement when it is needed. New Knowledge Checks occur at regular intervals (typically 20 new topics learned or 10 hours in the system), or after the completion or due date of an Objective. Note that any new Knowledge Check “resets the clock,” so that they don’t occur one after another.

You can see when your next Knowledge Check is coming up by clicking on the Knowledge Check icon on your Home page, next to the Timeline/ALEKS Pie switch. When it is time for the Knowledge Check, you will see a notification, and you will have 24 hours to begin it (the exact period may be different if your instructor sets it differently for your class). Before beginning the Knowledge Check, you may wish to review by clicking on **Review for Knowledge Check**; this option appears under the Knowledge Check notification and on your Primary Guidance Menu.

It is important to make your best effort on the Knowledge Check! Do not rush or work when tired; remember you can always break off and resume the Knowledge Check later. As always, only use the **I don’t know** button when you have no idea of the answer; it’s always better to try to respond if you possibly can, since “I don’t know” is counted as “incorrect.” Note that you are likely to get at least a couple of questions that you haven’t learned yet, due to the adaptive nature of the Knowledge Check mechanism.

Needs More Practice. It is also normal to lose some topics from your mastery count on a Knowledge Check. This simply means that those topics need additional reinforcement; in most cases you will add them back quickly. ALEKS will present these topics in the beginning of the Topic Carousel under **Needs More Practice**.

A.5 Home

The first time you enter your ALEKS Home page you will be guided through an introduction giving a brief description of how ALEKS works. There are also pop-ups and animations that appear when you are seeing something in ALEKS for the first time, to ensure that you understand the interface and know how to use it.

The Home page includes some important information such as the name of the ALEKS

class, progress bar, notifications, Main Navigation Menu (Sec. A.5.4), account Settings (Sec. A.5.5), Primary Guidance Menu (Sec. A.5.3), and next Knowledge Check indicator.

The Home page shows the Timeline by default (Sec. A.5.1), but you can switch to the ALEKS Pie view (Sec. A.5.2) to see your progress within each slice. The view last selected will appear as your Home Page the next time you log in.

At any point in ALEKS, you can click on the Home symbol or ALEKS icon in the upper left corner to return to the Home page.

A.5.1 ALEKS Timeline

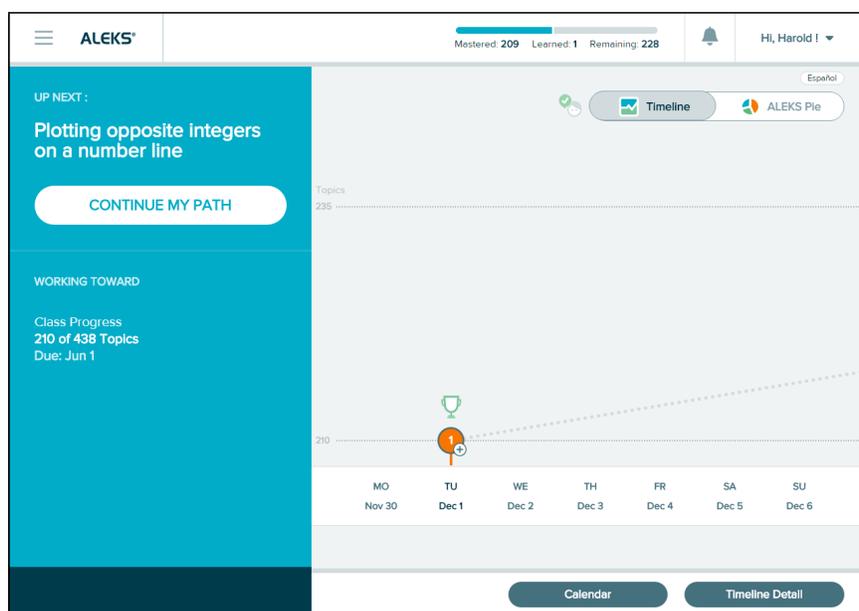


Figure A.6: ALEKS Timeline

The ALEKS Timeline is a visual tool that graphs your progress and growth over time. It helps you understand how to achieve learning goals and reach milestones. You can use the timeline to view what you worked on in the past, what's ahead, and when topics are due next so you can plan your class accordingly. As you learn or lose topics, the timeline is updated with real-time information.

Some key points about the timeline:

- The timeline is intended to show information at a macro level. You can select points on the graph to access information. For example, the blue goal topic marker is a projection to show what you are working towards next.

- The orange marker displays your progress today, and the number of topics you have left to reach the next goal on the timeline. It also shows what was completed on that day.
- The area below the timeline contains assignments created by the instructor, showing when the assignments start and end. You can select the assignment name to view detailed information. When there are multiple assignments available, they are stacked and prioritized by due dates.

You can select the **Timeline Detail** button to see a more detailed full-screen view and a longer time range than what is displayed on the Home page. You can filter the timeline by day, week, or month.

Timeline Icons	Past	Present/ Future	Timeline Icons	Past	Present/ Future
Objective Icons			Assignment (Homework)		
Goal (Topic)			Assignment (Quiz)		
Goal (Time)			Assignment (Test)		
Goal (Mastery)			Assignment (External)		
Knowledge Check			Assignment Worksheet		
QuickTables			Next Knowledge Check Indicator		

Figure A.7: Timeline Icons

For a key to the icons that may appear on the timeline, see Fig. A.7.

A.5.2 ALEKS Pie and Details

The ALEKS Pie view is an alternate Home page. You can switch back and forth between the Pie view and the Timeline; whichever you looked at last will appear as your Home page on your next login.

The ALEKS Pie allows you to see your overall progress toward completion of the class. Slices represent topic categories. Mastered, learned, and remaining topics are shown in different colors within each slice. Each pie slice is color-coded to match the list next to the ALEKS Pie. The darker color in the slice represents topics mastered, the lighter color represents topics learned, and the outer space without color represents the topics remaining to be learned and mastered (Fig. A.8).

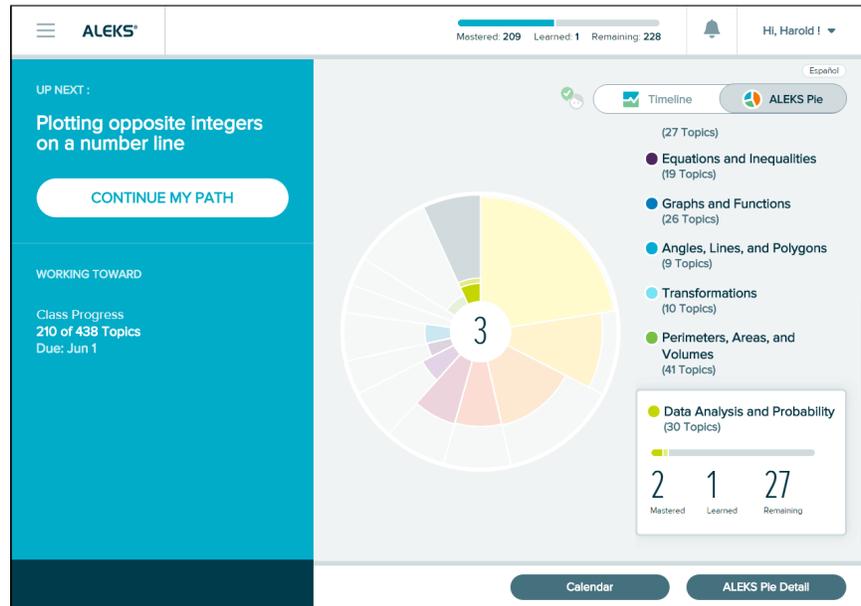


Figure A.8: ALEKS Pie

You can view your progress in real time by selecting a pie slice. The area to the right is a legend that displays the slice name and the number of topics mastered, learned, and remaining in each category for the slice selected.

Mastered

The number of topics you have demonstrated mastery of in a Knowledge Check.

Learned

The number of topics that you have practiced successfully in Learning Mode but have not yet confirmed through a Knowledge Check.

Remaining

The number of topics you have left to learn.

The number in the middle of the ALEKS Pie is a counter that represents the total number of topics you have mastered or learned.

You can also click on the **ALEKS Pie Detail** button to see your class progress broken down by the topics that you are ready to learn, have learned, and have mastered in each slice. Category headings can be expanded to view progress and sample problems. The drop-down menu at the top of the report displays progress in Knowledge Checks. You can use this drop-down to track how they have performed across all Knowledge Checks in their class.

A.5.3 Primary Guidance Menu

The blue bar area on the left-hand side of the Home page is called the Primary Guidance Menu. This menu will show you the next topic in your path. You will also see your class progress and any upcoming assignments.

The Primary Guidance Menu displays the following features:

UP NEXT

This section contains buttons such as **START MY PATH/CONTINUE MY PATH** to direct you to Learning Mode to practice problems that are Ready to Learn. The **GET STARTED/CONTINUE** button begins or continues an assignment.

WORKING TOWARD

This section displays goals and what the student is working toward, including due dates.

WORK ON SOMETHING ELSE

This section contains class assignments as they become available to work on.

A.5.4 Main Navigation Menu

The ALEKS Navigation Menu located in the upper-left corner of your screen provides easy access to features in the Student Module. Depending on your ALEKS class, you will see some or all of the following menu options displayed:

- Assignments (Sec. A.9)
- Worksheet
- Calendar
- Gradebook (Sec. A.10)
- Reports (Sec. A.8)
- Message Center (Sec. A.7)
- Class Forum
- E-Book
- Dictionary
- Instructor Resources
- QuickTables (Sec. A.12)
- Manage My Classes (Secs. A.11.1 and A.11.2)

When the menu is open, you can return to the Home page by selecting Home or by clicking the **X**. (Fig. A.9).

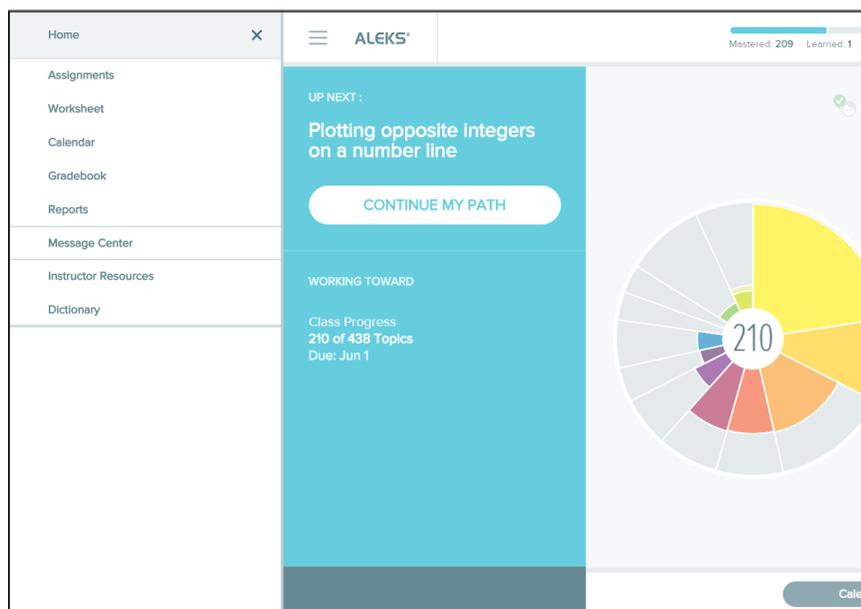


Figure A.9: Main Navigation Menu

A.5.5 Settings

You can access your account settings and log out of ALEKS by selecting the down arrow in the upper-right corner by your name. On the Settings page, you have the option to have ALEKS messages forwarded to your email address; if you did not provide one during Registration, you can put it in now. The option to change your ALEKS account password is also located here.

A.6 Learning Mode

In Learning Mode you can practice Ready to Learn topics and review previously learned and mastered topics. To access Learning Mode, go to the Primary Guidance Menu and select **START MY PATH**.

A.6.1 Learning Page/Problem Page/Explanation Page

The following pages are available in Learning Mode:

Learning Page

The ALEKS Learning Page provides a sample problem for the current topic, with detailed explanation and answer (Fig. A.10). After reviewing the Learning Page, select the **Start** button to move to the first problem.

The screenshot shows the ALEKS Learning Page interface. At the top, it displays the course title 'DATA ANALYSIS AND PROBABILITY' and the current topic 'Constructing a bar graph for non-numerical data'. The user's name 'Harold' is visible in the top right corner. The page is divided into two main sections: 'QUESTION' and 'EXPLANATION'. The 'QUESTION' section contains the following text: 'A new model of shirt at the clothing store comes in 4 colors: black, white, green, and blue. There were 14 shirts sold this week. Here they are by color: blue, green, blue, green, blue, blue, blue, black, white, blue, blue, green, white, blue. Draw the bar graph for these data.' The 'EXPLANATION' section begins with: 'We begin by making marks in a tally table. We make one mark for each of the 14 shirts sold.' Below this text is a tally table with the following data:

Color	Tally
black	
white	
green	
blue	

At the bottom of the page, there is a 'Start' button. On the right side, there are icons for a calculator, a message center, and a language selector set to 'Español'.

Figure A.10: Learning Page

Problem Page

The ALEKS Problem Page displays a problem for the current topic. Enter your answer in the space provided and then select the **Check** button at the bottom of the screen. If your answer is correct, ALEKS will display the message **Correct** on the screen. If your answer is incorrect, you will be given the opportunity to correct the answer and then select the **re-check** button.

Explain Page

If you are not sure how to answer a problem, you can click on the **Explanation** button at the bottom of the screen. This will take you to the Explanation page showing detailed information about how to solve the problem. For some topics an **Additional Explanation** link will be available showing another method of solving the problem.

Resources

Resources on the right hand side of the Problem Pages and Explain Pages are provided to help you solve the problem. These may include tools such as a calculator, an eBook link, the ALEKS dictionary, and the Message Center.

A.6.2 Progress Indicator

Mastery of problems is based on a point system: one point added for a correct answer, two points added for two correct in a row without using the Explanation page, and one point subtracted for an incorrect answer. The number of points cannot go below zero.

ALEKS considers a topic learned when a student earns a total of five points for that topic. The bars in the progress indicator represent how many points you have earned for the current topic (top right of the Learning Page). The progress bars change color to show how the topic is going: green to show success, yellow, orange, and red to indicate difficulty.

A.6.3 Topic Carousel

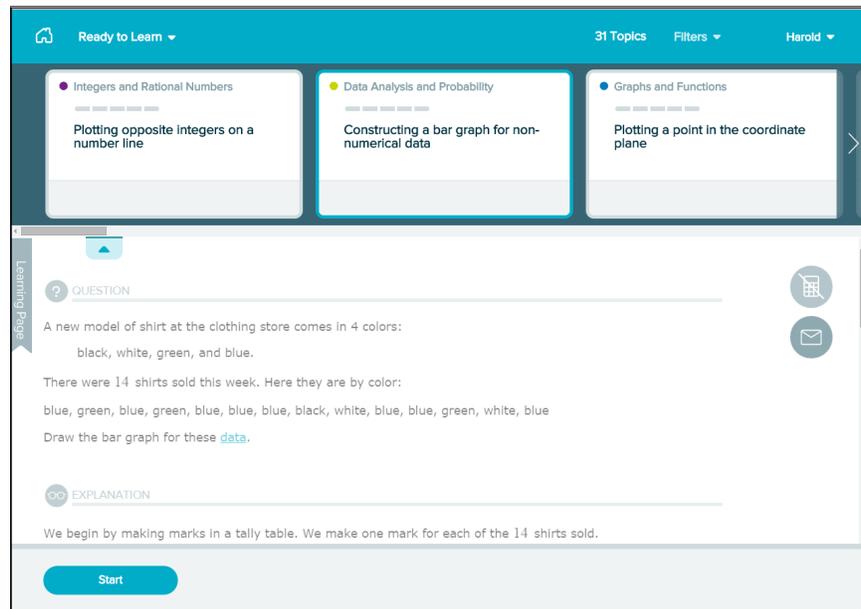


Figure A.11: Topic Carousel

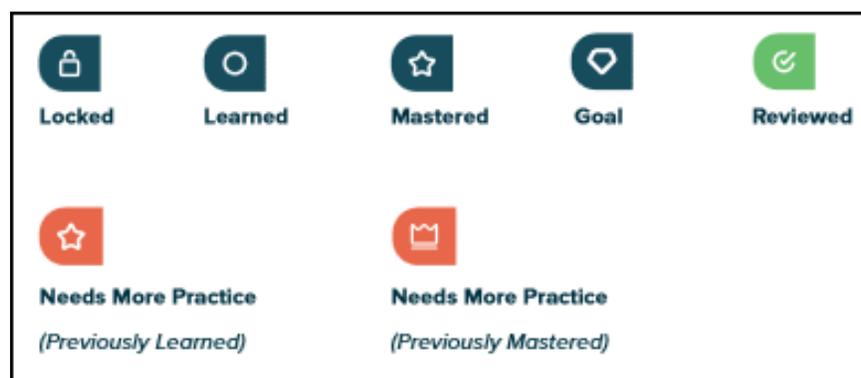


Figure A.12: Topic Icons

In Learning Mode you can access the Topic Carousel by selecting the downward arrow tab in the upper left corner of your screen (Fig. A.11). The Carousel lists topics that

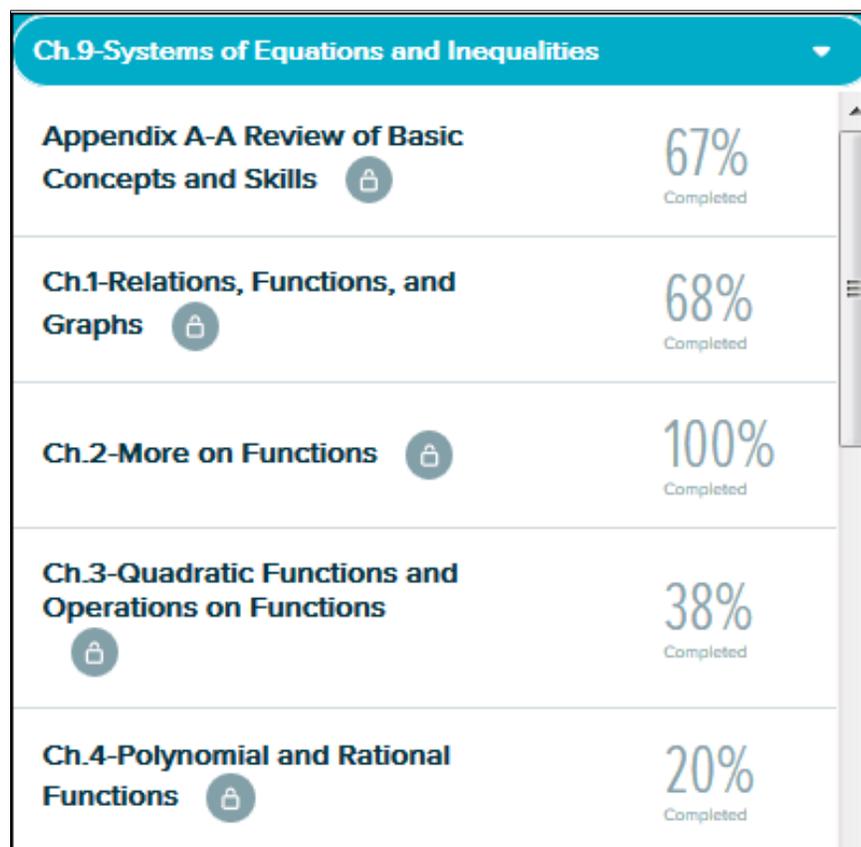


Figure A.13: Objectives/Ready to Learn Drop-Down Menu

you are currently ready to learn, sorted by degree of difficulty or complexity, with the most accessible first. Each topic has its own card containing the slice name, the topic name, and attributes (if any) indicated by icons (Fig. A.12). The Topic Carousel shows three cards at a time and is scrolled using the scroll bar or the back/forward arrows.

Filters

You can filter topics by selecting **Filters** in the upper right corner of the screen (Fig. A.11). The Filters feature lets you search for topics by name and type.

Switching Topics

You can switch topics at any time by selecting a new topic card in the Topic Carousel. When you select a card, a sample problem is previewed in the bottom half of the window. Switching topics mid-way through a topic will not cause you to lose work; when you return to the topic, ALEKS will resume where you left off.

Objectives/Ready to Learn Drop-Down Menu

The drop-down menu above the Topic Carousel allows you to see progress in Objectives (if used in the class) or Ready to Learn pie slices. To see this drop-down

menu, select the Ready to Learn/Objectives drop-down menu in the upper left (Fig. A.13).

Review

You can review previously-learned topics by choosing **Review** (rather than **Ready to Learn**) in the filter. Note that you will also be prompted to review when you receive the notification for a new Knowledge Check (Sec. A.4.3).

A.6.4 Classes with Objectives

Objectives are sections of the material in your class, similar to chapters in a textbook or units or modules in a lecture course. If your ALEKS class uses Objectives, they will be in a definite order and you will need to work through them in that order. They may have individual due dates, or there may be one due date for all the Objectives; the following paragraphs explain how the Objectives work on both cases. Note that when the next Objective begins, you will be notified by tool tips appearing on the Home page and in the Topic Carousel.

Objectives with Due Dates

In Learning Mode, the Topic Carousel will display Ready to Learn topics in the current Objective. If you complete the current Objective before the scheduled due date, you will move into Open Pie Mode, which unlocks all Ready to Learn topics until the start of the next Objective. During this time, you can return to previous Objectives and work on topics you did not learn or may have lost during a Knowledge Check. For example, if you missed an Objective, did not complete all topics in an Objective by the due date, or lost topics from previous Objectives in a Knowledge Check, you can go back to the previous Objectives and learn or re-learn those topics. After you learn all topics in a given Objective, the Topic Carousel will be empty. You can select another Objective to work on from the Objectives drop-down menu, or use the review filter to practice previously learned and mastered topics in the selected Objective.

Objectives with One Final Due Date

In Learning Mode, the Topic Carousel will display Ready to Learn topics in the current Objective. The Objectives drop-down menu conveniently displays the breakdown for the number of topics that must be learned to complete the current Objective. Future Objectives are locked. Completing the current Objective at the level specified by your instructor (e.g., 90%) will unlock the next Objective.

A.6.5 Locked Topics

Some topics that appear in the Topic Carousel may be locked. This occurs when there is one or more prerequisite topic that must be learned prior to attempting the topic. A lock icon appears in the topic card to distinguish the locked topics.

A.7 Message Center

The Message Center allows you to send messages to your instructor if you need assistance with a topic or problem in ALEKS. To compose a message, click the Navigation Menu in the upper left corner of your screen. Next, click the **Message Center** link and select the **Compose** button to create an email.

To include mathematical notation and illustrations:

1. Click the **Math** or **Graphs** tab at the right end of the tool bar. This switches you to the Enhanced message editor, with a robust set of math input tools.
2. Click on the **Graphs** tab for graphing tools, or on **Algebra**, **Trig**, **Matrix**, or **Stat** for symbolism specific to these areas.

While working in the Learning Mode, you can send a specific problem to your instructor for assistance. This will include a link in the message, showing a screenshot of the practice problem that you see on your screen.

To attach a specific problem, with the problem on the screen:

1. Click on the **Envelope** icon (located on the right-hand side of the screen). This will take you into the ALEKS Message Center. The system will automatically be in the **Compose** mode.
2. Fill in the **Subject** line and any details you want included in your message.
3. Below the body message section, the system will automatically check the box next to **Attach Page** to include the current problem. Uncheck this box if you don't want the page attached to your message.
4. Click on the **Send** button to send the message.

You can also include attachments of up to 2MB in your messages.

A.8 Reports

You can access a wide range of reports in your ALEKS account by selecting the Main Navigation Menu in the upper left corner and then selecting **Reports**.

The Report dashboard displays quick overviews of important data applicable to your progress in ALEKS (Fig. A.14). You can move the tiles around by selecting the icon in the upper-right corner of a tile. Selecting **View Full Report** on a tile will give you more detailed information about that report.

Reports that may be available in your account include:

- ALEKS Pie (Sec. A.5.2)
- Timeline (Sec. A.5.1)

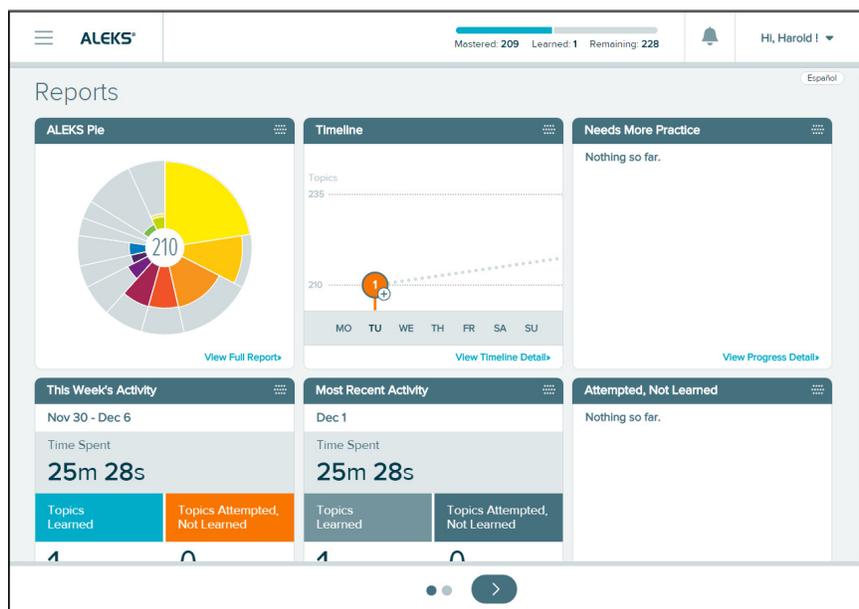


Figure A.14: Report Dashboard

- Progress History (Sec. A.8.1)
- Time and Topic Report (Sec. A.8.2)
- Objective Details Report (Sec. A.8.3)
- QuickTables Report (Sec. A.8.4)

A.8.1 Progress History

This report shows your progress on Knowledge Checks and in Learning Mode. Clicking on the **Current Class** tab shows the progress for the current class. Clicking on the **All Classes** tab shows the progress for all classes that you have been enrolled in.

- The dark blue bar shows the content mastered based on your most recent Knowledge Check.
- The light blue bar shows progress made in Learning Mode since your last Knowledge Check.
- The gray bar shows the content remaining to be learned.

A.8.2 Time and Topic Report

This report gives a daily breakdown of time spent in ALEKS. The view can be adjusted to a weekly, monthly, or cumulative view or to a specific date range.

- Hover over a bar to see how much time was spent and which topics were attempted and learned on a given day.
- Select a bar to view the Learning Sequence Log, which shows the sequence of actions you followed to learn the topic, including the exact problems practiced and the answers entered.
- Select the magnifying glass icon to see the answer that you entered with the correct answer if different.

A.8.3 Objective Details Report

This report helps you track your progress towards Objective completion for classes set up to use Objectives. The report displays goal topics, prerequisite topics, and locked topics (topics not yet Ready to Learn). You can scroll through the Carousel to view details on past, current, or future objectives.

A.8.4 QuickTables Report

This report shows your progress in QuickTables (Sec. A.12) based on Knowledge Checks and Learning Mode. The report displays the following information:

- The total time spent in Quicktables since completion of the typing tutorial.
- The last login date.
- The date the last Knowledge Check was completed.

A.9 Assignments

Name	Type	Start	Due	Score	Details
Upcoming					
Progress Goal #2	Progress Goal	-	07/15/2015 11:59 PM	-	
Test 2 - Evaluation of Ratios	Test	06/27/2015 1:04 PM	06/30/2015 11:59 PM	-	1 of 1 Remaining
Current & Past					
Progress Goal #1	Progress Goal	-	06/30/2015 11:59 PM	99%	
Test 1 - Fractions	Test	06/19/2015 10:55 AM	06/19/2015 11:59 PM	100% Best	0 of 1 Remaining

Figure A.15: Assignments

The Assignments link on the Navigation Menu allows you to view all current, upcoming, and past assignments in your class. Assignments are displayed in a table that includes

the assignment type, start date, due date, score, and details about the specific assignment. Assignments are sorted by due date. Assignments can be started by selecting an assignment name. ALEKS indicates when assignments are **In Progress** or **Saved for Later**; clicking on such assignments lets you pick up where you left off. Clicking on an assignment score (for assignments that have been completed) will display detailed information about that assignment (Fig. A.15).

A.10 Gradebook

Name	Type	Due	Grade	Points
Current & Past				
Chapter 1	Objective	09/30/2015 11:59 PM	100%	
Chapter 2	Objective	09/30/2015 11:59 PM	91%	
Chapter 3	Objective	09/30/2015 11:59 PM	84%	
Progress Goal #1	Progress Goal	06/30/2015 11:59 PM	99%	
Test 1 - Fractions	Test	06/19/2015 11:59 PM	100%	

Figure A.16: Student Gradebook

The ALEKS Gradebook allows you to check your overall grade in the class as well as individual assignment scores. The Gradebook link will be available on the Navigation Menu for classes where the Gradebook has been enabled. Selecting the Gradebook link displays assignments in your ALEKS class, e.g., tests, quizzes, and Objectives. You can click on the Filters drop-down to customize the Gradebook display to show specific assignment types (Fig. A.16).

A.11 Student Account Home

The Student Account Home groups all your ALEKS accounts under one profile with one Login Name and Password. When you log on to ALEKS, you come first to your Student Account Home. From here, you click on the link of the active class you wish to work in.

The Student Account Home lists your current and past ALEKS classes, and includes options to sign up for new classes, switch classes, suspend classes, extend access to classes, and remove classes from the Student Account Home.

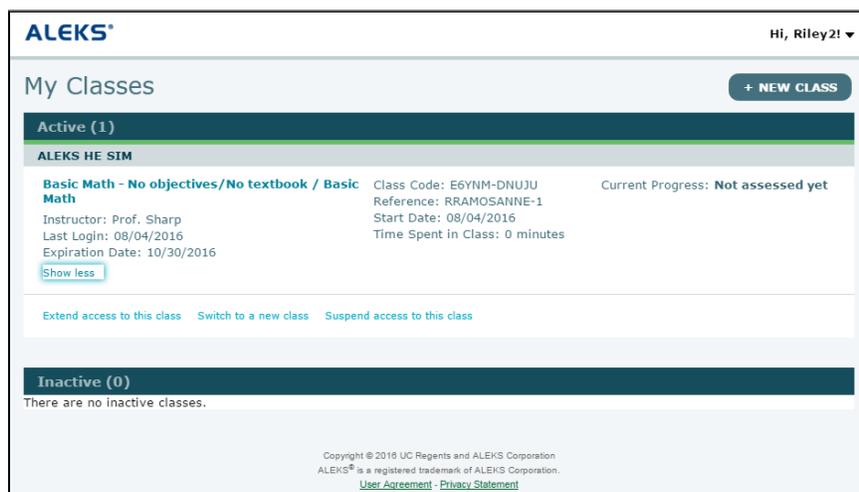


Figure A.17: Student Account Home Main Screen

A.11.1 Account Management

When you log in to your ALEKS account, you arrive at the Student Account Home main screen.

Active Classes

All classes in which you have an active account will be listed here. You will see the name of the class, the name of the instructor, the date you last logged in to the account, and the date your access to the class will expire. Additional information can be accessed by clicking on the **Show more** link, including the Class Code, the Reference ID for the account, the date the account was started, the amount of time spent in the class, and the current level of progress.

Accessing a Class

You can access an active class by clicking on the class name. You will be taken to your Home page for that class and will be able to work on topics. To return to the Student Account Home main screen, click on your name in the upper right corner and select the **Account home** option. To completely log out, choose the **Log out** option after clicking on your name.

Inactive Classes

The INACTIVE section will display a list of your classes that are no longer active. The same class information that is displayed in the ACTIVE courses is available here.

Adding a New Class

You can add a new class by clicking on the **+ NEW CLASS** button (Fig. A.17). You will be prompted to enter the class code for the new class. Once the new

class has been added, it will be displayed in the ACTIVE section on the Student Account Home main page, along with any other active courses.

+ **NEW CLASS** creates a new account in a new class, and will require a new 20-character access code as well as the 10-character class code; it does not transfer your current access code to a different class. To transfer your current access code to a different class (and set the previously active account to inactive), use **Switch to a new class** (below, Sec. A.11.2).

Account Settings

To access your account settings, click on your name in the upper right corner of the Student Account Home main screen. This screen displays information both for the profile account and for the college that you attend. This information includes your name, the Login Name for the profile account, the account Password (hidden), and the email address linked to the account. You can edit certain entries by clicking on the **Edit** link to the right. To return to the main screen, click on the **Done** button.

A.11.2 Class Management

Different options are available, depending on whether a class is ACTIVE, ON-HOLD, or INACTIVE:

ACTIVE Class Options

The following options are available for ACTIVE classes:

Switch to a new class. You can switch to a new class by entering a new class code. When you do this, the new class will become active and the previously active class may appear under INACTIVE. (No records will be kept if you switch within the first 15 days after beginning the previous class; this period depends on the instructor's configuration of the class and may vary.) If the new class uses the same course product as the one you were in previously, your progress will be carried over; otherwise, a new Initial Knowledge Check will be required.

To begin a new class with a new access code, leaving the current class active, use + **NEW CLASS** (above, Sec. A.11.1).

Suspend Access to this Class. This option will only appear when your subscription meets the eligibility requirements for suspension (Sec. A.11.3). Once suspended, an account appears in the ON-HOLD section.

Extend Access to this Class. You can extend access to your class by selecting the Extend option and entering a new 20-character access code. You will be able to purchase the access code on line if needed.

ON-HOLD Class Options

The following option is available for ON-HOLD classes:

Reactivate Accounts. You can click on the Reactivate button when you are ready to reactivate a class that was suspended or placed on Leave of Absence (Sec. A.11.3 and Sec. A.11.4).

INACTIVE Class Options

The following options are available for INACTIVE classes:

Download Progress (PDF). Clicking on this link will give you access to a PDF report displaying the pie chart and learning history progress achieved in the inactive class.

Renew access to this class. This option allows you to renew access to an account by entering a new 20-character access code. The access code can be purchased on line if needed. The course will then appear under ACTIVE.

Delete from my account. Inactive class accounts may be deleted; they will then no longer be displayed in the Student Account Home.

A.11.3 Suspend Account

This feature is intended to provide additional flexibility in your access to an already purchased subscription with ALEKS. The **Suspend access to this class** feature is used when you have already purchased an access code and registered with ALEKS, but then decide to drop the course with the intention of taking it again at the next opportunity.

This feature can be used within a limited time after you activate your account.

- 6-week access codes can be suspended within 7 days of activation **OR** if the account has less than 5 hours of use, whichever comes first.
- 11-week access codes can be suspended within 14 days of activation **OR** if the account has less than 8 hours of use, whichever comes first.
- 18-week, 2-semester, 3-quarter, and 52-week access codes can be suspended within 30 days of activation **OR** if the account has less than 10 hours of use, whichever comes first.

To suspend access to your class, choose the action **Suspend access to this class** (above, Sec. A.11.2). After you confirm this choice, the system will suspend the account for a period of time equal to the length of the access code they purchased (6 weeks, 11, weeks, 18 weeks, etc.). At the end of this period you will be able to reactivate the account (above, Sec. A.11.2), and you will have the full subscription length originally purchased.

NOTE. Be sure to reactivate your suspended account in a timely way. If you do not reactivate the account within a certain period of time following the end of the normal suspension period, it will reactivate automatically and its time will begin to run, whether or not you are using it.

Cancel Suspension. Should you suspend your account by mistake and then need it to be reactivated before the end of the normal suspension period, you will need to contact ALEKS Customer Support. If the suspension is cancelled, the time remaining for the

access code will be recalculated from the original start date. Note that the Suspend feature can only be used once per account.

A.11.4 Leave of Absence

In contrast to the Suspend feature, the Leave of Absence feature applies only to 2-semester (40 week), 3-quarter (also 40 weeks), and 52-week access codes; it takes effect automatically after a certain number of weeks have passed since the account was activated.

First Notification

20 weeks after the access code was used to activate the account, you will receive a one-week warning. The leave will begin automatically 21 weeks after the account was activated.

Second Notification

When you log in after the 21st week, you will see another message informing you that the account is on hold and giving the date on which the account will automatically resume if it is not manually reactivated.

If you choose to resume using the account prior to the automatic reactivation date (above, "Reactivate Accounts," Sec. A.11.2), you will be given access for the time remaining on the access code.

A.12 QuickTables

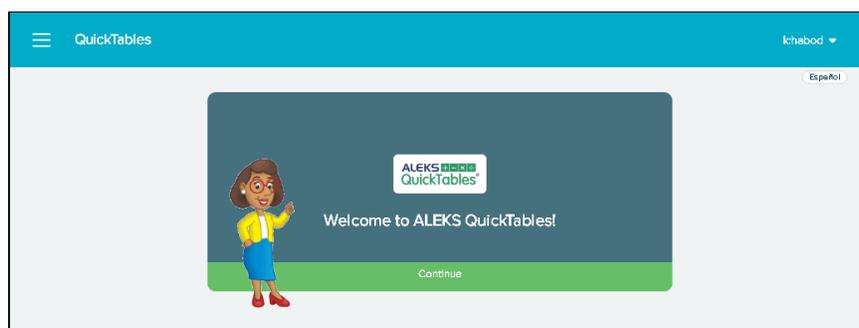


Figure A.18: ALEKS QuickTables

QuickTables is a special tool in ALEKS for learning the math facts of Addition, Subtraction, Multiplication, and Division. It is available where needed as a component in ALEKS classes.

When you log in to an ALEKS class where QuickTables is enabled, you will see the **QuickTables** link in the Main Navigation Menu. Clicking on this link will switch you into the QuickTables environment (Fig. A.18).

The first time you use QuickTables, you will have a short training session before starting to practice. The purpose of the training is to make sure that you are comfortable typing and entering numbers in ALEKS. There will be a series of quick drills in which you are asked to type numbers that appear on the screen. If you make a mistake, QuickTables will stop to let you correct it. You can enter the numbers by pressing either your computer's Enter key or the Space bar (the long bar at the bottom of the keyboard).

You will need to enter the numbers quickly; QuickTables wants you to learn the math facts so well that you can answer easily and smoothly. If you prefer to click numbers using the onscreen keypad, contact your instructor to turn on this feature.

After this training, you will begin a Knowledge Check of what you know now about the math facts. Do not be anxious about this Knowledge Check; just relax and do your best. The results of the Knowledge Check will tell QuickTables where you should start off in your math facts table. **This Initial Knowledge Check must be finished in one login session. Logging out before it is complete will require restarting the test.**

You may have more than one table set up. If so, you will see different tabs on your screen with the names of the tables: Addition, Subtraction, Multiplication, Division. Simply click on the tab for the table you wish to work in. You will need to take a brief Knowledge Check when you first start working in any table.

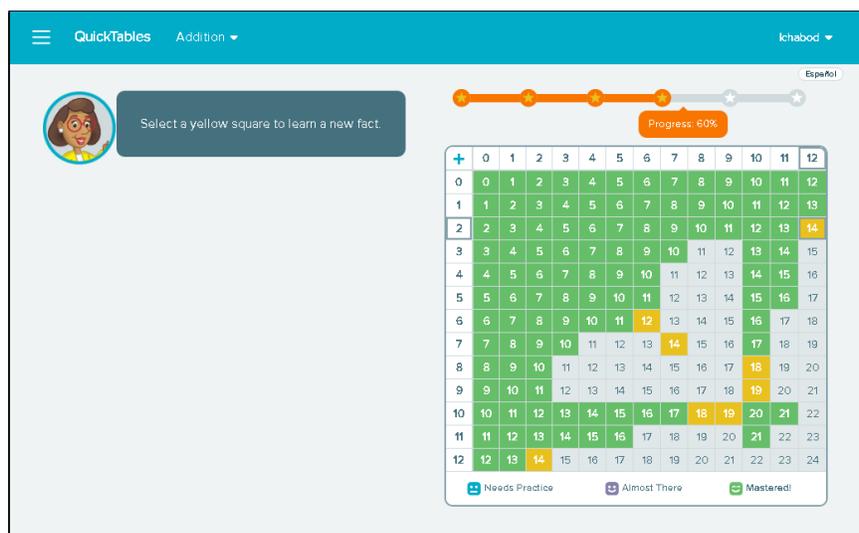


Figure A.19: QuickTables Learning Display

Once you finish the test, you will see a colored display that shows all the facts in the table (Fig. A.19). The colors in the cells show whether you have learned that fact, and

how well you know it. In general, you will see that the colors fill in through the table diagonally, from the top left corner down. The **hardest** facts are the ones you get to last, in the lower right-hand corner.

Above the table is a Progress bar that gives your overall percentage of the table. Notice that there are gold stars on the bar. Every time you reach one of these stars, there will be a new game for you to play. You earn access to the games by the progress that you make filling in your table. Any time you want to play a game that you have earned, click on the **Games** link top right. These are fun games that give you extra practice on the math facts that you have been learning.

NOTE. You will only be able to use QuickTables for a certain amount of time on any day, and only a certain number of times per week. These limits are set for the best possible progress in learning and remembering math facts.

Appendix B

Syllabi in ALEKS

B.1 Basic Math

Whole Numbers

arith124 Whole number place value: Problem type 1
arith125 Whole number place value: Problem type 2
arith066 Expanded form
arith643 Expanded form with zeros
arith028 Numeral translation: Problem type 1
arith060 Numeral translation: Problem type 2
arith633 One-digit addition with carry
arith634 Addition of 3 or 4 one-digit numbers
arith001 Addition without carry
arith635 Adding a 2-digit number and a 1-digit number with carry
arith050 Addition with carry
arith630 Addition with carry to the hundreds place
arith012 Addition of large numbers
arith636 Subtracting a 1-digit number from a 2-digit number
arith007 Subtraction without borrowing
arith128 Adding or subtracting 10, 100, or 1000
arith006 Subtraction with borrowing
arith682 Subtraction with multiple regrouping steps
arith637 Subtraction and regrouping with zeros
arith613 Word problem with addition or subtraction of whole numbers
arith655 Introduction to properties of addition
arith126 Multiplication as repeated addition
arith008 One-digit multiplication
arith679 Multiplication by 10, 100, and 1000
arith003 Multiplication without carry
arith004 Multiplication with carry
arith632 Multiplication with trailing zeros: Problem type 1
arith615 Introduction to multiplication of large numbers
arith638 Multiplication with trailing zeros: Problem type 2
arith014 Multiplication of large numbers
arith641 Multiples: Problem type 1
arith642 Multiples: Problem type 2
arith656 Introduction to properties of multiplication
arith075 Division facts
arith614 Word problem with multiplication or division of whole numbers
arith130 Word problem with multiplication and addition or subtraction of whole numbers

arith243 Division of whole numbers given in fractional form
 arith711 Division involving zero
 arith052 Division without carry
 arith005 Division with carry
 arith680 Division with trailing zeros: Problem type 1
 arith649 Division with trailing zeros: Problem type 2
 arith616 Quotient and remainder: Problem type 1
 arith644 Word problem on quotient and remainder
 arith617 Quotient and remainder: Problem type 2
 arith631 Quotient and remainder: Problem type 3
 arith650 Division involving quotients with intermediate zeros
 arith023 Word problem with division of whole numbers and rounding
 arith651 Introduction to inequalities
 arith077 Ordering large numbers
 arith078 Rounding to tens or hundreds
 arith123 Rounding to hundreds or thousands
 arith061 Rounding to thousands, ten thousands, or hundred thousands
 arith101 Estimating a sum of whole numbers
 arith102 Estimating a difference of whole numbers
 arith604 Estimating a product or quotient of whole numbers
 arith692 Writing expressions using exponents
 arith233 Introduction to exponents
 arith683 Power of 10: Positive exponent
 arith645 Introduction to parentheses
 arith681 Introduction to order of operations
 arith048 Order of operations with whole numbers
 arith051 Order of operations with whole numbers and grouping symbols
 arith693 Order of operations with whole numbers and exponents: Basic
 arith713 Order of operations with whole numbers and exponents: Advanced
 arith657 Understanding the distributive property
 arith646 Even and odd numbers
 arith647 Divisibility rules for 2, 5, and 10
 arith648 Divisibility rules for 3 and 9
 arith056 Factors
 arith034 Prime numbers
 arith035 Prime factorization
 arith033 Greatest common factor of 2 numbers
 arith070 Least common multiple of 2 numbers
 arith804 Least common multiple of 3 numbers
 arith240 Word problem with common multiples
 alge925 Finding the next terms of an arithmetic sequence with whole numbers
 alge933 Finding the next terms of a geometric sequence with whole numbers
 alge732 Finding patterns in shapes
 alge284 Evaluating an algebraic expression: Whole number addition or subtraction
 alge683 Evaluating an algebraic expression: Whole number multiplication or division
 alge285 Evaluating an algebraic expression: Whole numbers with two operations
 alge009 Additive property of equality with whole numbers
 alge008 Multiplicative property of equality with whole numbers
 alge803 Using two steps to solve an equation with whole numbers

Fractions

arith623 Introduction to fractions
 arith665 Understanding equivalent fractions
 arith212 Equivalent fractions
 arith666 Introduction to simplifying a fraction
 arith067 Simplifying a fraction
 arith687 Fractional position on a number line
 arith667 Plotting fractions on a number line
 arith044 Ordering fractions with the same denominator

arith091 Ordering fractions with the same numerator
arith092 Using a common denominator to order fractions
arith079 Product of a unit fraction and a whole number
arith086 Product of a fraction and a whole number: Problem type 1
arith119 Introduction to fraction multiplication
arith053 Fraction multiplication
arith812 Product of a fraction and a whole number: Problem type 2
arith813 Multiplication of 3 fractions
arith818 Word problem involving fractions and multiplication
arith095 Multi-step word problem involving fractions and multiplication
arith088 The reciprocal of a number
arith694 Division involving a whole number and a fraction
arith022 Fraction division
arith819 Word problem involving fractions and division
arith618 Addition or subtraction of fractions with the same denominator
arith802 Addition or subtraction of fractions with the same denominator and simplification
arith801 Finding the LCD of two fractions
arith109 Addition or subtraction of unit fractions
arith664 Introduction to addition or subtraction of fractions with different denominators
arith230 Addition or subtraction of fractions with different denominators
arith803 Addition and subtraction of 3 fractions with different denominators
arith805 Word problem involving addition or subtraction of fractions with different denominators
arith100 Fractional part of a circle
arith662 Writing a mixed number and an improper fraction for a shaded region
arith015 Writing an improper fraction as a mixed number
arith619 Writing a mixed number as an improper fraction
arith215 Addition or subtraction of mixed numbers with the same denominator
arith084 Addition of mixed numbers with the same denominator and carry
arith216 Subtraction of mixed numbers with the same denominator and borrowing
arith806 Addition or subtraction of mixed numbers with different denominators and no carry or borrow
arith808 Addition of mixed numbers with different denominators and carry
arith809 Subtraction of mixed numbers with different denominators and borrowing
arith807 Addition and subtraction of 3 mixed numbers with different denominators
arith810 Word problem involving addition or subtraction of mixed numbers with different denominators
arith815 Mixed number multiplication
arith816 Multiplication of a mixed number and a whole number
arith817 Division with a mixed number and a whole number
arith068 Mixed number division
arith820 Word problem involving multiplication or division with mixed numbers
arith821 Exponents and fractions
arith859 Order of operations with fractions: Problem type 1
arith860 Order of operations with fractions: Problem type 2
arith861 Order of operations with fractions: Problem type 3
arith695 Complex fraction without variables: Problem type 1

Decimals

arith127 Writing a decimal and a fraction for a shaded region
arith110 Decimal place value: Tenths and hundredths
arith220 Decimal place value: Hundreds to ten thousandths
arith714 Writing a decimal number less than 1 given its name
arith715 Writing a decimal number greater than 1 given its name
arith716 Writing a decimal number given its name: Advanced
arith829 Reading decimal position on a number line: Tenths
arith830 Reading decimal position on a number line: Hundredths
arith831 Understanding decimal position on a number line using zoom: Hundredths
arith832 Understanding decimal position on a number line using zoom: Thousandths
arith129 Introduction to ordering decimals
arith608 Ordering decimals
arith221 Rounding decimals

arith717 Converting a decimal to a proper fraction without simplifying: Basic
 arith719 Converting a decimal to a proper fraction without simplifying: Advanced
 arith718 Converting a decimal to a proper fraction in simplest form: Basic
 arith087 Converting a decimal to a proper fraction in simplest form: Advanced
 arith721 Converting a decimal to a mixed number and an improper fraction without simplifying
 arith722 Converting a decimal to a mixed number and an improper fraction in simplest form: Basic
 arith724 Converting a decimal to a mixed number and an improper fraction in simplest form: Advanced
 arith624 Addition of aligned decimals
 arith013 Decimal addition with 3 numbers
 arith734 Subtraction of aligned decimals
 arith735 Decimal subtraction: Basic
 arith736 Decimal subtraction: Advanced
 arith737 Decimal addition and subtraction with 3 or more numbers
 arith131 Estimating a decimal sum or difference
 arith132 Word problem with addition or subtraction of 2 decimals
 arith133 Word problem with addition of 3 or 4 decimals and whole numbers
 arith134 Word problem with subtraction of a whole number and a decimal: Regrouping with zeros
 arith739 Introduction to decimal multiplication
 arith017 Multiplication of a decimal by a whole number
 arith055 Decimal multiplication: Problem type 1
 arith046 Decimal multiplication: Problem type 2
 arith082 Multiplication of a decimal by a power of ten
 arith738 Multiplication of a decimal by a power of 0.1
 arith740 Multiplication of decimals that have a product less than 0.1
 arith752 Estimating a product of decimals
 arith135 Word problem with multiplication of a decimal and a whole number
 arith137 Word problem with multiplication of two decimals
 arith224 Word problem with decimal addition and multiplication
 arith744 Whole number division with decimal answers
 arith081 Division of a decimal by a whole number
 arith743 Division of a decimal by a 1-digit decimal
 arith019 Division of a decimal by a 2-digit decimal
 arith083 Division of a decimal by a power of ten
 arith742 Division of a decimal by a power of 0.1
 arith745 Decimal division with rounding
 arith136 Word problem with division of a decimal and a whole number
 arith138 Word problem with division of two decimals
 arith227 Word problem with decimal subtraction and division
 alge823 Solving a one-step word problem using the formula $d = rt$
 arith725 Converting a fraction with a denominator of 10 or 100 to a decimal
 arith726 Converting a fraction with a denominator of 100 or 1000 to a decimal
 arith609 Ordering fractions and decimals
 arith727 Converting a fraction to a terminating decimal: Basic
 arith728 Converting a fraction to a terminating decimal: Advanced
 arith730 Converting a fraction to a repeating decimal: Basic
 arith731 Converting a fraction to a repeating decimal: Advanced
 arith733 Using a calculator to convert a fraction to a rounded decimal
 arith111 Converting a mixed number to a terminating decimal: Basic
 arith112 Converting a mixed number to a terminating decimal: Advanced
 arith732 Converting a fraction or mixed number to a rounded decimal
 arith753 Squaring decimal bases: Products greater than 0.1
 arith741 Exponents and decimals: Products less than 0.1
 arith720 Order of operations with decimals: Problem type 1
 arith746 Order of operations with decimals: Problem type 2
 arith747 Order of operations with decimals: Problem type 3
 arith748 Addition or subtraction with a decimal and a mixed number
 arith749 Multiplication with a decimal and a fraction

Ratios, Proportions, and Percents

arith823 Writing ratios using different notations

arith663 Writing ratios for real-world situations
 arith824 Simplifying a ratio of whole numbers: Problem type 1
 arith825 Simplifying a ratio of decimals
 arith827 Finding a unit price
 arith828 Computing unit prices to find the better buy
 arith064 Solving a word problem on proportions using a unit rate
 arith228 Word problem on unit rates associated with ratios of whole numbers: Decimal answers
 alge272 Solving a proportion of the form $x/a = b/c$
 arith610 Word problem on proportions: Problem type 1
 arith611 Word problem on proportions: Problem type 2
 alge063 Word problem on mixed number proportions
 arith045 Word problem with powers of ten
 arith836 Converting a fraction with a denominator of 100 to a percentage
 arith837 Converting a percentage to a fraction with a denominator of 100
 arith674 Finding the percentage of a grid that is shaded
 arith723 Introduction to converting a percentage to a decimal
 arith833 Introduction to converting a decimal to a percentage
 arith834 Converting between percentages and decimals
 arith841 Converting a mixed number percentage to a decimal
 arith835 Converting between percentages and decimals in a real-world situation
 arith090 Converting a percentage to a fraction in simplest form
 arith839 Converting a decimal percentage to a fraction
 arith838 Converting a fraction to a percentage: Denominator of 4, 5, or 10
 arith002 Converting a fraction to a percentage: Denominator of 20, 25, or 50
 arith843 Using a calculator to convert a fraction to a rounded percentage
 arith842 Converting a fraction to a percentage in a real-world situation
 arith840 Finding a percentage of a whole number
 arith030 Finding a percentage of a whole number without a calculator: Basic
 arith844 Finding a percentage of a whole number without a calculator: Advanced
 arith862 Applying the percent equation: Problem type 1
 arith863 Applying the percent equation: Problem type 2
 arith845 Finding a percentage of a total amount: Real-world situations
 arith846 Finding a percentage of a total amount without a calculator: Sales tax, commission, discount
 arith857 Estimating a tip without a calculator
 arith069 Writing a ratio as a percentage without a calculator
 mstat049 Computing a percentage from a table of values
 arith850 Finding the rate of a tax or commission
 arith849 Finding the total amount given the percentage of a partial amount
 arith852 Finding the multiplier to give a final amount after a percentage increase or decrease
 arith851 Finding the final amount given the original amount and a percentage increase or decrease
 arith847 Finding the sale price given the original price and percent discount
 arith074 Finding the sale price without a calculator given the original price and percent discount
 arith848 Finding the total cost including tax or markup
 arith855 Finding the original amount given the result of a percentage increase or decrease
 arith031 Finding the original price given the sale price and percent discount
 arith858 Finding the percentage increase or decrease: Basic
 arith225 Finding the percentage increase or decrease: Advanced
 arith232 Finding simple interest without a calculator
 arith853 Introduction to compound interest
 alge741 Finding the final amount in a word problem on compound interest
 arith854 Computing a percent mixture

Geometry

geom339 Perimeter of a polygon
 geom300 Perimeter of a square or a rectangle
 geom618 Perimeter of a polygon involving mixed numbers and fractions
 geom078 Sides of polygons having the same perimeter
 geom221 Finding the missing length in a figure
 geom353 Perimeter of a piecewise rectangular figure

geom358 Identifying parallel and perpendicular lines
geom349 Naming segments, rays, and lines
geom151 Measuring an angle with the protractor
geom152 Drawing an angle with the protractor
geom303 Acute, obtuse, and right angles
geom039 Finding supplementary and complementary angles
geom305 Identifying supplementary and vertical angles
geom304 Identifying corresponding and alternate angles
geom306 Acute, obtuse, and right triangles
geom307 Classifying scalene, isosceles, and equilateral triangles by side lengths or angles
geom001 Finding an angle measure of a triangle given two angles
geom908 Finding an angle measure for a triangle with an extended side
geom812 Finding an angle measure given extended triangles
geom813 Finding an angle measure given a triangle and parallel lines
geom361 Naming polygons
mstat042 Interpreting a Venn diagram of 2 sets
geom867 Identifying parallelograms, rectangles, and squares
geom310 Properties of quadrilaterals
geom532 Classifying parallelograms
geom019 Area of a square or a rectangle
geom866 Perimeter and area on a grid
geom620 Area of a rectangle involving fractions
geom619 Area of a rectangle involving mixed numbers and fractions
geom350 Distinguishing between the area and perimeter of a rectangle
geom351 Areas of rectangles with the same perimeter
geom217 Finding the side length of a rectangle given its perimeter or area
geom340 Area of a piecewise rectangular figure
geom142 Word problem involving the area between two rectangles
geom801 Area of a triangle
geom344 Area involving rectangles and triangles
geom022 Area of a parallelogram
geom023 Area of a trapezoid
geom347 Introduction to a circle: Diameter, radius, and chord
geom016 Circumference of a circle
geom301 Perimeter involving rectangles and circles
geom802 Circumference and area of a circle
geom302 Area involving rectangles and circles
geom036 Word problem involving the area between two concentric circles
geom214 Area involving inscribed figures
geom868 Classifying solids
geom348 Vertices, edges, and faces of a solid
geom830 Counting the cubes in a solid made of cubes
geom354 Volume of a rectangular prism made of unit cubes
geom311 Volume of a rectangular prism
geom505 Volume of a piecewise rectangular prism
geom090 Volume of a triangular prism
geom033 Volume of a pyramid
geom035 Volume of a cylinder
geom092 Word problem involving the rate of filling or emptying a cylinder
geom622 Volume of a cone
geom841 Volume of a sphere
geom219 Nets of solids
geom816 Side views of a solid made of cubes
geom031 Surface area of a cube or a rectangular prism
geom345 Surface area of a piecewise rectangular prism made of unit cubes
geom091 Surface area of a triangular prism
geom621 Surface area of a cylinder
geom842 Surface area of a sphere
arith016 Square root of a perfect square
arith763 Using a calculator to approximate a square root
arith602 Estimating a square root
arith601 Square root of a rational perfect square

alge407 Introduction to the Pythagorean Theorem
 geom044 Pythagorean Theorem
 alge408 Word problem involving the Pythagorean Theorem
 geom359 Identifying congruent shapes on a grid
 geom520 Identifying and naming congruent triangles
 geom360 Identifying similar or congruent shapes on a grid
 geom037 Similar polygons
 geom038 Similar right triangles
 geom337 Indirect measurement

Measurement

mstat059 Choosing U.S. Customary measurement units
 unit005 U.S. Customary unit conversion with whole number values
 mstat035 Conversions involving measurements in feet and inches
 mstat036 Adding measurements in feet and inches
 unit006 U.S. Customary unit conversion with whole number values: Two-step conversion
 unit007 U.S. Customary unit conversion with mixed number values: One-step conversion
 unit008 U.S. Customary unit conversion with mixed number values: Two-step conversion
 unit009 U.S. Customary area unit conversion with whole number values
 mstat060 Choosing metric measurement units
 unit001 Metric distance conversion with whole number values
 unit002 Metric mass or capacity conversion with whole number values
 unit003 Metric distance conversion with decimal values
 unit004 Metric conversion with decimal values: Two-step problem
 unit010 Metric area unit conversion with decimal values
 unit012 Time unit conversion with whole number values
 time006 Adding time
 time007 Elapsed time
 arith063 Word problem with clocks
 mstat065 Converting between temperatures in Fahrenheit and Celsius
 arith826 Simplifying a ratio of whole numbers: Problem type 2
 unit034 Converting between metric and U.S. Customary unit systems
 unit035 Converting between compound units: Basic
 unit036 Converting between compound units: Advanced

Data Analysis and Statistics

mstat056 Interpreting a tally table
 mstat037 Constructing a line plot
 mstat005 Constructing a bar graph for non-numerical data
 mstat004 Constructing a histogram for numerical data
 mstat024 Interpreting a bar graph
 mstat044 Interpreting a double bar graph
 mstat057 Interpreting a pictograph table
 mstat007 Interpreting a line graph
 mstat031 Interpreting a stem-and-leaf plot
 stat804 Interpreting a circle graph or pie chart
 arith856 Finding a percentage of a total amount in a circle graph
 stat801 Computations from a circle graph
 geom814 Angle measure in a circle graph
 stat020 Calculating relative frequencies in a contingency table
 stat805 Making a reasonable inference based on proportion statistics
 mstat025 Finding if a question can be answered by the data
 mstat003 Mode of a data set
 mstat055 Finding the mode and range of a data set
 arith103 Average of two numbers
 mstat001 Mean of a data set

mstat028 Mean and median of a data set
 stat803 Finding the value for a new score that will yield a given mean
 mstat029 How changing a value affects the mean and median
 mstat053 Choosing the best measure to describe data
 stat802 Rejecting unreasonable claims based on average statistics
 mstat066 Weighted mean
 mstat027 Using back-to-back stem-and-leaf plots to compare data sets
 mstat072 Five-number summary and interquartile range
 mstat006 Constructing a box-and-whisker plot
 mstat073 Using box-and-whisker plots to compare data sets
 mstat043 Interpreting a Venn diagram of 3 sets
 mstat041 Interpreting a tree diagram
 mstat040 Introduction to the counting principle
 mstat015 Counting principle
 pcalc082 Factorial expressions
 mstat017 Computing permutations and combinations
 mstat008 Word problem involving permutations
 mstat009 Word problem involving combinations
 mstat026 Introduction to the probability of an event
 mstat010 Probability of an event
 mstat039 Understanding likelihood
 mstat048 Odds of an event
 stat106 Outcomes and event probability
 stat112 Probabilities involving two dice
 mstat011 Area as probability
 mstat046 Experimental and theoretical probability
 mstat047 Introduction to expectation
 mstat012 Probability of independent events
 mstat013 Probability of dependent events
 mstat032 Probability of the union of two events

Real Numbers

alge286 Plotting integers on a number line
 arith605 Plotting rational numbers on a number line
 mstat038 Reading the temperature from a thermometer
 arith699 Writing a signed number for a real-world situation
 arith691 Ordering integers
 arith712 Ordering real numbers
 arith071 Absolute value of a number
 arith200 Integer addition: Problem type 1
 arith108 Integer addition: Problem type 2
 arith688 Integer subtraction: Problem type 1
 arith689 Integer subtraction: Problem type 2
 arith690 Integer subtraction: Problem type 3
 arith754 Addition and subtraction with 3 integers
 arith755 Addition and subtraction with 4 or 5 integers
 arith701 Word problem with addition or subtraction of integers
 arith231 Integer multiplication and division
 arith800 Multiplication of 3 or 4 integers
 alge001 Identifying numbers as integers or non-integers
 alge002 Identifying numbers as rational or irrational
 arith116 Signed fraction addition or subtraction: Basic
 arith864 Signed fraction subtraction involving double negation
 arith106 Signed fraction addition or subtraction: Advanced
 arith811 Addition and subtraction of 3 fractions involving signs
 arith822 Signed fraction multiplication: Basic
 arith105 Signed fraction multiplication: Advanced
 arith814 Signed fraction division
 arith117 Signed decimal addition and subtraction

arith234 Signed decimal addition and subtraction with 3 numbers
 arith750 Signed decimal multiplication
 arith751 Signed decimal division
 arith104 Operations with absolute value: Problem type 2
 unit052 Finding the absolute error and percent error of a measurement
 arith702 Exponents and integers: Problem type 1
 arith703 Exponents and integers: Problem type 2
 arith704 Exponents and signed fractions
 arith118 Order of operations with integers
 arith600 Order of operations with integers and exponents
 arith696 Complex fraction without variables: Problem type 2
 arith036 Scientific notation with positive exponent
 arith037 Scientific notation with negative exponent
 scinot012 Converting between scientific notation and standard form in a real-world situation

Algebraic Expressions and Equations

alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge808 Evaluating a linear expression: Signed fraction multiplication with addition or subtraction
 alge302 Evaluating a linear expression: Signed decimal addition and subtraction
 alge303 Evaluating a linear expression: Signed decimal multiplication with addition or subtraction
 alge832 Evaluating an algebraic expression: Whole number operations and exponents
 alge004 Evaluating a quadratic expression: Integers
 alge310 Multiplying a constant and a linear monomial
 alge606 Distributive property: Whole number coefficients
 alge604 Distributive property: Integer coefficients
 alge700 Combining like terms: Whole number coefficients
 alge607 Combining like terms: Integer coefficients
 alge608 Using distribution and combining like terms to simplify: Univariate
 alge609 Using distribution with double negation and combining like terms to simplify: Multivariate
 alge293 Combining like terms in a quadratic expression
 alge432 Introduction to adding fractions with variables and common denominators
 alge436 Adding rational expressions with different denominators and a single occurrence of a variable
 alge437 Adding rational expressions with denominators ax and bx : Basic
 alge187 Properties of addition
 alge188 Properties of real numbers
 alge801 Additive property of equality with fractions and mixed numbers
 alge800 Additive property of equality with decimals
 alge010 Additive property of equality with integers
 alge836 Additive property of equality with signed fractions
 alge511 Solving for a variable in terms of other variables using addition or subtraction: Basic
 alge820 Multiplicative property of equality with fractions
 alge825 Multiplicative property of equality with decimals
 alge797 Multiplicative property of equality with integers
 alge012 Multiplicative property of equality with signed fractions
 alge513 Solving for a variable in terms of other variables using multiplication or division: Basic
 alge834 Identifying solutions to a linear equation in one variable: Two-step equations
 alge266 Additive property of equality with a negative coefficient
 alge006 Solving a two-step equation with integers
 alge200 Solving an equation to find the value of an expression
 alge920 Introduction to solving an equation with parentheses
 alge837 Solving a multi-step equation given in fractional form
 alge986 Identifying properties used to solve a linear equation
 alge824 Solving a two-step equation with signed decimals
 alge838 Introduction to solving an equation with variables on the same side
 alge862 Solving a linear equation with several occurrences of the variable: Variables on the same side
 alge863 Solving a linear equation with several occurrences of the variable: Variables on both sides
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution

alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
 alge420 Solving a linear equation with several occurrences of the variable: Fractional forms with monomial numerators
 alge208 Solving a two-step equation with signed fractions
 alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
 alge742 Solving equations with zero, one, or infinitely many solutions
 alge840 Solving a proportion of the form $(x+a)\div b = c\div d$
 alge271 Solving a proportion of the form $a/(x+b) = c/x$
 alge512 Solving for a variable in terms of other variables using addition or subtraction: Advanced
 alge733 Writing a one-step expression for a real-world situation
 alge831 Translating a phrase into a one-step expression
 alge291 Translating a phrase into a two-step expression
 alge016 Translating a sentence into a one-step equation
 alge841 Translating a sentence into a multi-step equation
 alge802 Solving a fraction word problem using a linear equation of the form $Ax = B$
 alge218 Solving a word problem involving rates and time conversion
 alge014 Solving a word problem with two unknowns using a linear equation
 alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
 alge219 Solving a decimal word problem using a linear equation with the variable on both sides
 alge704 Solving a fraction word problem using a linear equation with the variable on both sides
 alge842 Solving a word problem involving consecutive integers
 geom530 Solving equations involving vertical angles
 geom531 Solving equations involving angles and a pair of parallel lines
 geom623 Finding angle measures of a triangle given angles with variables
 geom502 Finding angle measures of a right or isosceles triangle given angles with variables
 geom817 Finding a side length given the perimeter and side lengths with variables
 geom143 Finding the perimeter or area of a rectangle given one of these values
 geom218 Finding the radius or the diameter of a circle given its circumference
 geom838 Circumference ratios

Inequalities

alge015 Translating a sentence by using an inequality symbol
 alge017 Graphing a linear inequality on the number line
 alge822 Writing an inequality given a graph on the number line
 alge845 Translating a sentence into a one-step inequality
 alge846 Translating a sentence into a multi-step inequality
 alge748 Writing an inequality for a real-world situation
 alge844 Identifying solutions to a two-step linear inequality in one variable
 alge848 Additive property of inequality with whole numbers
 alge849 Additive property of inequality with integers
 alge852 Additive property of inequality with signed fractions
 alge853 Additive property of inequality with signed decimals
 alge854 Multiplicative property of inequality with integers
 alge964 Multiplicative property of inequality with signed fractions
 alge855 Solving a two-step linear inequality: Problem type 1
 alge856 Solving a two-step linear inequality: Problem type 2

Graphs of Linear Equations

alge064 Reading a point in the coordinate plane
 alge067 Plotting a point in the coordinate plane
 alge850 Table for a linear equation
 alge873 Identifying solutions to a linear equation in two variables
 alge066 Finding a solution to a linear equation in two variables
 fun005 Writing a function rule given a table of ordered pairs: One-step rules

alge191 Midpoint of a line segment in the plane
 alge877 Graphing a linear equation of the form $y = mx$
 alge878 Graphing a line given its equation in slope-intercept form: Integer slope
 alge879 Graphing a line given its equation in slope-intercept form: Fractional slope
 alge880 Graphing a line given its equation in standard form
 alge198 Graphing a vertical or horizontal line
 alge884 Finding x - and y -intercepts given the graph of a line on a grid
 alge924 Finding x - and y -intercepts of a line given the equation: Basic
 alge210 Finding x - and y -intercepts of a line given the equation: Advanced
 alge197 Graphing a line given its x - and y -intercepts
 alge881 Graphing a line by first finding its x - and y -intercepts
 alge954 Graphing a parabola of the form $y = ax^2$
 alge875 Classifying slopes given graphs of lines
 alge886 Finding slope given the graph of a line on a grid
 alge887 Finding slope given two points on the line
 alge885 Finding the slope of horizontal and vertical lines
 alge888 Finding the coordinate that yields a given slope
 alge259 Graphing a line given its slope and y -intercept
 alge196 Graphing a line through a given point with a given slope
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 alge263 Interpreting the graphs of two functions
 alge060 Solving a rational equation that simplifies to linear: Denominator x
 alge982 Identifying direct variation equations
 alge938 Identifying direct variation from ordered pairs and writing equations
 alge904 Writing a direct variation equation
 alge175 Word problem on direct variation
 alge828 Interpreting direct variation from a graph
 alge905 Writing an inverse variation equation
 alge903 Identifying direct and inverse variation equations
 alge902 Identifying direct and inverse variation from ordered pairs and writing equations
 alge176 Word problem on inverse variation

Exponents and Polynomials

alge758 Degree and leading coefficient of a univariate polynomial
 alge798 Simplifying a sum or difference of two univariate polynomials
 alge029 Simplifying a sum or difference of three univariate polynomials
 alge932 Simplifying a sum or difference of multivariate polynomials
 alge821 Understanding the product rule of exponents
 alge024 Introduction to the product rule of exponents
 alge311 Product rule with positive exponents: Univariate
 alge030 Product rule with positive exponents: Multivariate
 alge826 Understanding the power rules of exponents
 alge306 Introduction to the power of a power rule of exponents
 alge305 Introduction to the power of a product rule of exponents
 alge307 Power rules with positive exponents: Multivariate products
 alge308 Power rules with positive exponents: Multivariate quotients
 alge756 Power and product rules with positive exponents
 arith029 Ordering numbers with positive exponents
 alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
 alge972 Multiplying a univariate polynomial by a monomial with a negative coefficient
 alge835 Multiplying a multivariate polynomial by a monomial
 alge033 Multiplying binomials with leading coefficients of 1
 alge983 Multiplying binomials with leading coefficients greater than 1
 alge765 Multiplying binomials in two variables
 alge764 Multiplying conjugate binomials: Univariate
 alge081 Multiplying conjugate binomials: Multivariate
 alge032 Squaring a binomial: Univariate
 alge068 Squaring a binomial: Multivariate
 alge935 Multiplication involving binomials and trinomials in one variable

alge180 Multiplication involving binomials and trinomials in two variables
 alge736 Introduction to the GCF of two monomials
 alge037 Greatest common factor of two multivariate monomials
 alge930 Greatest common factor of three univariate monomials
 alge737 Introduction to the LCM of two monomials
 alge055 Least common multiple of two monomials
 alge605 Factoring a linear binomial
 alge738 Factoring out a monomial from a polynomial: Univariate
 alge739 Factoring out a monomial from a polynomial: Multivariate
 alge451 Simplifying a ratio of multivariate monomials: Basic
 alge827 Introduction to the quotient rule of exponents
 alge452 Simplifying a ratio of univariate monomials
 alge026 Quotient of expressions involving exponents
 alge453 Simplifying a ratio of multivariate monomials: Advanced
 alge790 Evaluating expressions with exponents of zero
 arith684 Power of 10: Negative exponent
 arith729 Evaluating an expression with a negative exponent: Whole number base
 arith042 Evaluating an expression with a negative exponent: Positive fraction base
 arith043 Evaluating an expression with a negative exponent: Negative integer base
 alge791 Rewriting an algebraic expression without a negative exponent
 alge961 Introduction to the product rule with negative exponents
 alge028 Product rule with negative exponents
 alge025 Power of a power rule with negative exponents
 alge799 Power rules with negative exponents
 alge755 Quotient rule with negative exponents: Problem type 1
 scinot008 Multiplying numbers written in scientific notation: Basic
 scinot009 Multiplying numbers written in scientific notation: Advanced
 scinot010 Dividing numbers written in scientific notation: Basic
 scinot011 Dividing numbers written in scientific notation: Advanced
 alge413 Finding all square roots of a number
 arith093 Simplifying the square root of a whole number less than 100
 arith762 Simplifying the square root of a whole number greater than 100
 arith764 Introduction to square root multiplication
 arith765 Square root multiplication: Basic
 arith767 Introduction to square root addition or subtraction
 arith032 Square root addition or subtraction
 alge533 Square root addition or subtraction with three terms

B.2 Pre-Algebra

Whole Numbers

arith124 Whole number place value: Problem type 1
 arith125 Whole number place value: Problem type 2
 arith066 Expanded form
 arith643 Expanded form with zeros
 arith028 Numeral translation: Problem type 1
 arith060 Numeral translation: Problem type 2
 arith633 One-digit addition with carry
 arith634 Addition of 3 or 4 one-digit numbers
 arith001 Addition without carry
 arith635 Adding a 2-digit number and a 1-digit number with carry
 arith050 Addition with carry
 arith630 Addition with carry to the hundreds place
 arith012 Addition of large numbers
 arith636 Subtracting a 1-digit number from a 2-digit number
 arith007 Subtraction without borrowing
 arith128 Adding or subtracting 10, 100, or 1000

arith006 Subtraction with borrowing
 arith682 Subtraction with multiple regrouping steps
 arith637 Subtraction and regrouping with zeros
 arith613 Word problem with addition or subtraction of whole numbers
 arith655 Introduction to properties of addition
 arith126 Multiplication as repeated addition
 arith008 One-digit multiplication
 arith679 Multiplication by 10, 100, and 1000
 arith003 Multiplication without carry
 arith004 Multiplication with carry
 arith632 Multiplication with trailing zeros: Problem type 1
 arith615 Introduction to multiplication of large numbers
 arith638 Multiplication with trailing zeros: Problem type 2
 arith014 Multiplication of large numbers
 arith641 Multiples: Problem type 1
 arith642 Multiples: Problem type 2
 arith656 Introduction to properties of multiplication
 arith075 Division facts
 arith614 Word problem with multiplication or division of whole numbers
 arith130 Word problem with multiplication and addition or subtraction of whole numbers
 arith243 Division of whole numbers given in fractional form
 arith711 Division involving zero
 arith052 Division without carry
 arith005 Division with carry
 arith680 Division with trailing zeros: Problem type 1
 arith649 Division with trailing zeros: Problem type 2
 arith616 Quotient and remainder: Problem type 1
 arith644 Word problem on quotient and remainder
 arith617 Quotient and remainder: Problem type 2
 arith631 Quotient and remainder: Problem type 3
 arith650 Division involving quotients with intermediate zeros
 arith023 Word problem with division of whole numbers and rounding
 arith646 Even and odd numbers
 arith651 Introduction to inequalities
 arith077 Ordering large numbers
 arith078 Rounding to tens or hundreds
 arith123 Rounding to hundreds or thousands
 arith061 Rounding to thousands, ten thousands, or hundred thousands
 arith101 Estimating a sum of whole numbers
 arith102 Estimating a difference of whole numbers
 arith604 Estimating a product or quotient of whole numbers
 arith692 Writing expressions using exponents
 arith233 Introduction to exponents
 arith683 Power of 10: Positive exponent
 arith645 Introduction to parentheses
 arith681 Introduction to order of operations
 arith048 Order of operations with whole numbers
 arith051 Order of operations with whole numbers and grouping symbols
 arith693 Order of operations with whole numbers and exponents: Basic
 arith713 Order of operations with whole numbers and exponents: Advanced
 arith657 Understanding the distributive property

Integers

alge286 Plotting integers on a number line
 mstat038 Reading the temperature from a thermometer
 arith699 Writing a signed number for a real-world situation
 arith691 Ordering integers
 arith071 Absolute value of a number
 arith200 Integer addition: Problem type 1

arith108 Integer addition: Problem type 2
 arith688 Integer subtraction: Problem type 1
 arith689 Integer subtraction: Problem type 2
 arith690 Integer subtraction: Problem type 3
 arith754 Addition and subtraction with 3 integers
 arith755 Addition and subtraction with 4 or 5 integers
 arith701 Word problem with addition or subtraction of integers
 arith104 Operations with absolute value: Problem type 2
 arith231 Integer multiplication and division
 arith800 Multiplication of 3 or 4 integers
 arith702 Exponents and integers: Problem type 1
 arith703 Exponents and integers: Problem type 2
 arith118 Order of operations with integers
 arith600 Order of operations with integers and exponents

Algebraic Expressions and Equations

alge284 Evaluating an algebraic expression: Whole number addition or subtraction
 alge683 Evaluating an algebraic expression: Whole number multiplication or division
 alge285 Evaluating an algebraic expression: Whole numbers with two operations
 alge832 Evaluating an algebraic expression: Whole number operations and exponents
 alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge004 Evaluating a quadratic expression: Integers
 alge310 Multiplying a constant and a linear monomial
 alge606 Distributive property: Whole number coefficients
 alge604 Distributive property: Integer coefficients
 alge700 Combining like terms: Whole number coefficients
 alge607 Combining like terms: Integer coefficients
 alge608 Using distribution and combining like terms to simplify: Univariate
 alge609 Using distribution with double negation and combining like terms to simplify: Multivariate
 alge293 Combining like terms in a quadratic expression
 alge009 Additive property of equality with whole numbers
 alge010 Additive property of equality with integers
 alge511 Solving for a variable in terms of other variables using addition or subtraction: Basic
 alge008 Multiplicative property of equality with whole numbers
 alge797 Multiplicative property of equality with integers
 alge513 Solving for a variable in terms of other variables using multiplication or division: Basic
 alge834 Identifying solutions to a linear equation in one variable: Two-step equations
 alge803 Using two steps to solve an equation with whole numbers
 alge266 Additive property of equality with a negative coefficient
 alge006 Solving a two-step equation with integers
 alge200 Solving an equation to find the value of an expression
 alge920 Introduction to solving an equation with parentheses
 alge838 Introduction to solving an equation with variables on the same side
 alge862 Solving a linear equation with several occurrences of the variable: Variables on the same side
 alge863 Solving a linear equation with several occurrences of the variable: Variables on both sides
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge986 Identifying properties used to solve a linear equation
 alge742 Solving equations with zero, one, or infinitely many solutions
 alge512 Solving for a variable in terms of other variables using addition or subtraction: Advanced
 alge733 Writing a one-step expression for a real-world situation
 alge831 Translating a phrase into a one-step expression
 alge291 Translating a phrase into a two-step expression
 alge016 Translating a sentence into a one-step equation
 alge841 Translating a sentence into a multi-step equation
 alge014 Solving a word problem with two unknowns using a linear equation
 alge842 Solving a word problem involving consecutive integers

Fractions

arith647 Divisibility rules for 2, 5, and 10
arith648 Divisibility rules for 3 and 9
arith056 Factors
arith034 Prime numbers
arith035 Prime factorization
arith033 Greatest common factor of 2 numbers
arith070 Least common multiple of 2 numbers
arith804 Least common multiple of 3 numbers
arith240 Word problem with common multiples
alge925 Finding the next terms of an arithmetic sequence with whole numbers
alge933 Finding the next terms of a geometric sequence with whole numbers
alge732 Finding patterns in shapes
arith623 Introduction to fractions
arith665 Understanding equivalent fractions
arith212 Equivalent fractions
arith666 Introduction to simplifying a fraction
arith067 Simplifying a fraction
alge451 Simplifying a ratio of multivariate monomials: Basic
arith687 Fractional position on a number line
arith667 Plotting fractions on a number line
arith044 Ordering fractions with the same denominator
arith091 Ordering fractions with the same numerator
arith092 Using a common denominator to order fractions
arith079 Product of a unit fraction and a whole number
arith086 Product of a fraction and a whole number: Problem type 1
arith119 Introduction to fraction multiplication
arith053 Fraction multiplication
arith812 Product of a fraction and a whole number: Problem type 2
arith813 Multiplication of 3 fractions
arith822 Signed fraction multiplication: Basic
arith105 Signed fraction multiplication: Advanced
arith818 Word problem involving fractions and multiplication
arith095 Multi-step word problem involving fractions and multiplication
arith088 The reciprocal of a number
arith694 Division involving a whole number and a fraction
arith022 Fraction division
arith814 Signed fraction division
arith819 Word problem involving fractions and division
arith618 Addition or subtraction of fractions with the same denominator
arith802 Addition or subtraction of fractions with the same denominator and simplification
alge432 Introduction to adding fractions with variables and common denominators
arith801 Finding the LCD of two fractions
arith109 Addition or subtraction of unit fractions
arith664 Introduction to addition or subtraction of fractions with different denominators
arith230 Addition or subtraction of fractions with different denominators
arith803 Addition and subtraction of 3 fractions with different denominators
arith116 Signed fraction addition or subtraction: Basic
arith864 Signed fraction subtraction involving double negation
arith106 Signed fraction addition or subtraction: Advanced
arith811 Addition and subtraction of 3 fractions involving signs
alge436 Adding rational expressions with different denominators and a single occurrence of a variable
alge437 Adding rational expressions with denominators ax and bx : Basic
arith805 Word problem involving addition or subtraction of fractions with different denominators
arith100 Fractional part of a circle
arith662 Writing a mixed number and an improper fraction for a shaded region
arith015 Writing an improper fraction as a mixed number
arith619 Writing a mixed number as an improper fraction
arith605 Plotting rational numbers on a number line
arith215 Addition or subtraction of mixed numbers with the same denominator
arith084 Addition of mixed numbers with the same denominator and carry

arith216 Subtraction of mixed numbers with the same denominator and borrowing
 arith806 Addition or subtraction of mixed numbers with different denominators and no carry or borrow
 arith808 Addition of mixed numbers with different denominators and carry
 arith809 Subtraction of mixed numbers with different denominators and borrowing
 arith807 Addition and subtraction of 3 mixed numbers with different denominators
 arith810 Word problem involving addition or subtraction of mixed numbers with different denominators
 arith815 Mixed number multiplication
 arith816 Multiplication of a mixed number and a whole number
 arith817 Division with a mixed number and a whole number
 arith068 Mixed number division
 arith820 Word problem involving multiplication or division with mixed numbers
 arith821 Exponents and fractions
 arith704 Exponents and signed fractions
 arith859 Order of operations with fractions: Problem type 1
 arith860 Order of operations with fractions: Problem type 2
 arith861 Order of operations with fractions: Problem type 3
 alge808 Evaluating a linear expression: Signed fraction multiplication with addition or subtraction
 arith695 Complex fraction without variables: Problem type 1
 arith696 Complex fraction without variables: Problem type 2
 alge801 Additive property of equality with fractions and mixed numbers
 alge836 Additive property of equality with signed fractions
 alge820 Multiplicative property of equality with fractions
 alge012 Multiplicative property of equality with signed fractions
 alge837 Solving a multi-step equation given in fractional form
 alge208 Solving a two-step equation with signed fractions
 alge420 Solving a linear equation with several occurrences of the variable: Fractional forms with monomial numerators
 alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
 alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
 alge187 Properties of addition
 alge188 Properties of real numbers
 alge802 Solving a fraction word problem using a linear equation of the form $Ax = B$
 alge704 Solving a fraction word problem using a linear equation with the variable on both sides

Decimals

arith127 Writing a decimal and a fraction for a shaded region
 arith110 Decimal place value: Tenths and hundredths
 arith220 Decimal place value: Hundreds to ten thousandths
 arith714 Writing a decimal number less than 1 given its name
 arith715 Writing a decimal number greater than 1 given its name
 arith716 Writing a decimal number given its name: Advanced
 arith829 Reading decimal position on a number line: Tenths
 arith830 Reading decimal position on a number line: Hundredths
 arith831 Understanding decimal position on a number line using zoom: Hundredths
 arith832 Understanding decimal position on a number line using zoom: Thousandths
 arith129 Introduction to ordering decimals
 arith608 Ordering decimals
 arith221 Rounding decimals
 arith717 Converting a decimal to a proper fraction without simplifying: Basic
 arith719 Converting a decimal to a proper fraction without simplifying: Advanced
 arith718 Converting a decimal to a proper fraction in simplest form: Basic
 arith087 Converting a decimal to a proper fraction in simplest form: Advanced
 arith721 Converting a decimal to a mixed number and an improper fraction without simplifying
 arith722 Converting a decimal to a mixed number and an improper fraction in simplest form: Basic
 arith724 Converting a decimal to a mixed number and an improper fraction in simplest form: Advanced
 arith624 Addition of aligned decimals
 arith013 Decimal addition with 3 numbers

arith734 Subtraction of aligned decimals
arith735 Decimal subtraction: Basic
arith736 Decimal subtraction: Advanced
arith737 Decimal addition and subtraction with 3 or more numbers
arith117 Signed decimal addition and subtraction
arith234 Signed decimal addition and subtraction with 3 numbers
arith131 Estimating a decimal sum or difference
arith132 Word problem with addition or subtraction of 2 decimals
arith133 Word problem with addition of 3 or 4 decimals and whole numbers
arith134 Word problem with subtraction of a whole number and a decimal: Regrouping with zeros
arith739 Introduction to decimal multiplication
arith017 Multiplication of a decimal by a whole number
arith055 Decimal multiplication: Problem type 1
arith046 Decimal multiplication: Problem type 2
arith082 Multiplication of a decimal by a power of ten
arith738 Multiplication of a decimal by a power of 0.1
arith740 Multiplication of decimals that have a product less than 0.1
arith750 Signed decimal multiplication
arith752 Estimating a product of decimals
arith135 Word problem with multiplication of a decimal and a whole number
arith137 Word problem with multiplication of two decimals
arith224 Word problem with decimal addition and multiplication
arith744 Whole number division with decimal answers
arith081 Division of a decimal by a whole number
arith743 Division of a decimal by a 1-digit decimal
arith019 Division of a decimal by a 2-digit decimal
arith083 Division of a decimal by a power of ten
arith742 Division of a decimal by a power of 0.1
arith751 Signed decimal division
arith745 Decimal division with rounding
arith136 Word problem with division of a decimal and a whole number
arith138 Word problem with division of two decimals
arith227 Word problem with decimal subtraction and division
arith725 Converting a fraction with a denominator of 10 or 100 to a decimal
arith726 Converting a fraction with a denominator of 100 or 1000 to a decimal
arith609 Ordering fractions and decimals
arith727 Converting a fraction to a terminating decimal: Basic
arith728 Converting a fraction to a terminating decimal: Advanced
arith730 Converting a fraction to a repeating decimal: Basic
arith731 Converting a fraction to a repeating decimal: Advanced
arith733 Using a calculator to convert a fraction to a rounded decimal
arith111 Converting a mixed number to a terminating decimal: Basic
arith112 Converting a mixed number to a terminating decimal: Advanced
arith732 Converting a fraction or mixed number to a rounded decimal
arith753 Squaring decimal bases: Products greater than 0.1
arith741 Exponents and decimals: Products less than 0.1
arith720 Order of operations with decimals: Problem type 1
arith746 Order of operations with decimals: Problem type 2
arith747 Order of operations with decimals: Problem type 3
alge302 Evaluating a linear expression: Signed decimal addition and subtraction
alge303 Evaluating a linear expression: Signed decimal multiplication with addition or subtraction
arith748 Addition or subtraction with a decimal and a mixed number
arith749 Multiplication with a decimal and a fraction
alge800 Additive property of equality with decimals
alge825 Multiplicative property of equality with decimals
alge824 Solving a two-step equation with signed decimals
alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
alge219 Solving a decimal word problem using a linear equation with the variable on both sides
arith016 Square root of a perfect square
arith763 Using a calculator to approximate a square root
arith602 Estimating a square root
arith601 Square root of a rational perfect square

alge413 Finding all square roots of a number
 arith093 Simplifying the square root of a whole number less than 100
 arith762 Simplifying the square root of a whole number greater than 100
 arith764 Introduction to square root multiplication
 arith765 Square root multiplication: Basic
 arith767 Introduction to square root addition or subtraction
 arith032 Square root addition or subtraction
 alge533 Square root addition or subtraction with three terms
 alge001 Identifying numbers as integers or non-integers
 alge002 Identifying numbers as rational or irrational
 arith712 Ordering real numbers

Ratios, Proportions, and Percents

arith823 Writing ratios using different notations
 arith663 Writing ratios for real-world situations
 arith824 Simplifying a ratio of whole numbers: Problem type 1
 arith825 Simplifying a ratio of decimals
 arith827 Finding a unit price
 arith828 Computing unit prices to find the better buy
 arith064 Solving a word problem on proportions using a unit rate
 alge823 Solving a one-step word problem using the formula $d = rt$
 arith228 Word problem on unit rates associated with ratios of whole numbers: Decimal answers
 alge272 Solving a proportion of the form $x/a = b/c$
 alge840 Solving a proportion of the form $(x+a) \div b = c \div d$
 alge271 Solving a proportion of the form $a/(x+b) = c/x$
 arith610 Word problem on proportions: Problem type 1
 arith611 Word problem on proportions: Problem type 2
 alge063 Word problem on mixed number proportions
 arith045 Word problem with powers of ten
 arith836 Converting a fraction with a denominator of 100 to a percentage
 arith837 Converting a percentage to a fraction with a denominator of 100
 arith674 Finding the percentage of a grid that is shaded
 arith723 Introduction to converting a percentage to a decimal
 arith833 Introduction to converting a decimal to a percentage
 arith834 Converting between percentages and decimals
 arith841 Converting a mixed number percentage to a decimal
 arith835 Converting between percentages and decimals in a real-world situation
 arith090 Converting a percentage to a fraction in simplest form
 arith839 Converting a decimal percentage to a fraction
 arith838 Converting a fraction to a percentage: Denominator of 4, 5, or 10
 arith002 Converting a fraction to a percentage: Denominator of 20, 25, or 50
 arith843 Using a calculator to convert a fraction to a rounded percentage
 arith842 Converting a fraction to a percentage in a real-world situation
 arith840 Finding a percentage of a whole number
 arith030 Finding a percentage of a whole number without a calculator: Basic
 arith844 Finding a percentage of a whole number without a calculator: Advanced
 arith862 Applying the percent equation: Problem type 1
 arith863 Applying the percent equation: Problem type 2
 arith845 Finding a percentage of a total amount: Real-world situations
 arith846 Finding a percentage of a total amount without a calculator: Sales tax, commission, discount
 arith857 Estimating a tip without a calculator
 arith069 Writing a ratio as a percentage without a calculator
 mstat049 Computing a percentage from a table of values
 arith850 Finding the rate of a tax or commission
 arith849 Finding the total amount given the percentage of a partial amount
 arith852 Finding the multiplier to give a final amount after a percentage increase or decrease
 arith851 Finding the final amount given the original amount and a percentage increase or decrease
 arith847 Finding the sale price given the original price and percent discount
 arith074 Finding the sale price without a calculator given the original price and percent discount

arith848 Finding the total cost including tax or markup
 arith855 Finding the original amount given the result of a percentage increase or decrease
 arith031 Finding the original price given the sale price and percent discount
 arith858 Finding the percentage increase or decrease: Basic
 arith225 Finding the percentage increase or decrease: Advanced
 unit052 Finding the absolute error and percent error of a measurement
 arith232 Finding simple interest without a calculator
 arith853 Introduction to compound interest
 alge741 Finding the final amount in a word problem on compound interest
 arith854 Computing a percent mixture

Geometry

geom339 Perimeter of a polygon
 geom300 Perimeter of a square or a rectangle
 geom618 Perimeter of a polygon involving mixed numbers and fractions
 geom078 Sides of polygons having the same perimeter
 geom221 Finding the missing length in a figure
 geom353 Perimeter of a piecewise rectangular figure
 geom358 Identifying parallel and perpendicular lines
 geom349 Naming segments, rays, and lines
 geom151 Measuring an angle with the protractor
 geom152 Drawing an angle with the protractor
 geom303 Acute, obtuse, and right angles
 geom039 Finding supplementary and complementary angles
 geom305 Identifying supplementary and vertical angles
 geom530 Solving equations involving vertical angles
 geom304 Identifying corresponding and alternate angles
 geom531 Solving equations involving angles and a pair of parallel lines
 geom306 Acute, obtuse, and right triangles
 geom307 Classifying scalene, isosceles, and equilateral triangles by side lengths or angles
 geom001 Finding an angle measure of a triangle given two angles
 geom623 Finding angle measures of a triangle given angles with variables
 geom502 Finding angle measures of a right or isosceles triangle given angles with variables
 geom908 Finding an angle measure for a triangle with an extended side
 geom812 Finding an angle measure given extended triangles
 geom813 Finding an angle measure given a triangle and parallel lines
 geom361 Naming polygons
 mstat042 Interpreting a Venn diagram of 2 sets
 geom867 Identifying parallelograms, rectangles, and squares
 geom310 Properties of quadrilaterals
 geom532 Classifying parallelograms
 geom019 Area of a square or a rectangle
 geom866 Perimeter and area on a grid
 geom620 Area of a rectangle involving fractions
 geom619 Area of a rectangle involving mixed numbers and fractions
 geom350 Distinguishing between the area and perimeter of a rectangle
 geom351 Areas of rectangles with the same perimeter
 geom217 Finding the side length of a rectangle given its perimeter or area
 geom817 Finding a side length given the perimeter and side lengths with variables
 geom143 Finding the perimeter or area of a rectangle given one of these values
 geom340 Area of a piecewise rectangular figure
 geom142 Word problem involving the area between two rectangles
 geom801 Area of a triangle
 geom344 Area involving rectangles and triangles
 geom022 Area of a parallelogram
 geom023 Area of a trapezoid
 geom347 Introduction to a circle: Diameter, radius, and chord
 geom016 Circumference of a circle
 geom218 Finding the radius or the diameter of a circle given its circumference

geom838 Circumference ratios
 geom301 Perimeter involving rectangles and circles
 geom802 Circumference and area of a circle
 geom302 Area involving rectangles and circles
 geom036 Word problem involving the area between two concentric circles
 geom214 Area involving inscribed figures
 geom868 Classifying solids
 geom348 Vertices, edges, and faces of a solid
 geom830 Counting the cubes in a solid made of cubes
 geom354 Volume of a rectangular prism made of unit cubes
 geom311 Volume of a rectangular prism
 geom505 Volume of a piecewise rectangular prism
 geom090 Volume of a triangular prism
 geom033 Volume of a pyramid
 geom035 Volume of a cylinder
 geom092 Word problem involving the rate of filling or emptying a cylinder
 geom622 Volume of a cone
 geom841 Volume of a sphere
 geom219 Nets of solids
 geom816 Side views of a solid made of cubes
 geom031 Surface area of a cube or a rectangular prism
 geom345 Surface area of a piecewise rectangular prism made of unit cubes
 geom091 Surface area of a triangular prism
 geom621 Surface area of a cylinder
 geom842 Surface area of a sphere
 alge407 Introduction to the Pythagorean Theorem
 geom044 Pythagorean Theorem
 alge408 Word problem involving the Pythagorean Theorem
 geom359 Identifying congruent shapes on a grid
 geom520 Identifying and naming congruent triangles
 geom360 Identifying similar or congruent shapes on a grid
 geom037 Similar polygons
 geom038 Similar right triangles
 geom337 Indirect measurement

Measurement

mstat059 Choosing U.S. Customary measurement units
 unit005 U.S. Customary unit conversion with whole number values
 mstat035 Conversions involving measurements in feet and inches
 mstat036 Adding measurements in feet and inches
 unit006 U.S. Customary unit conversion with whole number values: Two-step conversion
 unit007 U.S. Customary unit conversion with mixed number values: One-step conversion
 unit008 U.S. Customary unit conversion with mixed number values: Two-step conversion
 unit009 U.S. Customary area unit conversion with whole number values
 mstat060 Choosing metric measurement units
 unit001 Metric distance conversion with whole number values
 unit002 Metric mass or capacity conversion with whole number values
 unit003 Metric distance conversion with decimal values
 unit004 Metric conversion with decimal values: Two-step problem
 unit010 Metric area unit conversion with decimal values
 unit012 Time unit conversion with whole number values
 time006 Adding time
 time007 Elapsed time
 arith063 Word problem with clocks
 mstat065 Converting between temperatures in Fahrenheit and Celsius
 arith826 Simplifying a ratio of whole numbers: Problem type 2
 alge218 Solving a word problem involving rates and time conversion
 unit034 Converting between metric and U.S. Customary unit systems
 unit035 Converting between compound units: Basic

unit036 Converting between compound units: Advanced

Statistics and Probability

mstat056 Interpreting a tally table
 mstat037 Constructing a line plot
 mstat005 Constructing a bar graph for non-numerical data
 mstat004 Constructing a histogram for numerical data
 mstat024 Interpreting a bar graph
 mstat044 Interpreting a double bar graph
 mstat057 Interpreting a pictograph table
 mstat007 Interpreting a line graph
 mstat031 Interpreting a stem-and-leaf plot
 stat804 Interpreting a circle graph or pie chart
 arith856 Finding a percentage of a total amount in a circle graph
 stat801 Computations from a circle graph
 geom814 Angle measure in a circle graph
 stat020 Calculating relative frequencies in a contingency table
 stat805 Making a reasonable inference based on proportion statistics
 mstat025 Finding if a question can be answered by the data
 mstat003 Mode of a data set
 mstat055 Finding the mode and range of a data set
 arith103 Average of two numbers
 mstat001 Mean of a data set
 mstat028 Mean and median of a data set
 stat803 Finding the value for a new score that will yield a given mean
 mstat029 How changing a value affects the mean and median
 mstat053 Choosing the best measure to describe data
 stat802 Rejecting unreasonable claims based on average statistics
 mstat066 Weighted mean
 mstat027 Using back-to-back stem-and-leaf plots to compare data sets
 mstat072 Five-number summary and interquartile range
 mstat006 Constructing a box-and-whisker plot
 mstat073 Using box-and-whisker plots to compare data sets
 mstat043 Interpreting a Venn diagram of 3 sets
 mstat041 Interpreting a tree diagram
 mstat040 Introduction to the counting principle
 mstat015 Counting principle
 pcalc082 Factorial expressions
 mstat017 Computing permutations and combinations
 mstat008 Word problem involving permutations
 mstat009 Word problem involving combinations
 mstat026 Introduction to the probability of an event
 mstat010 Probability of an event
 mstat039 Understanding likelihood
 mstat048 Odds of an event
 stat106 Outcomes and event probability
 stat112 Probabilities involving two dice
 mstat011 Area as probability
 mstat046 Experimental and theoretical probability
 mstat047 Introduction to expectation
 mstat012 Probability of independent events
 mstat013 Probability of dependent events
 mstat032 Probability of the union of two events

Graphs of Linear Equations

alge064 Reading a point in the coordinate plane
 alge067 Plotting a point in the coordinate plane

alge850 Table for a linear equation
 alge873 Identifying solutions to a linear equation in two variables
 alge066 Finding a solution to a linear equation in two variables
 fun005 Writing a function rule given a table of ordered pairs: One-step rules
 alge191 Midpoint of a line segment in the plane
 alge877 Graphing a linear equation of the form $y = mx$
 alge878 Graphing a line given its equation in slope-intercept form: Integer slope
 alge879 Graphing a line given its equation in slope-intercept form: Fractional slope
 alge880 Graphing a line given its equation in standard form
 alge198 Graphing a vertical or horizontal line
 alge884 Finding x - and y -intercepts given the graph of a line on a grid
 alge924 Finding x - and y -intercepts of a line given the equation: Basic
 alge210 Finding x - and y -intercepts of a line given the equation: Advanced
 alge197 Graphing a line given its x - and y -intercepts
 alge881 Graphing a line by first finding its x - and y -intercepts
 alge954 Graphing a parabola of the form $y = ax^2$
 alge875 Classifying slopes given graphs of lines
 alge886 Finding slope given the graph of a line on a grid
 alge887 Finding slope given two points on the line
 alge885 Finding the slope of horizontal and vertical lines
 alge888 Finding the coordinate that yields a given slope
 alge259 Graphing a line given its slope and y -intercept
 alge196 Graphing a line through a given point with a given slope
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 alge263 Interpreting the graphs of two functions
 alge060 Solving a rational equation that simplifies to linear: Denominator x
 alge982 Identifying direct variation equations
 alge938 Identifying direct variation from ordered pairs and writing equations
 alge904 Writing a direct variation equation
 alge175 Word problem on direct variation
 alge828 Interpreting direct variation from a graph
 alge905 Writing an inverse variation equation
 alge903 Identifying direct and inverse variation equations
 alge902 Identifying direct and inverse variation from ordered pairs and writing equations
 alge176 Word problem on inverse variation

Exponents and Polynomials

alge758 Degree and leading coefficient of a univariate polynomial
 alge798 Simplifying a sum or difference of two univariate polynomials
 alge029 Simplifying a sum or difference of three univariate polynomials
 alge932 Simplifying a sum or difference of multivariate polynomials
 alge821 Understanding the product rule of exponents
 alge024 Introduction to the product rule of exponents
 alge311 Product rule with positive exponents: Univariate
 alge030 Product rule with positive exponents: Multivariate
 alge826 Understanding the power rules of exponents
 alge306 Introduction to the power of a power rule of exponents
 alge305 Introduction to the power of a product rule of exponents
 alge307 Power rules with positive exponents: Multivariate products
 alge308 Power rules with positive exponents: Multivariate quotients
 alge756 Power and product rules with positive exponents
 arith029 Ordering numbers with positive exponents
 alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
 alge972 Multiplying a univariate polynomial by a monomial with a negative coefficient
 alge835 Multiplying a multivariate polynomial by a monomial
 alge033 Multiplying binomials with leading coefficients of 1
 alge983 Multiplying binomials with leading coefficients greater than 1
 alge765 Multiplying binomials in two variables
 alge764 Multiplying conjugate binomials: Univariate

alge081 Multiplying conjugate binomials: Multivariate
 alge032 Squaring a binomial: Univariate
 alge068 Squaring a binomial: Multivariate
 alge935 Multiplication involving binomials and trinomials in one variable
 alge180 Multiplication involving binomials and trinomials in two variables
 alge736 Introduction to the GCF of two monomials
 alge037 Greatest common factor of two multivariate monomials
 alge930 Greatest common factor of three univariate monomials
 alge737 Introduction to the LCM of two monomials
 alge055 Least common multiple of two monomials
 alge605 Factoring a linear binomial
 alge738 Factoring out a monomial from a polynomial: Univariate
 alge739 Factoring out a monomial from a polynomial: Multivariate
 alge827 Introduction to the quotient rule of exponents
 alge452 Simplifying a ratio of univariate monomials
 alge026 Quotient of expressions involving exponents
 alge453 Simplifying a ratio of multivariate monomials: Advanced
 alge790 Evaluating expressions with exponents of zero
 arith729 Evaluating an expression with a negative exponent: Whole number base
 arith684 Power of 10: Negative exponent
 arith042 Evaluating an expression with a negative exponent: Positive fraction base
 arith043 Evaluating an expression with a negative exponent: Negative integer base
 alge791 Rewriting an algebraic expression without a negative exponent
 alge961 Introduction to the product rule with negative exponents
 alge028 Product rule with negative exponents
 alge025 Power of a power rule with negative exponents
 alge799 Power rules with negative exponents
 alge755 Quotient rule with negative exponents: Problem type 1
 arith036 Scientific notation with positive exponent
 arith037 Scientific notation with negative exponent
 scinot012 Converting between scientific notation and standard form in a real-world situation
 scinot008 Multiplying numbers written in scientific notation: Basic
 scinot009 Multiplying numbers written in scientific notation: Advanced
 scinot010 Dividing numbers written in scientific notation: Basic
 scinot011 Dividing numbers written in scientific notation: Advanced

Inequalities

alge015 Translating a sentence by using an inequality symbol
 alge017 Graphing a linear inequality on the number line
 alge822 Writing an inequality given a graph on the number line
 alge845 Translating a sentence into a one-step inequality
 alge846 Translating a sentence into a multi-step inequality
 alge748 Writing an inequality for a real-world situation
 alge844 Identifying solutions to a two-step linear inequality in one variable
 alge848 Additive property of inequality with whole numbers
 alge849 Additive property of inequality with integers
 alge852 Additive property of inequality with signed fractions
 alge853 Additive property of inequality with signed decimals
 alge854 Multiplicative property of inequality with integers
 alge964 Multiplicative property of inequality with signed fractions
 alge855 Solving a two-step linear inequality: Problem type 1
 alge856 Solving a two-step linear inequality: Problem type 2

B.3 Pre-Algebra and Introductory Algebra

Whole Numbers

arith124 Whole number place value: Problem type 1
arith125 Whole number place value: Problem type 2
arith066 Expanded form
arith643 Expanded form with zeros
arith028 Numeral translation: Problem type 1
arith060 Numeral translation: Problem type 2
arith633 One-digit addition with carry
arith634 Addition of 3 or 4 one-digit numbers
arith001 Addition without carry
arith635 Adding a 2-digit number and a 1-digit number with carry
arith050 Addition with carry
arith630 Addition with carry to the hundreds place
arith012 Addition of large numbers
arith636 Subtracting a 1-digit number from a 2-digit number
arith007 Subtraction without borrowing
arith128 Adding or subtracting 10, 100, or 1000
arith006 Subtraction with borrowing
arith682 Subtraction with multiple regrouping steps
arith637 Subtraction and regrouping with zeros
arith613 Word problem with addition or subtraction of whole numbers
arith655 Introduction to properties of addition
arith126 Multiplication as repeated addition
arith008 One-digit multiplication
arith679 Multiplication by 10, 100, and 1000
arith003 Multiplication without carry
arith004 Multiplication with carry
arith632 Multiplication with trailing zeros: Problem type 1
arith615 Introduction to multiplication of large numbers
arith638 Multiplication with trailing zeros: Problem type 2
arith014 Multiplication of large numbers
arith641 Multiples: Problem type 1
arith642 Multiples: Problem type 2
arith656 Introduction to properties of multiplication
arith075 Division facts
arith614 Word problem with multiplication or division of whole numbers
arith130 Word problem with multiplication and addition or subtraction of whole numbers
arith243 Division of whole numbers given in fractional form
arith711 Division involving zero
arith052 Division without carry
arith005 Division with carry
arith680 Division with trailing zeros: Problem type 1
arith649 Division with trailing zeros: Problem type 2
arith616 Quotient and remainder: Problem type 1
arith644 Word problem on quotient and remainder
arith617 Quotient and remainder: Problem type 2
arith631 Quotient and remainder: Problem type 3
arith650 Division involving quotients with intermediate zeros
arith023 Word problem with division of whole numbers and rounding
arith651 Introduction to inequalities
arith077 Ordering large numbers
arith078 Rounding to tens or hundreds
arith123 Rounding to hundreds or thousands
arith061 Rounding to thousands, ten thousands, or hundred thousands
arith101 Estimating a sum of whole numbers
arith102 Estimating a difference of whole numbers
arith604 Estimating a product or quotient of whole numbers
arith692 Writing expressions using exponents
arith233 Introduction to exponents
arith683 Power of 10: Positive exponent
arith645 Introduction to parentheses
arith681 Introduction to order of operations
arith048 Order of operations with whole numbers

arith051 Order of operations with whole numbers and grouping symbols
arith693 Order of operations with whole numbers and exponents: Basic
arith713 Order of operations with whole numbers and exponents: Advanced
arith657 Understanding the distributive property
alge284 Evaluating an algebraic expression: Whole number addition or subtraction
alge683 Evaluating an algebraic expression: Whole number multiplication or division
alge285 Evaluating an algebraic expression: Whole numbers with two operations
alge832 Evaluating an algebraic expression: Whole number operations and exponents
alge009 Additive property of equality with whole numbers
alge008 Multiplicative property of equality with whole numbers
alge803 Using two steps to solve an equation with whole numbers
arith646 Even and odd numbers
arith647 Divisibility rules for 2, 5, and 10
arith648 Divisibility rules for 3 and 9
arith056 Factors
arith034 Prime numbers
arith035 Prime factorization
arith033 Greatest common factor of 2 numbers
arith070 Least common multiple of 2 numbers
arith804 Least common multiple of 3 numbers
arith240 Word problem with common multiples
alge925 Finding the next terms of an arithmetic sequence with whole numbers
alge933 Finding the next terms of a geometric sequence with whole numbers
alge732 Finding patterns in shapes

Fractions

arith623 Introduction to fractions
arith665 Understanding equivalent fractions
arith212 Equivalent fractions
arith666 Introduction to simplifying a fraction
arith067 Simplifying a fraction
arith687 Fractional position on a number line
arith667 Plotting fractions on a number line
arith044 Ordering fractions with the same denominator
arith091 Ordering fractions with the same numerator
arith092 Using a common denominator to order fractions
arith079 Product of a unit fraction and a whole number
arith086 Product of a fraction and a whole number: Problem type 1
arith119 Introduction to fraction multiplication
arith053 Fraction multiplication
arith812 Product of a fraction and a whole number: Problem type 2
arith813 Multiplication of 3 fractions
arith818 Word problem involving fractions and multiplication
arith095 Multi-step word problem involving fractions and multiplication
arith088 The reciprocal of a number
arith694 Division involving a whole number and a fraction
arith022 Fraction division
arith819 Word problem involving fractions and division
arith618 Addition or subtraction of fractions with the same denominator
arith802 Addition or subtraction of fractions with the same denominator and simplification
arith801 Finding the LCD of two fractions
arith109 Addition or subtraction of unit fractions
arith664 Introduction to addition or subtraction of fractions with different denominators
arith230 Addition or subtraction of fractions with different denominators
arith803 Addition and subtraction of 3 fractions with different denominators
arith805 Word problem involving addition or subtraction of fractions with different denominators
arith100 Fractional part of a circle
arith662 Writing a mixed number and an improper fraction for a shaded region
arith015 Writing an improper fraction as a mixed number

arith619 Writing a mixed number as an improper fraction
 arith215 Addition or subtraction of mixed numbers with the same denominator
 arith084 Addition of mixed numbers with the same denominator and carry
 arith216 Subtraction of mixed numbers with the same denominator and borrowing
 arith806 Addition or subtraction of mixed numbers with different denominators and no carry or borrow
 arith808 Addition of mixed numbers with different denominators and carry
 arith809 Subtraction of mixed numbers with different denominators and borrowing
 arith807 Addition and subtraction of 3 mixed numbers with different denominators
 arith810 Word problem involving addition or subtraction of mixed numbers with different denominators
 arith815 Mixed number multiplication
 arith816 Multiplication of a mixed number and a whole number
 arith817 Division with a mixed number and a whole number
 arith068 Mixed number division
 arith820 Word problem involving multiplication or division with mixed numbers
 arith821 Exponents and fractions
 arith859 Order of operations with fractions: Problem type 1
 arith860 Order of operations with fractions: Problem type 2
 arith861 Order of operations with fractions: Problem type 3
 arith695 Complex fraction without variables: Problem type 1

Decimals, Proportions, and Percents

arith127 Writing a decimal and a fraction for a shaded region
 arith110 Decimal place value: Tenths and hundredths
 arith220 Decimal place value: Hundreds to ten thousandths
 arith714 Writing a decimal number less than 1 given its name
 arith715 Writing a decimal number greater than 1 given its name
 arith716 Writing a decimal number given its name: Advanced
 arith829 Reading decimal position on a number line: Tenths
 arith830 Reading decimal position on a number line: Hundredths
 arith831 Understanding decimal position on a number line using zoom: Hundredths
 arith832 Understanding decimal position on a number line using zoom: Thousandths
 arith129 Introduction to ordering decimals
 arith608 Ordering decimals
 arith221 Rounding decimals
 arith717 Converting a decimal to a proper fraction without simplifying: Basic
 arith719 Converting a decimal to a proper fraction without simplifying: Advanced
 arith718 Converting a decimal to a proper fraction in simplest form: Basic
 arith087 Converting a decimal to a proper fraction in simplest form: Advanced
 arith721 Converting a decimal to a mixed number and an improper fraction without simplifying
 arith722 Converting a decimal to a mixed number and an improper fraction in simplest form: Basic
 arith724 Converting a decimal to a mixed number and an improper fraction in simplest form: Advanced
 arith624 Addition of aligned decimals
 arith013 Decimal addition with 3 numbers
 arith734 Subtraction of aligned decimals
 arith735 Decimal subtraction: Basic
 arith736 Decimal subtraction: Advanced
 arith737 Decimal addition and subtraction with 3 or more numbers
 arith131 Estimating a decimal sum or difference
 arith132 Word problem with addition or subtraction of 2 decimals
 arith133 Word problem with addition of 3 or 4 decimals and whole numbers
 arith134 Word problem with subtraction of a whole number and a decimal: Regrouping with zeros
 arith739 Introduction to decimal multiplication
 arith017 Multiplication of a decimal by a whole number
 arith055 Decimal multiplication: Problem type 1
 arith046 Decimal multiplication: Problem type 2
 arith082 Multiplication of a decimal by a power of ten
 arith738 Multiplication of a decimal by a power of 0.1
 arith740 Multiplication of decimals that have a product less than 0.1
 arith752 Estimating a product of decimals

arith135 Word problem with multiplication of a decimal and a whole number
arith137 Word problem with multiplication of two decimals
arith224 Word problem with decimal addition and multiplication
arith744 Whole number division with decimal answers
arith081 Division of a decimal by a whole number
arith743 Division of a decimal by a 1-digit decimal
arith019 Division of a decimal by a 2-digit decimal
arith083 Division of a decimal by a power of ten
arith742 Division of a decimal by a power of 0.1
arith745 Decimal division with rounding
arith136 Word problem with division of a decimal and a whole number
arith138 Word problem with division of two decimals
arith227 Word problem with decimal subtraction and division
alge823 Solving a one-step word problem using the formula $d = rt$
arith725 Converting a fraction with a denominator of 10 or 100 to a decimal
arith726 Converting a fraction with a denominator of 100 or 1000 to a decimal
arith609 Ordering fractions and decimals
arith727 Converting a fraction to a terminating decimal: Basic
arith728 Converting a fraction to a terminating decimal: Advanced
arith730 Converting a fraction to a repeating decimal: Basic
arith731 Converting a fraction to a repeating decimal: Advanced
arith733 Using a calculator to convert a fraction to a rounded decimal
arith111 Converting a mixed number to a terminating decimal: Basic
arith112 Converting a mixed number to a terminating decimal: Advanced
arith732 Converting a fraction or mixed number to a rounded decimal
arith753 Squaring decimal bases: Products greater than 0.1
arith741 Exponents and decimals: Products less than 0.1
arith720 Order of operations with decimals: Problem type 1
arith746 Order of operations with decimals: Problem type 2
arith747 Order of operations with decimals: Problem type 3
arith748 Addition or subtraction with a decimal and a mixed number
arith749 Multiplication with a decimal and a fraction
arith823 Writing ratios using different notations
arith663 Writing ratios for real-world situations
arith824 Simplifying a ratio of whole numbers: Problem type 1
arith825 Simplifying a ratio of decimals
arith827 Finding a unit price
arith828 Computing unit prices to find the better buy
arith064 Solving a word problem on proportions using a unit rate
arith228 Word problem on unit rates associated with ratios of whole numbers: Decimal answers
alge272 Solving a proportion of the form $x/a = b/c$
arith610 Word problem on proportions: Problem type 1
arith611 Word problem on proportions: Problem type 2
alge063 Word problem on mixed number proportions
arith045 Word problem with powers of ten
arith836 Converting a fraction with a denominator of 100 to a percentage
arith837 Converting a percentage to a fraction with a denominator of 100
arith674 Finding the percentage of a grid that is shaded
arith723 Introduction to converting a percentage to a decimal
arith833 Introduction to converting a decimal to a percentage
arith834 Converting between percentages and decimals
arith841 Converting a mixed number percentage to a decimal
arith835 Converting between percentages and decimals in a real-world situation
arith090 Converting a percentage to a fraction in simplest form
arith839 Converting a decimal percentage to a fraction
arith838 Converting a fraction to a percentage: Denominator of 4, 5, or 10
arith002 Converting a fraction to a percentage: Denominator of 20, 25, or 50
arith843 Using a calculator to convert a fraction to a rounded percentage
arith842 Converting a fraction to a percentage in a real-world situation
arith840 Finding a percentage of a whole number
arith030 Finding a percentage of a whole number without a calculator: Basic
arith844 Finding a percentage of a whole number without a calculator: Advanced

arith862 Applying the percent equation: Problem type 1
 arith863 Applying the percent equation: Problem type 2
 arith845 Finding a percentage of a total amount: Real-world situations
 arith846 Finding a percentage of a total amount without a calculator: Sales tax, commission, discount
 arith857 Estimating a tip without a calculator
 arith069 Writing a ratio as a percentage without a calculator
 mstat049 Computing a percentage from a table of values
 arith850 Finding the rate of a tax or commission
 arith849 Finding the total amount given the percentage of a partial amount
 arith852 Finding the multiplier to give a final amount after a percentage increase or decrease
 arith851 Finding the final amount given the original amount and a percentage increase or decrease
 arith847 Finding the sale price given the original price and percent discount
 arith074 Finding the sale price without a calculator given the original price and percent discount
 arith848 Finding the total cost including tax or markup
 arith855 Finding the original amount given the result of a percentage increase or decrease
 arith031 Finding the original price given the sale price and percent discount
 arith858 Finding the percentage increase or decrease: Basic
 arith225 Finding the percentage increase or decrease: Advanced
 arith232 Finding simple interest without a calculator

Geometry

geom339 Perimeter of a polygon
 geom300 Perimeter of a square or a rectangle
 geom618 Perimeter of a polygon involving mixed numbers and fractions
 geom078 Sides of polygons having the same perimeter
 geom221 Finding the missing length in a figure
 geom353 Perimeter of a piecewise rectangular figure
 geom358 Identifying parallel and perpendicular lines
 geom349 Naming segments, rays, and lines
 geom151 Measuring an angle with the protractor
 geom152 Drawing an angle with the protractor
 geom303 Acute, obtuse, and right angles
 geom039 Finding supplementary and complementary angles
 geom305 Identifying supplementary and vertical angles
 geom304 Identifying corresponding and alternate angles
 geom306 Acute, obtuse, and right triangles
 geom307 Classifying scalene, isosceles, and equilateral triangles by side lengths or angles
 geom001 Finding an angle measure of a triangle given two angles
 geom908 Finding an angle measure for a triangle with an extended side
 geom812 Finding an angle measure given extended triangles
 geom813 Finding an angle measure given a triangle and parallel lines
 geom361 Naming polygons
 mstat042 Interpreting a Venn diagram of 2 sets
 geom867 Identifying parallelograms, rectangles, and squares
 geom310 Properties of quadrilaterals
 geom532 Classifying parallelograms
 geom019 Area of a square or a rectangle
 geom866 Perimeter and area on a grid
 geom620 Area of a rectangle involving fractions
 geom619 Area of a rectangle involving mixed numbers and fractions
 geom350 Distinguishing between the area and perimeter of a rectangle
 geom351 Areas of rectangles with the same perimeter
 geom217 Finding the side length of a rectangle given its perimeter or area
 geom340 Area of a piecewise rectangular figure
 geom142 Word problem involving the area between two rectangles
 geom801 Area of a triangle
 geom344 Area involving rectangles and triangles
 geom022 Area of a parallelogram
 geom023 Area of a trapezoid

geom347 Introduction to a circle: Diameter, radius, and chord
 geom016 Circumference of a circle
 geom301 Perimeter involving rectangles and circles
 geom802 Circumference and area of a circle
 geom302 Area involving rectangles and circles
 geom036 Word problem involving the area between two concentric circles
 geom214 Area involving inscribed figures
 geom868 Classifying solids
 geom348 Vertices, edges, and faces of a solid
 geom830 Counting the cubes in a solid made of cubes
 geom354 Volume of a rectangular prism made of unit cubes
 geom311 Volume of a rectangular prism
 geom505 Volume of a piecewise rectangular prism
 geom090 Volume of a triangular prism
 geom033 Volume of a pyramid
 geom035 Volume of a cylinder
 geom092 Word problem involving the rate of filling or emptying a cylinder
 geom622 Volume of a cone
 geom841 Volume of a sphere
 geom219 Nets of solids
 geom816 Side views of a solid made of cubes
 geom031 Surface area of a cube or a rectangular prism
 geom345 Surface area of a piecewise rectangular prism made of unit cubes
 geom091 Surface area of a triangular prism
 geom621 Surface area of a cylinder
 geom842 Surface area of a sphere
 arith016 Square root of a perfect square
 arith763 Using a calculator to approximate a square root
 arith602 Estimating a square root
 arith601 Square root of a rational perfect square
 alge407 Introduction to the Pythagorean Theorem
 geom044 Pythagorean Theorem
 alge408 Word problem involving the Pythagorean Theorem
 geom359 Identifying congruent shapes on a grid
 geom520 Identifying and naming congruent triangles
 geom360 Identifying similar or congruent shapes on a grid
 geom037 Similar polygons
 geom038 Similar right triangles
 geom337 Indirect measurement

Measurement and Data Analysis

mstat059 Choosing U.S. Customary measurement units
 unit005 U.S. Customary unit conversion with whole number values
 mstat035 Conversions involving measurements in feet and inches
 mstat036 Adding measurements in feet and inches
 unit006 U.S. Customary unit conversion with whole number values: Two-step conversion
 unit007 U.S. Customary unit conversion with mixed number values: One-step conversion
 unit008 U.S. Customary unit conversion with mixed number values: Two-step conversion
 unit009 U.S. Customary area unit conversion with whole number values
 mstat060 Choosing metric measurement units
 unit001 Metric distance conversion with whole number values
 unit002 Metric mass or capacity conversion with whole number values
 unit003 Metric distance conversion with decimal values
 unit004 Metric conversion with decimal values: Two-step problem
 unit010 Metric area unit conversion with decimal values
 unit012 Time unit conversion with whole number values
 time006 Adding time
 time007 Elapsed time
 arith063 Word problem with clocks

mstat065 Converting between temperatures in Fahrenheit and Celsius
 arith826 Simplifying a ratio of whole numbers: Problem type 2
 unit034 Converting between metric and U.S. Customary unit systems
 unit035 Converting between compound units: Basic
 unit036 Converting between compound units: Advanced
 mstat056 Interpreting a tally table
 mstat037 Constructing a line plot
 mstat005 Constructing a bar graph for non-numerical data
 mstat004 Constructing a histogram for numerical data
 mstat024 Interpreting a bar graph
 mstat044 Interpreting a double bar graph
 mstat057 Interpreting a pictograph table
 mstat007 Interpreting a line graph
 mstat031 Interpreting a stem-and-leaf plot
 stat804 Interpreting a circle graph or pie chart
 arith856 Finding a percentage of a total amount in a circle graph
 stat801 Computations from a circle graph
 geom814 Angle measure in a circle graph
 stat020 Calculating relative frequencies in a contingency table
 stat805 Making a reasonable inference based on proportion statistics
 mstat025 Finding if a question can be answered by the data
 mstat003 Mode of a data set
 mstat055 Finding the mode and range of a data set
 arith103 Average of two numbers
 mstat001 Mean of a data set
 mstat028 Mean and median of a data set
 mstat029 How changing a value affects the mean and median
 mstat053 Choosing the best measure to describe data
 stat802 Rejecting unreasonable claims based on average statistics
 mstat066 Weighted mean
 mstat027 Using back-to-back stem-and-leaf plots to compare data sets
 mstat072 Five-number summary and interquartile range
 mstat006 Constructing a box-and-whisker plot
 mstat073 Using box-and-whisker plots to compare data sets
 mstat043 Interpreting a Venn diagram of 3 sets
 mstat041 Interpreting a tree diagram
 mstat040 Introduction to the counting principle
 mstat015 Counting principle
 pcalc082 Factorial expressions
 mstat017 Computing permutations and combinations
 mstat008 Word problem involving permutations
 mstat009 Word problem involving combinations
 mstat026 Introduction to the probability of an event
 mstat010 Probability of an event
 mstat039 Understanding likelihood
 mstat048 Odds of an event
 stat106 Outcomes and event probability
 stat112 Probabilities involving two dice
 mstat011 Area as probability
 mstat046 Experimental and theoretical probability
 mstat047 Introduction to expectation
 mstat012 Probability of independent events
 mstat013 Probability of dependent events
 mstat032 Probability of the union of two events

Real Numbers

alge286 Plotting integers on a number line
 arith605 Plotting rational numbers on a number line
 mstat038 Reading the temperature from a thermometer

arith699 Writing a signed number for a real-world situation
 arith691 Ordering integers
 arith712 Ordering real numbers
 arith071 Absolute value of a number
 arith200 Integer addition: Problem type 1
 arith108 Integer addition: Problem type 2
 arith688 Integer subtraction: Problem type 1
 arith689 Integer subtraction: Problem type 2
 arith690 Integer subtraction: Problem type 3
 arith754 Addition and subtraction with 3 integers
 arith755 Addition and subtraction with 4 or 5 integers
 arith701 Word problem with addition or subtraction of integers
 arith231 Integer multiplication and division
 arith800 Multiplication of 3 or 4 integers
 alge001 Identifying numbers as integers or non-integers
 alge002 Identifying numbers as rational or irrational
 arith116 Signed fraction addition or subtraction: Basic
 arith864 Signed fraction subtraction involving double negation
 arith106 Signed fraction addition or subtraction: Advanced
 arith811 Addition and subtraction of 3 fractions involving signs
 arith822 Signed fraction multiplication: Basic
 arith105 Signed fraction multiplication: Advanced
 arith814 Signed fraction division
 arith117 Signed decimal addition and subtraction
 arith234 Signed decimal addition and subtraction with 3 numbers
 arith750 Signed decimal multiplication
 arith751 Signed decimal division
 arith104 Operations with absolute value: Problem type 2
 geom525 Computing distances between decimals on the number line
 unit052 Finding the absolute error and percent error of a measurement
 arith702 Exponents and integers: Problem type 1
 arith703 Exponents and integers: Problem type 2
 arith704 Exponents and signed fractions
 arith118 Order of operations with integers
 arith600 Order of operations with integers and exponents
 arith696 Complex fraction without variables: Problem type 2
 alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge808 Evaluating a linear expression: Signed fraction multiplication with addition or subtraction
 alge302 Evaluating a linear expression: Signed decimal addition and subtraction
 alge303 Evaluating a linear expression: Signed decimal multiplication with addition or subtraction
 alge004 Evaluating a quadratic expression: Integers
 alge700 Combining like terms: Whole number coefficients
 alge607 Combining like terms: Integer coefficients
 alge187 Properties of addition
 alge310 Multiplying a constant and a linear monomial
 alge606 Distributive property: Whole number coefficients
 alge604 Distributive property: Integer coefficients
 alge188 Properties of real numbers
 alge608 Using distribution and combining like terms to simplify: Univariate
 alge609 Using distribution with double negation and combining like terms to simplify: Multivariate
 alge293 Combining like terms in a quadratic expression
 alge432 Introduction to adding fractions with variables and common denominators
 alge436 Adding rational expressions with different denominators and a single occurrence of a variable

Linear Equations and Inequalities

alge801 Additive property of equality with fractions and mixed numbers
 alge800 Additive property of equality with decimals
 alge010 Additive property of equality with integers
 alge836 Additive property of equality with signed fractions

alge820 Multiplicative property of equality with fractions
 alge825 Multiplicative property of equality with decimals
 alge797 Multiplicative property of equality with integers
 alge012 Multiplicative property of equality with signed fractions
 alge834 Identifying solutions to a linear equation in one variable: Two-step equations
 alge266 Additive property of equality with a negative coefficient
 alge006 Solving a two-step equation with integers
 alge200 Solving an equation to find the value of an expression
 alge920 Introduction to solving an equation with parentheses
 alge837 Solving a multi-step equation given in fractional form
 alge986 Identifying properties used to solve a linear equation
 alge824 Solving a two-step equation with signed decimals
 alge838 Introduction to solving an equation with variables on the same side
 alge862 Solving a linear equation with several occurrences of the variable: Variables on the same side
 alge863 Solving a linear equation with several occurrences of the variable: Variables on both sides
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
 alge420 Solving a linear equation with several occurrences of the variable: Fractional forms with monomial numerators
 alge208 Solving a two-step equation with signed fractions
 alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
 alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
 alge742 Solving equations with zero, one, or infinitely many solutions
 alge840 Solving a proportion of the form $(x+a)\div b = c\div d$
 alge603 Introduction to solving an absolute value equation
 alge864 Solving an absolute value equation: Problem type 1
 alge511 Solving for a variable in terms of other variables using addition or subtraction: Basic
 alge512 Solving for a variable in terms of other variables using addition or subtraction: Advanced
 alge513 Solving for a variable in terms of other variables using multiplication or division: Basic
 alge514 Solving for a variable in terms of other variables using multiplication or division: Advanced
 alge517 Solving for a variable in terms of other variables using addition or subtraction with division
 alge518 Solving for a variable inside parentheses in terms of other variables
 alge507 Solving for a variable in terms of other variables in a linear equation with fractions
 alge733 Writing a one-step expression for a real-world situation
 alge831 Translating a phrase into a one-step expression
 alge291 Translating a phrase into a two-step expression
 alge016 Translating a sentence into a one-step equation
 alge841 Translating a sentence into a multi-step equation
 alge802 Solving a fraction word problem using a linear equation of the form $Ax = B$
 alge014 Solving a word problem with two unknowns using a linear equation
 alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
 alge730 Writing a multi-step equation for a real-world situation
 alge219 Solving a decimal word problem using a linear equation with the variable on both sides
 alge704 Solving a fraction word problem using a linear equation with the variable on both sides
 alge792 Solving a word problem with three unknowns using a linear equation
 alge842 Solving a word problem involving consecutive integers
 alge794 Solving a value mixture problem using a linear equation
 alge218 Solving a word problem involving rates and time conversion
 alge796 Solving a distance, rate, time problem using a linear equation
 arith854 Computing a percent mixture
 alge795 Solving a percent mixture problem using a linear equation
 geom817 Finding a side length given the perimeter and side lengths with variables
 geom143 Finding the perimeter or area of a rectangle given one of these values
 geom218 Finding the radius or the diameter of a circle given its circumference
 geom838 Circumference ratios
 geom530 Solving equations involving vertical angles

geom531 Solving equations involving angles and a pair of parallel lines
 geom623 Finding angle measures of a triangle given angles with variables
 geom502 Finding angle measures of a right or isosceles triangle given angles with variables
 stat803 Finding the value for a new score that will yield a given mean
 alge015 Translating a sentence by using an inequality symbol
 alge845 Translating a sentence into a one-step inequality
 alge846 Translating a sentence into a multi-step inequality
 alge748 Writing an inequality for a real-world situation
 alge017 Graphing a linear inequality on the number line
 alge822 Writing an inequality given a graph on the number line
 alge186 Translating a sentence into a compound inequality
 alge166 Graphing a compound inequality on the number line
 alge847 Writing a compound inequality given a graph on the number line
 set001 Set builder notation
 set004 Set builder and interval notation
 set002 Union and intersection of finite sets
 alge844 Identifying solutions to a two-step linear inequality in one variable
 alge848 Additive property of inequality with whole numbers
 alge849 Additive property of inequality with integers
 alge852 Additive property of inequality with signed fractions
 alge853 Additive property of inequality with signed decimals
 alge854 Multiplicative property of inequality with integers
 alge964 Multiplicative property of inequality with signed fractions
 alge855 Solving a two-step linear inequality: Problem type 1
 alge856 Solving a two-step linear inequality: Problem type 2
 alge857 Solving a two-step linear inequality with a fractional coefficient
 alge977 Solving a linear inequality with multiple occurrences of the variable: Problem type 1
 alge858 Solving a linear inequality with multiple occurrences of the variable: Problem type 2
 alge859 Solving a linear inequality with multiple occurrences of the variable: Problem type 3
 alge860 Solving inequalities with no solution or all real numbers as solutions
 alge746 Solving a compound linear inequality: Graph solution, basic
 alge747 Solving a compound linear inequality: Interval notation
 alge868 Solving an absolute value inequality: Problem type 1
 alge749 Solving a decimal word problem using a two-step linear inequality
 alge750 Solving a decimal word problem using a linear inequality with the variable on both sides

Lines and Functions

alge064 Reading a point in the coordinate plane
 alge067 Plotting a point in the coordinate plane
 alge850 Table for a linear equation
 alge873 Identifying solutions to a linear equation in two variables
 alge066 Finding a solution to a linear equation in two variables
 alge191 Midpoint of a line segment in the plane
 alge877 Graphing a linear equation of the form $y = mx$
 alge878 Graphing a line given its equation in slope-intercept form: Integer slope
 alge879 Graphing a line given its equation in slope-intercept form: Fractional slope
 alge880 Graphing a line given its equation in standard form
 alge198 Graphing a vertical or horizontal line
 alge884 Finding x - and y -intercepts given the graph of a line on a grid
 alge924 Finding x - and y -intercepts of a line given the equation: Basic
 alge210 Finding x - and y -intercepts of a line given the equation: Advanced
 alge197 Graphing a line given its x - and y -intercepts
 alge881 Graphing a line by first finding its x - and y -intercepts
 alge875 Classifying slopes given graphs of lines
 alge886 Finding slope given the graph of a line on a grid
 alge887 Finding slope given two points on the line
 alge885 Finding the slope of horizontal and vertical lines
 alge888 Finding the coordinate that yields a given slope
 alge259 Graphing a line given its slope and y -intercept

alge196 Graphing a line through a given point with a given slope
 alge876 Identifying linear equations: Advanced
 alge874 Identifying linear functions given ordered pairs
 alge891 Rewriting a linear equation in the form $Ax + By = C$
 alge889 Finding the slope and y-intercept of a line given its equation in the form $y = mx + b$
 alge890 Finding the slope and y-intercept of a line given its equation in the form $Ax + By = C$
 alge882 Graphing a line by first finding its slope and y-intercept
 alge258 Writing an equation of a line given its slope and y-intercept
 alge892 Writing an equation and graphing a line given its slope and y-intercept
 alge893 Writing an equation in slope-intercept form given the slope and a point
 alge883 Graphing a line given its equation in point-slope form
 alge894 Writing an equation in point-slope form given the slope and a point
 alge070 Writing an equation of a line given the y-intercept and another point
 alge072 Writing the equation of the line through two given points
 alge073 Writing the equations of vertical and horizontal lines through a given point
 geom806 Finding slopes of lines parallel and perpendicular to a line given in slope-intercept form
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 alge895 Identifying parallel and perpendicular lines from equations
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 alge897 Writing and evaluating a function that models a real-world situation: Advanced
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 fun005 Writing a function rule given a table of ordered pairs: One-step rules
 fun006 Writing a function rule given a table of ordered pairs: Two-step rules
 alge992 Combining functions to write a new function that models a real-world situation
 alge987 Comparing properties of linear functions given in different forms
 alge989 Interpreting the parameters of a linear function that models a real-world situation
 alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
 alge806 Application problem with a linear function: Finding a coordinate given two points
 mstat052 Identifying independent and dependent variables from equations or real-world situations
 alge991 Solving a linear equation by graphing
 mstat030 Sketching the line of best fit
 mstat023 Scatter plots and correlation
 mstat068 Predictions from the line of best fit
 mstat067 Approximating the equation of a line of best fit and making predictions
 mstat069 Computing residuals
 mstat070 Interpreting residual plots
 mstat071 Linear relationship and the correlation coefficient
 mstat074 Identifying correlation and causation
 alge898 Translating the graph of an absolute value function: One step
 alge899 Translating the graph of an absolute value function: Two steps
 alge913 Graphing an absolute value equation of the form $y = A - x -$
 alge900 Graphing an absolute value equation in the plane: Basic
 alge168 Graphing an absolute value equation in the plane: Advanced
 alge901 How the leading coefficient affects the graph of an absolute value function
 fun032 Identifying functions from relations
 fun010 Vertical line test
 fun016 Domain and range from ordered pairs
 fun001 Table for a linear function
 pcalc760 Evaluating functions: Linear and quadratic or cubic
 fun033 Variable expressions as inputs of functions: Problem type 1
 alge294 Finding outputs of a one-step function that models a real-world situation: Function notation
 alge295 Finding outputs of a two-step function with decimals that models a real-world situation: Function notation
 alge296 Finding inputs and outputs of a two-step function that models a real-world situation: Function notation
 alge990 Domain and range of a linear function that models a real-world situation
 fun026 Finding an output of a function from its graph
 pcalc761 Finding inputs and outputs of a function from its graph
 fun007 Domain and range from the graph of a discrete relation
 fun024 Domain and range from the graph of a continuous function
 alge896 Graphing an integer function and finding its range for a given domain
 alge570 Graphing a function of the form $f(x) = ax + b$: Integer slope
 alge571 Graphing a function of the form $f(x) = ax + b$: Fractional slope

alge954 Graphing a parabola of the form $y = ax^2$
 alge955 Graphing a parabola of the form $y = ax^2 + c$
 alge572 Graphing a function of the form $f(x) = ax^2$
 alge573 Graphing a function of the form $f(x) = ax^2 + c$
 pcalc750 Finding intercepts of a nonlinear function given its graph
 pcalc751 Finding where a function is increasing, decreasing, or constant given the graph: Interval notation
 pcalc752 Finding local maxima and minima of a function given the graph
 mstat018 Choosing a graph to fit a narrative: Basic
 mstat051 Choosing a graph to fit a narrative: Advanced

Systems

alge914 Identifying solutions to a system of linear equations
 alge075 Classifying systems of linear equations from graphs
 alge725 Graphically solving a system of linear equations
 alge751 Solving a system of linear equations using substitution
 alge915 Solving a system of linear equations using elimination with addition
 alge076 Solving a system of linear equations using elimination with multiplication and addition
 alge916 Solving a system of linear equations with fractional coefficients
 alge917 Solving a system of linear equations with decimal coefficients
 alge752 Solving a 2x2 system of linear equations that is inconsistent or consistent dependent
 alge988 Identifying the operations used to create equivalent systems of equations
 alge753 Solving a 3x3 system of linear equations: Problem type 1
 alge263 Interpreting the graphs of two functions
 alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations
 alge919 Solving a word problem using a system of linear equations of the form $Ax + By = C$
 alge918 Solving a word problem using a system of linear equations of the form $y = mx + b$
 alge184 Solving a value mixture problem using a system of linear equations
 alge192 Solving a percent mixture problem using a system of linear equations
 alge224 Solving a distance, rate, time problem using a system of linear equations
 alge172 Solving a tax rate or interest rate problem using a system of linear equations
 alge793 Solving a word problem using a 3x3 system of linear equations: Problem type 1
 alge912 Identifying solutions to a linear inequality in two variables
 alge225 Graphing a linear inequality in the plane: Vertical or horizontal line
 alge720 Graphing a linear inequality in the plane: Slope-intercept form
 alge018 Graphing a linear inequality in the plane: Standard form
 alge079 Graphing a system of two linear inequalities: Basic
 alge921 Graphing a system of two linear inequalities: Advanced
 alge922 Graphing a system of three linear inequalities
 alge729 Writing a multi-step inequality for a real-world situation
 pcalc093 Solving a word problem using a system of linear inequalities: Problem type 1

Exponents and Polynomials

alge821 Understanding the product rule of exponents
 alge024 Introduction to the product rule of exponents
 alge311 Product rule with positive exponents: Univariate
 alge030 Product rule with positive exponents: Multivariate
 arith029 Ordering numbers with positive exponents
 alge826 Understanding the power rules of exponents
 alge306 Introduction to the power of a power rule of exponents
 alge305 Introduction to the power of a product rule of exponents
 alge307 Power rules with positive exponents: Multivariate products
 alge308 Power rules with positive exponents: Multivariate quotients
 alge756 Power and product rules with positive exponents
 alge451 Simplifying a ratio of multivariate monomials: Basic
 alge827 Introduction to the quotient rule of exponents
 alge452 Simplifying a ratio of univariate monomials

alge026 Quotient of expressions involving exponents
 alge453 Simplifying a ratio of multivariate monomials: Advanced
 alge927 Power and quotient rules with positive exponents
 alge790 Evaluating expressions with exponents of zero
 arith684 Power of 10: Negative exponent
 arith729 Evaluating an expression with a negative exponent: Whole number base
 arith042 Evaluating an expression with a negative exponent: Positive fraction base
 arith043 Evaluating an expression with a negative exponent: Negative integer base
 arith024 Ordering numbers with negative exponents
 alge791 Rewriting an algebraic expression without a negative exponent
 alge961 Introduction to the product rule with negative exponents
 alge028 Product rule with negative exponents
 alge755 Quotient rule with negative exponents: Problem type 1
 alge926 Quotient rule with negative exponents: Problem type 2
 alge025 Power of a power rule with negative exponents
 alge799 Power rules with negative exponents
 alge928 Power and quotient rules with negative exponents: Problem type 1
 alge929 Power and quotient rules with negative exponents: Problem type 2
 alge757 Power, product, and quotient rules with negative exponents
 arith036 Scientific notation with positive exponent
 arith037 Scientific notation with negative exponent
 scinot012 Converting between scientific notation and standard form in a real-world situation
 scinot008 Multiplying numbers written in scientific notation: Basic
 scinot009 Multiplying numbers written in scientific notation: Advanced
 scinot010 Dividing numbers written in scientific notation: Basic
 scinot011 Dividing numbers written in scientific notation: Advanced
 alge971 Table for an exponential function
 alge830 Evaluating an exponential function that models a real-world situation
 arith853 Introduction to compound interest
 alge177 Finding a final amount in a word problem on exponential growth or decay
 alge741 Finding the final amount in a word problem on compound interest
 alge966 Finding the initial amount and rate of change given an exponential function
 alge968 Writing an equation that models exponential growth or decay
 alge301 Solving an exponential equation by finding common bases: Linear exponents
 alge969 Graphing an exponential function: $f(x) = ax$
 alge970 Graphing an exponential function: $f(x) = a(b)^x$
 alge967 Writing an exponential function rule given a table of ordered pairs
 alge993 Comparing linear, polynomial, and exponential functions
 alge758 Degree and leading coefficient of a univariate polynomial
 alge031 Degree of a multivariate polynomial
 alge798 Simplifying a sum or difference of two univariate polynomials
 alge029 Simplifying a sum or difference of three univariate polynomials
 alge932 Simplifying a sum or difference of multivariate polynomials
 alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
 alge972 Multiplying a univariate polynomial by a monomial with a negative coefficient
 alge835 Multiplying a multivariate polynomial by a monomial
 alge033 Multiplying binomials with leading coefficients of 1
 alge983 Multiplying binomials with leading coefficients greater than 1
 alge765 Multiplying binomials in two variables
 alge764 Multiplying conjugate binomials: Univariate
 alge081 Multiplying conjugate binomials: Multivariate
 alge032 Squaring a binomial: Univariate
 alge068 Squaring a binomial: Multivariate
 alge973 Multiplying binomials with negative coefficients
 alge935 Multiplication involving binomials and trinomials in one variable
 alge180 Multiplication involving binomials and trinomials in two variables
 alge759 Dividing a polynomial by a monomial: Univariate
 alge760 Dividing a polynomial by a monomial: Multivariate
 alge761 Polynomial long division: Problem type 1
 alge762 Polynomial long division: Problem type 2
 alge763 Polynomial long division: Problem type 3
 alge985 Closure properties of integers and polynomials

alge605 Factoring a linear binomial
 alge736 Introduction to the GCF of two monomials
 alge930 Greatest common factor of three univariate monomials
 alge037 Greatest common factor of two multivariate monomials
 alge738 Factoring out a monomial from a polynomial: Univariate
 alge739 Factoring out a monomial from a polynomial: Multivariate
 alge949 Factoring out a binomial from a polynomial: GCF factoring, basic
 alge923 Factoring a univariate polynomial by grouping: Problem type 1
 alge950 Factoring a univariate polynomial by grouping: Problem type 2
 alge951 Factoring a multivariate polynomial by grouping: Problem type 1
 alge952 Factoring a multivariate polynomial by grouping: Problem type 2
 alge039 Factoring a quadratic with leading coefficient 1
 alge942 Factoring a quadratic in two variables with leading coefficient 1
 alge936 Factoring out a constant before factoring a quadratic
 alge939 Factoring a quadratic with leading coefficient greater than 1: Problem type 1
 alge940 Factoring a quadratic with leading coefficient greater than 1: Problem type 2
 alge941 Factoring a quadratic with leading coefficient greater than 1: Problem type 3
 alge978 Factoring a quadratic by the ac-method
 alge265 Factoring a quadratic in two variables with leading coefficient greater than 1
 alge937 Factoring a quadratic with a negative leading coefficient
 alge944 Factoring a perfect square trinomial with leading coefficient 1
 alge945 Factoring a perfect square trinomial with leading coefficient greater than 1
 alge946 Factoring a perfect square trinomial in two variables
 alge290 Factoring a difference of squares in one variable: Basic
 alge947 Factoring a difference of squares in one variable: Advanced
 alge839 Factoring a difference of squares in two variables
 alge948 Factoring a polynomial involving a GCF and a difference of squares: Univariate
 alge833 Factoring a polynomial involving a GCF and a difference of squares: Multivariate
 alge041 Factoring a product of a quadratic trinomial and a monomial
 alge042 Factoring with repeated use of the difference of squares formula
 alge044 Factoring a sum or difference of two cubes
 alge681 Solving an equation written in factored form
 alge956 Finding the roots of a quadratic equation of the form $ax^2 + bx = 0$
 alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
 alge211 Solving a quadratic equation needing simplification
 alge703 Solving a word problem using a quadratic equation with rational roots
 alge713 Using the Pythagorean Theorem and a quadratic equation to find side lengths of a right triangle

Rational Expressions

alge049 Restriction on a variable in a denominator: Linear
 alge467 Restriction on a variable in a denominator: Quadratic
 alge468 Evaluating a rational function: Problem type 1
 alge469 Evaluating a rational function: Problem type 2
 alge715 Domain of a rational function: Excluded values
 alge454 Simplifying a ratio of factored polynomials: Linear factors
 alge455 Simplifying a ratio of factored polynomials: Factors with exponents
 alge456 Simplifying a ratio of polynomials using GCF factoring
 alge457 Simplifying a ratio of linear polynomials: 1, -1, and no simplification
 alge458 Simplifying a ratio of polynomials by factoring a quadratic with leading coefficient 1
 alge710 Simplifying a ratio of polynomials: Problem type 1
 alge682 Simplifying a ratio of polynomials: Problem type 2
 alge459 Simplifying a ratio of polynomials: Problem type 3
 alge034 Simplifying a ratio of multivariate polynomials
 alge053 Multiplying rational expressions involving multivariate monomials
 alge460 Multiplying rational expressions made up of linear expressions
 alge620 Multiplying rational expressions involving quadratics with leading coefficients of 1
 alge461 Multiplying rational expressions involving quadratics with leading coefficients greater than 1
 alge462 Multiplying rational expressions involving multivariate quadratics

alge054 Dividing rational expressions involving multivariate monomials
 alge463 Dividing rational expressions involving linear expressions
 alge766 Dividing rational expressions involving quadratics with leading coefficients of 1
 alge464 Dividing rational expressions involving quadratics with leading coefficients greater than 1
 alge465 Dividing rational expressions involving multivariate quadratics
 alge466 Multiplication and division of 3 rational expressions
 alge737 Introduction to the LCM of two monomials
 alge055 Least common multiple of two monomials
 alge427 Finding the LCD of rational expressions with linear denominators: Relatively prime
 alge428 Finding the LCD of rational expressions with linear denominators: Common factors
 alge429 Finding the LCD of rational expressions with quadratic denominators
 alge430 Writing equivalent rational expressions with monomial denominators
 alge431 Writing equivalent rational expressions with polynomial denominators
 alge304 Writing equivalent rational expressions involving opposite factors
 alge433 Adding rational expressions with common denominators and monomial numerators
 alge056 Adding rational expressions with common denominators and binomial numerators
 alge434 Adding rational expressions with common denominators and GCF factoring
 alge435 Adding rational expressions with common denominators and quadratic factoring
 alge437 Adding rational expressions with denominators ax and bx : Basic
 alge438 Adding rational expressions with denominators ax and bx : Advanced
 alge439 Adding rational expressions with denominators axn and bxm
 alge440 Adding rational expressions with multivariate monomial denominators: Basic
 alge226 Adding rational expressions with multivariate monomial denominators: Advanced
 alge441 Adding rational expressions with linear denominators without common factors: Basic
 alge442 Adding rational expressions with linear denominators without common factors: Advanced
 alge443 Adding rational expressions with linear denominators with common factors: Basic
 alge444 Adding rational expressions with linear denominators with common factors: Advanced
 alge445 Adding rational expressions with denominators $ax-b$ and $b-ax$
 alge661 Adding rational expressions involving different quadratic denominators
 alge446 Adding 3 rational expressions with different quadratic denominators
 alge470 Complex fraction involving univariate monomials
 alge058 Complex fraction involving multivariate monomials
 alge471 Complex fraction: GCF factoring
 alge472 Complex fraction: Quadratic factoring
 alge473 Complex fraction made of sums involving rational expressions: Problem type 1
 alge474 Complex fraction made of sums involving rational expressions: Problem type 2
 alge475 Complex fraction made of sums involving rational expressions: Problem type 3
 alge476 Complex fraction made of sums involving rational expressions: Problem type 4
 alge477 Complex fraction made of sums involving rational expressions: Problem type 5
 alge478 Complex fraction made of sums involving rational expressions: Problem type 6
 alge479 Complex fraction made of sums involving rational expressions: Multivariate
 alge480 Complex fraction with negative exponents: Problem type 1
 alge481 Complex fraction with negative exponents: Problem type 2
 alge162 Complex fraction that contains a complex fraction
 alge271 Solving a proportion of the form $a/(x+b) = c/x$
 alge060 Solving a rational equation that simplifies to linear: Denominator x
 alge205 Solving a rational equation that simplifies to linear: Denominator $x+a$
 alge769 Solving a rational equation that simplifies to linear: Denominators a , x , or ax
 alge421 Solving a rational equation that simplifies to linear: Denominators ax and bx
 alge422 Solving a rational equation that simplifies to linear: Like binomial denominators
 alge206 Solving a rational equation that simplifies to linear: Unlike binomial denominators
 alge423 Solving a rational equation that simplifies to linear: Factorable quadratic denominator
 alge424 Solving a rational equation that simplifies to quadratic: Proportional form, basic
 alge425 Solving a rational equation that simplifies to quadratic: Denominator x
 alge212 Solving a rational equation that simplifies to quadratic: Binomial denominators, constant numerators
 alge062 Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators
 alge426 Solving a rational equation that simplifies to quadratic: Factorable quadratic denominator
 alge047 Solving a rational equation that simplifies to quadratic: Proportional form, advanced
 alge508 Solving for a variable in terms of other variables in a rational equation: Problem type 1
 alge509 Solving for a variable in terms of other variables in a rational equation: Problem type 2
 alge510 Solving for a variable in terms of other variables in a rational equation: Problem type 3
 arith612 Word problem involving multiple rates

alge770 Solving a work problem using a rational equation
 alge450 Solving a distance, rate, time problem using a rational equation
 alge059 Ordering fractions with variables
 alge982 Identifying direct variation equations
 alge938 Identifying direct variation from ordered pairs and writing equations
 alge904 Writing a direct variation equation
 alge175 Word problem on direct variation
 alge828 Interpreting direct variation from a graph
 alge905 Writing an inverse variation equation
 alge903 Identifying direct and inverse variation equations
 alge902 Identifying direct and inverse variation from ordered pairs and writing equations
 alge176 Word problem on inverse variation
 alge220 Word problem on inverse proportions
 pcalc681 Writing an equation that models variation
 alge772 Word problem on combined variation

Radicals and Quadratic Equations

alge413 Finding all square roots of a number
 arith760 Square roots of perfect squares with signs
 alge415 Introduction to simplifying a radical expression with an even exponent
 alge264 Square root of a perfect square monomial
 arith094 Cube root of an integer
 alge549 Finding n th roots of perfect n th powers with signs
 arith768 Finding the n th root of a perfect n th power fraction
 alge550 Finding the n th root of a perfect n th power monomial
 arith093 Simplifying the square root of a whole number less than 100
 arith762 Simplifying the square root of a whole number greater than 100
 alge080 Simplifying a radical expression with an even exponent
 alge520 Introduction to simplifying a radical expression with an odd exponent
 alge521 Simplifying a radical expression with an odd exponent
 alge275 Simplifying a radical expression with two variables
 alge273 Simplifying a higher root of a whole number
 alge551 Introduction to simplifying a higher radical expression
 alge552 Simplifying a higher radical expression: Univariate
 alge811 Simplifying a higher radical expression: Multivariate
 arith767 Introduction to square root addition or subtraction
 arith032 Square root addition or subtraction
 alge533 Square root addition or subtraction with three terms
 alge531 Introduction to simplifying a sum or difference of radical expressions: Univariate
 alge532 Simplifying a sum or difference of radical expressions: Univariate
 alge084 Simplifying a sum or difference of radical expressions: Multivariate
 alge554 Simplifying a sum or difference of higher roots
 alge555 Simplifying a sum or difference of higher radical expressions
 arith764 Introduction to square root multiplication
 arith765 Square root multiplication: Basic
 arith039 Square root multiplication: Advanced
 alge522 Introduction to simplifying a product of radical expressions: Univariate
 alge523 Simplifying a product of radical expressions: Univariate
 alge640 Simplifying a product of radical expressions: Multivariate
 alge556 Introduction to simplifying a product of higher roots
 alge557 Simplifying a product of higher radical expressions
 alge525 Introduction to simplifying a product involving square roots using the distributive property
 alge526 Simplifying a product involving square roots using the distributive property: Basic
 alge276 Simplifying a product involving square roots using the distributive property: Advanced
 alge774 Special products of radical expressions: Conjugates and squaring
 alge984 Classifying sums and products as rational or irrational
 arith766 Simplifying a quotient of square roots
 alge530 Simplifying a quotient involving a sum or difference with a square root
 alge527 Rationalizing a denominator: Quotient involving square roots

alge528 Rationalizing a denominator: Square root of a fraction
 alge529 Rationalizing a denominator: Quotient involving a monomial
 alge534 Rationalizing a denominator using conjugates: Integer numerator
 alge535 Rationalizing a denominator using conjugates: Square root in numerator
 alge536 Rationalizing a denominator using conjugates: Variable in denominator
 alge564 Rationalizing a denominator: Quotient involving a higher radical
 alge400 Introduction to solving a radical equation
 alge089 Solving a radical equation that simplifies to a linear equation: One radical, basic
 alge402 Solving a radical equation that simplifies to a linear equation: One radical, advanced
 alge090 Solving a radical equation that simplifies to a linear equation: Two radicals
 alge405 Solving a radical equation with two radicals that simplifies to $\sqrt{x} = a$
 alge403 Solving a radical equation that simplifies to a quadratic equation: One radical, basic
 alge404 Solving a radical equation that simplifies to a quadratic equation: One radical, advanced
 alge411 Solving a radical equation with a quadratic expression under the radical
 alge182 Solving a radical equation that simplifies to a quadratic equation: Two radicals
 alge410 Solving an equation with a root index greater than 2: Problem type 1
 alge417 Solving an equation with a root index greater than 2: Problem type 2
 alge412 Algebraic symbol manipulation with radicals
 alge542 Word problem involving radical equations: Basic
 alge409 Word problem involving radical equations: Advanced
 alge132 Distance between two points in the plane: Exact answers
 alge539 Table for a square root function
 alge540 Domain of a square root function: Basic
 pcalc763 Domain of a square root function: Advanced
 alge543 Graphing a square root function: Problem type 1
 alge544 Graphing a square root function: Problem type 2
 alge812 Converting between radical form and exponent form
 alge560 Rational exponents: Unit fraction exponents and whole number bases
 alge561 Rational exponents: Unit fraction exponents and bases involving signs
 alge250 Rational exponents: Non-unit fraction exponent with a whole number base
 alge251 Rational exponents: Negative exponents and fractional bases
 alge558 Rational exponents: Product rule
 alge559 Rational exponents: Quotient rule
 alge773 Rational exponents: Products and quotients with negative exponents
 alge562 Rational exponents: Power of a power rule
 alge249 Rational exponents: Powers of powers with negative exponents
 alge563 Simplifying products or quotients of higher radicals with different indices: Univariate
 alge778 Using i to rewrite square roots of negative numbers
 alge779 Simplifying a product and quotient involving square roots of negative numbers
 pcalc048 Adding or subtracting complex numbers
 pcalc049 Multiplying complex numbers
 pcalc050 Dividing complex numbers
 pcalc053 Simplifying a power of i
 alge962 Solving an equation of the form $x^2 = a$ using the square root property
 alge092 Solving a quadratic equation using the square root property: Exact answers, basic
 alge227 Solving a quadratic equation using the square root property: Exact answers, advanced
 alge094 Completing the square
 alge780 Solving a quadratic equation by completing the square: Exact answers
 alge095 Applying the quadratic formula: Exact answers
 alge963 Applying the quadratic formula: Decimal answers
 pcalc051 Solving a quadratic equation with complex roots
 alge214 Discriminant of a quadratic equation
 alge524 Solving a word problem using a quadratic equation with irrational roots
 alge974 Finding the vertex, x -intercepts, and axis of symmetry from the graph of a parabola
 alge953 Translating the graph of a parabola: One step
 alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
 alge569 Graphing a parabola of the form $y = x^2 + bx + c$
 pcalc746 Graphing a parabola of the form $y = ax^2 + bx + c$: Integer coefficients
 pcalc747 Graphing a parabola of the form $y = ax^2 + bx + c$: Rational coefficients
 alge277 Finding the x -intercept(s) and the vertex of a parabola
 pcalc774 Rewriting a quadratic function to find the vertex of its graph
 pcalc775 Finding the maximum or minimum of a quadratic function

alge785 Word problem involving the maximum or minimum of a quadratic function
 alge975 Domain and range from the graph of a parabola
 pcalc762 Range of a quadratic function
 alge957 Solving a quadratic equation by graphing
 alge996 Comparing properties of quadratic functions given in different forms
 alge702 Classifying the graph of a function
 alge723 How the leading coefficient affects the shape of a parabola
 alge965 Identifying linear, quadratic, and exponential functions given ordered pairs
 alge262 Graphing a cubic function of the form $y = ax^3$
 fun019 Sum, difference, and product of two functions
 fun022 Composition of two functions: Basic
 pcalc776 Expressing a function as a composition of two functions
 pcalc924 Determining whether an equation defines a function: Basic
 pcalc757 Determining whether an equation defines a function: Advanced

B.4 Math Literacy

Arithmetic Readiness

arith126 Multiplication as repeated addition
 arith711 Division involving zero
 arith130 Word problem with multiplication and addition or subtraction of whole numbers
 arith078 Rounding to tens or hundreds
 arith123 Rounding to hundreds or thousands
 arith061 Rounding to thousands, ten thousands, or hundred thousands
 arith101 Estimating a sum of whole numbers
 arith102 Estimating a difference of whole numbers
 arith604 Estimating a product or quotient of whole numbers
 arith655 Introduction to properties of addition
 arith656 Introduction to properties of multiplication
 arith692 Writing expressions using exponents
 arith233 Introduction to exponents
 arith683 Power of 10: Positive exponent
 arith645 Introduction to parentheses
 arith681 Introduction to order of operations
 arith048 Order of operations with whole numbers
 arith051 Order of operations with whole numbers and grouping symbols
 arith693 Order of operations with whole numbers and exponents: Basic
 arith713 Order of operations with whole numbers and exponents: Advanced
 arith657 Understanding the distributive property
 arith646 Even and odd numbers
 arith647 Divisibility rules for 2, 5, and 10
 arith648 Divisibility rules for 3 and 9
 arith056 Factors
 arith034 Prime numbers
 arith035 Prime factorization
 arith033 Greatest common factor of 2 numbers
 arith070 Least common multiple of 2 numbers
 arith804 Least common multiple of 3 numbers
 arith240 Word problem with common multiples
 alge925 Finding the next terms of an arithmetic sequence with whole numbers
 alge933 Finding the next terms of a geometric sequence with whole numbers
 alge732 Finding patterns in shapes
 alge284 Evaluating an algebraic expression: Whole number addition or subtraction
 alge683 Evaluating an algebraic expression: Whole number multiplication or division
 alge285 Evaluating an algebraic expression: Whole numbers with two operations
 alge832 Evaluating an algebraic expression: Whole number operations and exponents
 alge009 Additive property of equality with whole numbers

alge008 Multiplicative property of equality with whole numbers
alge803 Using two steps to solve an equation with whole numbers
arith623 Introduction to fractions
arith665 Understanding equivalent fractions
arith212 Equivalent fractions
arith666 Introduction to simplifying a fraction
arith067 Simplifying a fraction
arith687 Fractional position on a number line
arith667 Plotting fractions on a number line
arith044 Ordering fractions with the same denominator
arith091 Ordering fractions with the same numerator
arith092 Using a common denominator to order fractions
arith079 Product of a unit fraction and a whole number
arith086 Product of a fraction and a whole number: Problem type 1
arith119 Introduction to fraction multiplication
arith053 Fraction multiplication
arith812 Product of a fraction and a whole number: Problem type 2
arith813 Multiplication of 3 fractions
arith818 Word problem involving fractions and multiplication
arith095 Multi-step word problem involving fractions and multiplication
arith088 The reciprocal of a number
arith694 Division involving a whole number and a fraction
arith022 Fraction division
arith819 Word problem involving fractions and division
arith618 Addition or subtraction of fractions with the same denominator
arith802 Addition or subtraction of fractions with the same denominator and simplification
arith801 Finding the LCD of two fractions
arith109 Addition or subtraction of unit fractions
arith664 Introduction to addition or subtraction of fractions with different denominators
arith230 Addition or subtraction of fractions with different denominators
arith803 Addition and subtraction of 3 fractions with different denominators
arith805 Word problem involving addition or subtraction of fractions with different denominators
arith100 Fractional part of a circle
arith821 Exponents and fractions
arith859 Order of operations with fractions: Problem type 1
arith860 Order of operations with fractions: Problem type 2
arith861 Order of operations with fractions: Problem type 3
arith695 Complex fraction without variables: Problem type 1
arith662 Writing a mixed number and an improper fraction for a shaded region
arith015 Writing an improper fraction as a mixed number
arith619 Writing a mixed number as an improper fraction
arith215 Addition or subtraction of mixed numbers with the same denominator
arith084 Addition of mixed numbers with the same denominator and carry
arith216 Subtraction of mixed numbers with the same denominator and borrowing
arith806 Addition or subtraction of mixed numbers with different denominators and no carry or borrow
arith808 Addition of mixed numbers with different denominators and carry
arith809 Subtraction of mixed numbers with different denominators and borrowing
arith807 Addition and subtraction of 3 mixed numbers with different denominators
arith810 Word problem involving addition or subtraction of mixed numbers with different denominators
arith815 Mixed number multiplication
arith816 Multiplication of a mixed number and a whole number
arith817 Division with a mixed number and a whole number
arith068 Mixed number division
arith820 Word problem involving multiplication or division with mixed numbers
arith127 Writing a decimal and a fraction for a shaded region
arith110 Decimal place value: Tenths and hundredths
arith220 Decimal place value: Hundreds to ten thousandths
arith714 Writing a decimal number less than 1 given its name
arith715 Writing a decimal number greater than 1 given its name
arith716 Writing a decimal number given its name: Advanced
arith829 Reading decimal position on a number line: Tenths
arith830 Reading decimal position on a number line: Hundredths

arith831 Understanding decimal position on a number line using zoom: Hundredths
arith832 Understanding decimal position on a number line using zoom: Thousandths
arith129 Introduction to ordering decimals
arith608 Ordering decimals
arith221 Rounding decimals
arith624 Addition of aligned decimals
arith013 Decimal addition with 3 numbers
arith734 Subtraction of aligned decimals
arith735 Decimal subtraction: Basic
arith736 Decimal subtraction: Advanced
arith737 Decimal addition and subtraction with 3 or more numbers
arith131 Estimating a decimal sum or difference
arith132 Word problem with addition or subtraction of 2 decimals
arith133 Word problem with addition of 3 or 4 decimals and whole numbers
arith134 Word problem with subtraction of a whole number and a decimal: Regrouping with zeros
arith739 Introduction to decimal multiplication
arith017 Multiplication of a decimal by a whole number
arith055 Decimal multiplication: Problem type 1
arith046 Decimal multiplication: Problem type 2
arith082 Multiplication of a decimal by a power of ten
arith738 Multiplication of a decimal by a power of 0.1
arith740 Multiplication of decimals that have a product less than 0.1
arith752 Estimating a product of decimals
arith135 Word problem with multiplication of a decimal and a whole number
arith137 Word problem with multiplication of two decimals
arith224 Word problem with decimal addition and multiplication
arith744 Whole number division with decimal answers
arith081 Division of a decimal by a whole number
arith743 Division of a decimal by a 1-digit decimal
arith019 Division of a decimal by a 2-digit decimal
arith083 Division of a decimal by a power of ten
arith742 Division of a decimal by a power of 0.1
arith745 Decimal division with rounding
arith136 Word problem with division of a decimal and a whole number
arith138 Word problem with division of two decimals
arith227 Word problem with decimal subtraction and division
arith753 Squaring decimal bases: Products greater than 0.1
arith741 Exponents and decimals: Products less than 0.1
arith720 Order of operations with decimals: Problem type 1
arith746 Order of operations with decimals: Problem type 2
arith747 Order of operations with decimals: Problem type 3
arith717 Converting a decimal to a proper fraction without simplifying: Basic
arith719 Converting a decimal to a proper fraction without simplifying: Advanced
arith718 Converting a decimal to a proper fraction in simplest form: Basic
arith087 Converting a decimal to a proper fraction in simplest form: Advanced
arith721 Converting a decimal to a mixed number and an improper fraction without simplifying
arith722 Converting a decimal to a mixed number and an improper fraction in simplest form: Basic
arith724 Converting a decimal to a mixed number and an improper fraction in simplest form: Advanced
arith725 Converting a fraction with a denominator of 10 or 100 to a decimal
arith726 Converting a fraction with a denominator of 100 or 1000 to a decimal
arith727 Converting a fraction to a terminating decimal: Basic
arith728 Converting a fraction to a terminating decimal: Advanced
arith730 Converting a fraction to a repeating decimal: Basic
arith731 Converting a fraction to a repeating decimal: Advanced
arith733 Using a calculator to convert a fraction to a rounded decimal
arith111 Converting a mixed number to a terminating decimal: Basic
arith112 Converting a mixed number to a terminating decimal: Advanced
arith732 Converting a fraction or mixed number to a rounded decimal
arith609 Ordering fractions and decimals
arith748 Addition or subtraction with a decimal and a mixed number
arith749 Multiplication with a decimal and a fraction

Geometry

geom339 Perimeter of a polygon
geom300 Perimeter of a square or a rectangle
geom618 Perimeter of a polygon involving mixed numbers and fractions
geom078 Sides of polygons having the same perimeter
geom221 Finding the missing length in a figure
geom353 Perimeter of a piecewise rectangular figure
geom358 Identifying parallel and perpendicular lines
geom349 Naming segments, rays, and lines
geom151 Measuring an angle with the protractor
geom152 Drawing an angle with the protractor
geom303 Acute, obtuse, and right angles
geom039 Finding supplementary and complementary angles
geom305 Identifying supplementary and vertical angles
geom304 Identifying corresponding and alternate angles
geom306 Acute, obtuse, and right triangles
geom307 Classifying scalene, isosceles, and equilateral triangles by side lengths or angles
geom001 Finding an angle measure of a triangle given two angles
geom908 Finding an angle measure for a triangle with an extended side
geom812 Finding an angle measure given extended triangles
geom813 Finding an angle measure given a triangle and parallel lines
geom361 Naming polygons
mstat042 Interpreting a Venn diagram of 2 sets
geom867 Identifying parallelograms, rectangles, and squares
geom310 Properties of quadrilaterals
geom532 Classifying parallelograms
geom019 Area of a square or a rectangle
geom866 Perimeter and area on a grid
geom620 Area of a rectangle involving fractions
geom619 Area of a rectangle involving mixed numbers and fractions
geom350 Distinguishing between the area and perimeter of a rectangle
geom351 Areas of rectangles with the same perimeter
geom217 Finding the side length of a rectangle given its perimeter or area
geom340 Area of a piecewise rectangular figure
geom142 Word problem involving the area between two rectangles
geom801 Area of a triangle
geom344 Area involving rectangles and triangles
geom022 Area of a parallelogram
geom023 Area of a trapezoid
geom347 Introduction to a circle: Diameter, radius, and chord
geom016 Circumference of a circle
geom301 Perimeter involving rectangles and circles
geom802 Circumference and area of a circle
geom302 Area involving rectangles and circles
geom036 Word problem involving the area between two concentric circles
geom214 Area involving inscribed figures
geom868 Classifying solids
geom348 Vertices, edges, and faces of a solid
geom830 Counting the cubes in a solid made of cubes
geom354 Volume of a rectangular prism made of unit cubes
geom311 Volume of a rectangular prism
geom505 Volume of a piecewise rectangular prism
geom090 Volume of a triangular prism
geom033 Volume of a pyramid
geom035 Volume of a cylinder
geom622 Volume of a cone
geom841 Volume of a sphere
geom219 Nets of solids
geom816 Side views of a solid made of cubes
geom031 Surface area of a cube or a rectangular prism
geom345 Surface area of a piecewise rectangular prism made of unit cubes

geom091 Surface area of a triangular prism
 geom621 Surface area of a cylinder
 geom842 Surface area of a sphere
 arith016 Square root of a perfect square
 arith763 Using a calculator to approximate a square root
 arith602 Estimating a square root
 arith601 Square root of a rational perfect square
 alge407 Introduction to the Pythagorean Theorem
 geom044 Pythagorean Theorem
 alge408 Word problem involving the Pythagorean Theorem

Ratios, Proportions, and Percents

arith823 Writing ratios using different notations
 arith663 Writing ratios for real-world situations
 arith824 Simplifying a ratio of whole numbers: Problem type 1
 arith825 Simplifying a ratio of decimals
 arith827 Finding a unit price
 arith828 Computing unit prices to find the better buy
 arith064 Solving a word problem on proportions using a unit rate
 arith228 Word problem on unit rates associated with ratios of whole numbers: Decimal answers
 alge823 Solving a one-step word problem using the formula $d = rt$
 alge272 Solving a proportion of the form $x/a = b/c$
 arith610 Word problem on proportions: Problem type 1
 arith611 Word problem on proportions: Problem type 2
 arith045 Word problem with powers of ten
 geom359 Identifying congruent shapes on a grid
 geom520 Identifying and naming congruent triangles
 geom360 Identifying similar or congruent shapes on a grid
 geom037 Similar polygons
 geom038 Similar right triangles
 geom337 Indirect measurement
 arith836 Converting a fraction with a denominator of 100 to a percentage
 arith837 Converting a percentage to a fraction with a denominator of 100
 arith674 Finding the percentage of a grid that is shaded
 arith723 Introduction to converting a percentage to a decimal
 arith833 Introduction to converting a decimal to a percentage
 arith834 Converting between percentages and decimals
 arith841 Converting a mixed number percentage to a decimal
 arith835 Converting between percentages and decimals in a real-world situation
 arith090 Converting a percentage to a fraction in simplest form
 arith839 Converting a decimal percentage to a fraction
 arith838 Converting a fraction to a percentage: Denominator of 4, 5, or 10
 arith002 Converting a fraction to a percentage: Denominator of 20, 25, or 50
 arith843 Using a calculator to convert a fraction to a rounded percentage
 arith842 Converting a fraction to a percentage in a real-world situation
 arith840 Finding a percentage of a whole number
 arith030 Finding a percentage of a whole number without a calculator: Basic
 arith844 Finding a percentage of a whole number without a calculator: Advanced
 arith862 Applying the percent equation: Problem type 1
 arith863 Applying the percent equation: Problem type 2
 arith845 Finding a percentage of a total amount: Real-world situations
 arith846 Finding a percentage of a total amount without a calculator: Sales tax, commission, discount
 arith857 Estimating a tip without a calculator
 arith069 Writing a ratio as a percentage without a calculator
 mstat049 Computing a percentage from a table of values
 arith850 Finding the rate of a tax or commission
 arith849 Finding the total amount given the percentage of a partial amount
 arith852 Finding the multiplier to give a final amount after a percentage increase or decrease
 arith851 Finding the final amount given the original amount and a percentage increase or decrease

arith847 Finding the sale price given the original price and percent discount
 arith074 Finding the sale price without a calculator given the original price and percent discount
 arith848 Finding the total cost including tax or markup
 arith855 Finding the original amount given the result of a percentage increase or decrease
 arith031 Finding the original price given the sale price and percent discount
 arith858 Finding the percentage increase or decrease: Basic
 arith225 Finding the percentage increase or decrease: Advanced
 arith232 Finding simple interest without a calculator

Measurement

mstat059 Choosing U.S. Customary measurement units
 unit005 U.S. Customary unit conversion with whole number values
 mstat035 Conversions involving measurements in feet and inches
 mstat036 Adding measurements in feet and inches
 unit006 U.S. Customary unit conversion with whole number values: Two-step conversion
 unit007 U.S. Customary unit conversion with mixed number values: One-step conversion
 unit008 U.S. Customary unit conversion with mixed number values: Two-step conversion
 unit009 U.S. Customary area unit conversion with whole number values
 mstat060 Choosing metric measurement units
 unit001 Metric distance conversion with whole number values
 unit002 Metric mass or capacity conversion with whole number values
 unit003 Metric distance conversion with decimal values
 unit004 Metric conversion with decimal values: Two-step problem
 unit010 Metric area unit conversion with decimal values
 unit012 Time unit conversion with whole number values
 time006 Adding time
 time007 Elapsed time
 mstat065 Converting between temperatures in Fahrenheit and Celsius
 arith826 Simplifying a ratio of whole numbers: Problem type 2
 unit034 Converting between metric and U.S. Customary unit systems
 unit035 Converting between compound units: Basic
 unit036 Converting between compound units: Advanced

Data Analysis

mstat056 Interpreting a tally table
 mstat037 Constructing a line plot
 mstat005 Constructing a bar graph for non-numerical data
 mstat004 Constructing a histogram for numerical data
 mstat024 Interpreting a bar graph
 mstat044 Interpreting a double bar graph
 mstat057 Interpreting a pictograph table
 mstat031 Interpreting a stem-and-leaf plot
 mstat007 Interpreting a line graph
 stat804 Interpreting a circle graph or pie chart
 arith856 Finding a percentage of a total amount in a circle graph
 stat801 Computations from a circle graph
 geom814 Angle measure in a circle graph
 stat020 Calculating relative frequencies in a contingency table
 stat805 Making a reasonable inference based on proportion statistics
 mstat025 Finding if a question can be answered by the data
 mstat003 Mode of a data set
 mstat055 Finding the mode and range of a data set
 arith103 Average of two numbers
 mstat001 Mean of a data set
 mstat028 Mean and median of a data set
 mstat029 How changing a value affects the mean and median

mstat053 Choosing the best measure to describe data
stat802 Rejecting unreasonable claims based on average statistics
mstat066 Weighted mean
mstat027 Using back-to-back stem-and-leaf plots to compare data sets
mstat072 Five-number summary and interquartile range
mstat006 Constructing a box-and-whisker plot
mstat073 Using box-and-whisker plots to compare data sets
mstat043 Interpreting a Venn diagram of 3 sets
mstat041 Interpreting a tree diagram
mstat040 Introduction to the counting principle
mstat015 Counting principle
pcalc082 Factorial expressions
mstat017 Computing permutations and combinations
mstat008 Word problem involving permutations
mstat009 Word problem involving combinations
mstat026 Introduction to the probability of an event
mstat010 Probability of an event
mstat039 Understanding likelihood
mstat048 Odds of an event
stat106 Outcomes and event probability
stat112 Probabilities involving two dice
mstat011 Area as probability
mstat046 Experimental and theoretical probability
mstat047 Introduction to expectation
mstat012 Probability of independent events
mstat013 Probability of dependent events
mstat032 Probability of the union of two events

Real Numbers

alge286 Plotting integers on a number line
arith605 Plotting rational numbers on a number line
mstat038 Reading the temperature from a thermometer
arith699 Writing a signed number for a real-world situation
arith691 Ordering integers
arith071 Absolute value of a number
arith712 Ordering real numbers
arith200 Integer addition: Problem type 1
arith108 Integer addition: Problem type 2
arith688 Integer subtraction: Problem type 1
arith689 Integer subtraction: Problem type 2
arith690 Integer subtraction: Problem type 3
arith754 Addition and subtraction with 3 integers
arith755 Addition and subtraction with 4 or 5 integers
arith701 Word problem with addition or subtraction of integers
arith231 Integer multiplication and division
arith800 Multiplication of 3 or 4 integers
alge001 Identifying numbers as integers or non-integers
alge002 Identifying numbers as rational or irrational
arith116 Signed fraction addition or subtraction: Basic
arith864 Signed fraction subtraction involving double negation
arith106 Signed fraction addition or subtraction: Advanced
arith811 Addition and subtraction of 3 fractions involving signs
arith822 Signed fraction multiplication: Basic
arith105 Signed fraction multiplication: Advanced
arith814 Signed fraction division
arith117 Signed decimal addition and subtraction
arith234 Signed decimal addition and subtraction with 3 numbers
arith750 Signed decimal multiplication
arith751 Signed decimal division

arith104 Operations with absolute value: Problem type 2
 geom525 Computing distances between decimals on the number line
 unit052 Finding the absolute error and percent error of a measurement
 arith702 Exponents and integers: Problem type 1
 arith703 Exponents and integers: Problem type 2
 arith704 Exponents and signed fractions
 arith118 Order of operations with integers
 arith600 Order of operations with integers and exponents
 alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge808 Evaluating a linear expression: Signed fraction multiplication with addition or subtraction
 alge302 Evaluating a linear expression: Signed decimal addition and subtraction
 alge303 Evaluating a linear expression: Signed decimal multiplication with addition or subtraction
 alge004 Evaluating a quadratic expression: Integers
 alge700 Combining like terms: Whole number coefficients
 alge607 Combining like terms: Integer coefficients
 alge187 Properties of addition
 alge310 Multiplying a constant and a linear monomial
 alge606 Distributive property: Whole number coefficients
 alge604 Distributive property: Integer coefficients
 alge188 Properties of real numbers
 alge608 Using distribution and combining like terms to simplify: Univariate
 alge609 Using distribution with double negation and combining like terms to simplify: Multivariate
 alge293 Combining like terms in a quadratic expression
 arith767 Introduction to square root addition or subtraction

Linear Equations and Inequalities

alge801 Additive property of equality with fractions and mixed numbers
 alge800 Additive property of equality with decimals
 alge010 Additive property of equality with integers
 alge836 Additive property of equality with signed fractions
 alge820 Multiplicative property of equality with fractions
 alge825 Multiplicative property of equality with decimals
 alge797 Multiplicative property of equality with integers
 alge012 Multiplicative property of equality with signed fractions
 alge834 Identifying solutions to a linear equation in one variable: Two-step equations
 alge266 Additive property of equality with a negative coefficient
 alge006 Solving a two-step equation with integers
 alge200 Solving an equation to find the value of an expression
 alge920 Introduction to solving an equation with parentheses
 alge837 Solving a multi-step equation given in fractional form
 alge986 Identifying properties used to solve a linear equation
 alge824 Solving a two-step equation with signed decimals
 alge838 Introduction to solving an equation with variables on the same side
 alge862 Solving a linear equation with several occurrences of the variable: Variables on the same side
 alge863 Solving a linear equation with several occurrences of the variable: Variables on both sides
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
 alge420 Solving a linear equation with several occurrences of the variable: Fractional forms with monomial numerators
 alge208 Solving a two-step equation with signed fractions
 alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
 alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
 alge742 Solving equations with zero, one, or infinitely many solutions

alge840 Solving a proportion of the form $(x+a)\div b = c\div d$

alge603 Introduction to solving an absolute value equation

alge864 Solving an absolute value equation: Problem type 1

alge511 Solving for a variable in terms of other variables using addition or subtraction: Basic

alge512 Solving for a variable in terms of other variables using addition or subtraction: Advanced

alge513 Solving for a variable in terms of other variables using multiplication or division: Basic

alge514 Solving for a variable in terms of other variables using multiplication or division: Advanced

alge517 Solving for a variable in terms of other variables using addition or subtraction with division

alge518 Solving for a variable inside parentheses in terms of other variables

alge507 Solving for a variable in terms of other variables in a linear equation with fractions

alge733 Writing a one-step expression for a real-world situation

alge831 Translating a phrase into a one-step expression

alge291 Translating a phrase into a two-step expression

alge016 Translating a sentence into a one-step equation

alge841 Translating a sentence into a multi-step equation

alge802 Solving a fraction word problem using a linear equation of the form $Ax = B$

alge014 Solving a word problem with two unknowns using a linear equation

alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$

alge730 Writing a multi-step equation for a real-world situation

alge219 Solving a decimal word problem using a linear equation with the variable on both sides

alge704 Solving a fraction word problem using a linear equation with the variable on both sides

alge792 Solving a word problem with three unknowns using a linear equation

alge842 Solving a word problem involving consecutive integers

alge794 Solving a value mixture problem using a linear equation

alge218 Solving a word problem involving rates and time conversion

alge796 Solving a distance, rate, time problem using a linear equation

arith854 Computing a percent mixture

alge795 Solving a percent mixture problem using a linear equation

geom817 Finding a side length given the perimeter and side lengths with variables

geom143 Finding the perimeter or area of a rectangle given one of these values

geom218 Finding the radius or the diameter of a circle given its circumference

geom838 Circumference ratios

geom092 Word problem involving the rate of filling or emptying a cylinder

geom530 Solving equations involving vertical angles

geom531 Solving equations involving angles and a pair of parallel lines

geom623 Finding angle measures of a triangle given angles with variables

geom502 Finding angle measures of a right or isosceles triangle given angles with variables

stat803 Finding the value for a new score that will yield a given mean

alge015 Translating a sentence by using an inequality symbol

alge845 Translating a sentence into a one-step inequality

alge846 Translating a sentence into a multi-step inequality

alge748 Writing an inequality for a real-world situation

alge017 Graphing a linear inequality on the number line

alge822 Writing an inequality given a graph on the number line

alge186 Translating a sentence into a compound inequality

alge166 Graphing a compound inequality on the number line

alge847 Writing a compound inequality given a graph on the number line

set001 Set builder notation

set004 Set builder and interval notation

set002 Union and intersection of finite sets

alge844 Identifying solutions to a two-step linear inequality in one variable

alge848 Additive property of inequality with whole numbers

alge849 Additive property of inequality with integers

alge852 Additive property of inequality with signed fractions

alge853 Additive property of inequality with signed decimals

alge854 Multiplicative property of inequality with integers

alge964 Multiplicative property of inequality with signed fractions

alge855 Solving a two-step linear inequality: Problem type 1

alge856 Solving a two-step linear inequality: Problem type 2

alge857 Solving a two-step linear inequality with a fractional coefficient

alge977 Solving a linear inequality with multiple occurrences of the variable: Problem type 1

alge858 Solving a linear inequality with multiple occurrences of the variable: Problem type 2

alge859 Solving a linear inequality with multiple occurrences of the variable: Problem type 3
 alge860 Solving inequalities with no solution or all real numbers as solutions
 alge746 Solving a compound linear inequality: Graph solution, basic
 alge747 Solving a compound linear inequality: Interval notation
 alge749 Solving a decimal word problem using a two-step linear inequality
 alge750 Solving a decimal word problem using a linear inequality with the variable on both sides
 alge868 Solving an absolute value inequality: Problem type 1

Lines

alge064 Reading a point in the coordinate plane
 alge067 Plotting a point in the coordinate plane
 alge850 Table for a linear equation
 alge873 Identifying solutions to a linear equation in two variables
 alge066 Finding a solution to a linear equation in two variables
 alge191 Midpoint of a line segment in the plane
 alge132 Distance between two points in the plane: Exact answers
 alge877 Graphing a linear equation of the form $y = mx$
 alge878 Graphing a line given its equation in slope-intercept form: Integer slope
 alge879 Graphing a line given its equation in slope-intercept form: Fractional slope
 alge880 Graphing a line given its equation in standard form
 alge198 Graphing a vertical or horizontal line
 alge884 Finding x- and y-intercepts given the graph of a line on a grid
 alge924 Finding x- and y-intercepts of a line given the equation: Basic
 alge210 Finding x- and y-intercepts of a line given the equation: Advanced
 alge197 Graphing a line given its x- and y-intercepts
 alge881 Graphing a line by first finding its x- and y-intercepts
 alge875 Classifying slopes given graphs of lines
 alge886 Finding slope given the graph of a line on a grid
 alge887 Finding slope given two points on the line
 alge885 Finding the slope of horizontal and vertical lines
 alge888 Finding the coordinate that yields a given slope
 alge259 Graphing a line given its slope and y-intercept
 alge196 Graphing a line through a given point with a given slope
 alge876 Identifying linear equations: Advanced
 alge874 Identifying linear functions given ordered pairs
 alge891 Rewriting a linear equation in the form $Ax + By = C$
 alge889 Finding the slope and y-intercept of a line given its equation in the form $y = mx + b$
 alge890 Finding the slope and y-intercept of a line given its equation in the form $Ax + By = C$
 alge882 Graphing a line by first finding its slope and y-intercept
 alge258 Writing an equation of a line given its slope and y-intercept
 alge892 Writing an equation and graphing a line given its slope and y-intercept
 alge893 Writing an equation in slope-intercept form given the slope and a point
 alge883 Graphing a line given its equation in point-slope form
 alge894 Writing an equation in point-slope form given the slope and a point
 alge070 Writing an equation of a line given the y-intercept and another point
 alge072 Writing the equation of the line through two given points
 alge073 Writing the equations of vertical and horizontal lines through a given point
 geom806 Finding slopes of lines parallel and perpendicular to a line given in slope-intercept form
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 alge895 Identifying parallel and perpendicular lines from equations
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 alge897 Writing and evaluating a function that models a real-world situation: Advanced
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 fun005 Writing a function rule given a table of ordered pairs: One-step rules
 fun006 Writing a function rule given a table of ordered pairs: Two-step rules
 alge992 Combining functions to write a new function that models a real-world situation
 alge987 Comparing properties of linear functions given in different forms
 alge989 Interpreting the parameters of a linear function that models a real-world situation
 alge805 Application problem with a linear function: Finding a coordinate given the slope and a point

alge806 Application problem with a linear function: Finding a coordinate given two points
 mstat052 Identifying independent and dependent variables from equations or real-world situations
 alge991 Solving a linear equation by graphing
 alge898 Translating the graph of an absolute value function: One step
 alge899 Translating the graph of an absolute value function: Two steps
 alge913 Graphing an absolute value equation of the form $y = A|x - h| + k$
 alge900 Graphing an absolute value equation in the plane: Basic
 alge168 Graphing an absolute value equation in the plane: Advanced
 alge901 How the leading coefficient affects the graph of an absolute value function
 mstat030 Sketching the line of best fit
 mstat023 Scatter plots and correlation
 mstat068 Predictions from the line of best fit
 mstat067 Approximating the equation of a line of best fit and making predictions
 mstat069 Computing residuals
 mstat070 Interpreting residual plots
 mstat071 Linear relationship and the correlation coefficient
 mstat074 Identifying correlation and causation
 alge060 Solving a rational equation that simplifies to linear: Denominator x
 alge982 Identifying direct variation equations
 alge938 Identifying direct variation from ordered pairs and writing equations
 alge904 Writing a direct variation equation
 alge175 Word problem on direct variation
 alge828 Interpreting direct variation from a graph
 alge905 Writing an inverse variation equation
 alge903 Identifying direct and inverse variation equations
 alge902 Identifying direct and inverse variation from ordered pairs and writing equations
 alge176 Word problem on inverse variation
 alge220 Word problem on inverse proportions
 pcalc681 Writing an equation that models variation
 alge772 Word problem on combined variation
 stat021 Population standard deviation
 stat852 Word problem involving calculations from a normal distribution

Functions

fun032 Identifying functions from relations
 fun010 Vertical line test
 fun016 Domain and range from ordered pairs
 fun001 Table for a linear function
 pcalc760 Evaluating functions: Linear and quadratic or cubic
 fun033 Variable expressions as inputs of functions: Problem type 1
 alge294 Finding outputs of a one-step function that models a real-world situation: Function notation
 alge295 Finding outputs of a two-step function with decimals that models a real-world situation: Function notation
 alge296 Finding inputs and outputs of a two-step function that models a real-world situation: Function notation
 alge990 Domain and range of a linear function that models a real-world situation
 fun026 Finding an output of a function from its graph
 pcalc761 Finding inputs and outputs of a function from its graph
 fun007 Domain and range from the graph of a discrete relation
 fun024 Domain and range from the graph of a continuous function
 alge896 Graphing an integer function and finding its range for a given domain
 alge570 Graphing a function of the form $f(x) = ax + b$: Integer slope
 alge571 Graphing a function of the form $f(x) = ax + b$: Fractional slope
 alge572 Graphing a function of the form $f(x) = ax^2$
 alge573 Graphing a function of the form $f(x) = ax^2 + c$
 pcalc750 Finding intercepts of a nonlinear function given its graph
 alge999 Finding where a function is increasing, decreasing, or constant given the graph
 pcalc751 Finding where a function is increasing, decreasing, or constant given the graph: Interval notation
 pcalc752 Finding local maxima and minima of a function given the graph
 mstat018 Choosing a graph to fit a narrative: Basic

mstat051 Choosing a graph to fit a narrative: Advanced

Systems

alge914 Identifying solutions to a system of linear equations
 alge075 Classifying systems of linear equations from graphs
 alge725 Graphically solving a system of linear equations
 alge751 Solving a system of linear equations using substitution
 alge915 Solving a system of linear equations using elimination with addition
 alge076 Solving a system of linear equations using elimination with multiplication and addition
 alge916 Solving a system of linear equations with fractional coefficients
 alge917 Solving a system of linear equations with decimal coefficients
 alge752 Solving a 2x2 system of linear equations that is inconsistent or consistent dependent
 alge988 Identifying the operations used to create equivalent systems of equations
 alge753 Solving a 3x3 system of linear equations: Problem type 1
 alge263 Interpreting the graphs of two functions
 alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations
 alge919 Solving a word problem using a system of linear equations of the form $Ax + By = C$
 alge918 Solving a word problem using a system of linear equations of the form $y = mx + b$
 alge184 Solving a value mixture problem using a system of linear equations
 alge192 Solving a percent mixture problem using a system of linear equations
 alge224 Solving a distance, rate, time problem using a system of linear equations
 alge172 Solving a tax rate or interest rate problem using a system of linear equations
 alge793 Solving a word problem using a 3x3 system of linear equations: Problem type 1
 alge912 Identifying solutions to a linear inequality in two variables
 alge225 Graphing a linear inequality in the plane: Vertical or horizontal line
 alge720 Graphing a linear inequality in the plane: Slope-intercept form
 alge018 Graphing a linear inequality in the plane: Standard form
 alge079 Graphing a system of two linear inequalities: Basic
 alge921 Graphing a system of two linear inequalities: Advanced
 alge922 Graphing a system of three linear inequalities
 alge729 Writing a multi-step inequality for a real-world situation
 pcalc093 Solving a word problem using a system of linear inequalities: Problem type 1

Exponents and Polynomials

alge821 Understanding the product rule of exponents
 alge024 Introduction to the product rule of exponents
 alge311 Product rule with positive exponents: Univariate
 alge030 Product rule with positive exponents: Multivariate
 arith029 Ordering numbers with positive exponents
 alge826 Understanding the power rules of exponents
 alge306 Introduction to the power of a power rule of exponents
 alge305 Introduction to the power of a product rule of exponents
 alge307 Power rules with positive exponents: Multivariate products
 alge308 Power rules with positive exponents: Multivariate quotients
 alge756 Power and product rules with positive exponents
 alge451 Simplifying a ratio of multivariate monomials: Basic
 alge827 Introduction to the quotient rule of exponents
 alge452 Simplifying a ratio of univariate monomials
 alge026 Quotient of expressions involving exponents
 alge453 Simplifying a ratio of multivariate monomials: Advanced
 alge927 Power and quotient rules with positive exponents
 alge790 Evaluating expressions with exponents of zero
 arith684 Power of 10: Negative exponent
 arith729 Evaluating an expression with a negative exponent: Whole number base
 arith042 Evaluating an expression with a negative exponent: Positive fraction base
 arith043 Evaluating an expression with a negative exponent: Negative integer base

arith024 Ordering numbers with negative exponents
alge791 Rewriting an algebraic expression without a negative exponent
alge961 Introduction to the product rule with negative exponents
alge028 Product rule with negative exponents
alge755 Quotient rule with negative exponents: Problem type 1
alge926 Quotient rule with negative exponents: Problem type 2
alge025 Power of a power rule with negative exponents
alge799 Power rules with negative exponents
alge928 Power and quotient rules with negative exponents: Problem type 1
alge929 Power and quotient rules with negative exponents: Problem type 2
alge757 Power, product, and quotient rules with negative exponents
arith036 Scientific notation with positive exponent
arith037 Scientific notation with negative exponent
scinot012 Converting between scientific notation and standard form in a real-world situation
scinot008 Multiplying numbers written in scientific notation: Basic
scinot009 Multiplying numbers written in scientific notation: Advanced
scinot010 Dividing numbers written in scientific notation: Basic
scinot011 Dividing numbers written in scientific notation: Advanced
alge758 Degree and leading coefficient of a univariate polynomial
alge031 Degree of a multivariate polynomial
alge798 Simplifying a sum or difference of two univariate polynomials
alge029 Simplifying a sum or difference of three univariate polynomials
alge932 Simplifying a sum or difference of multivariate polynomials
alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
alge972 Multiplying a univariate polynomial by a monomial with a negative coefficient
alge835 Multiplying a multivariate polynomial by a monomial
alge033 Multiplying binomials with leading coefficients of 1
alge983 Multiplying binomials with leading coefficients greater than 1
alge765 Multiplying binomials in two variables
alge764 Multiplying conjugate binomials: Univariate
alge081 Multiplying conjugate binomials: Multivariate
alge032 Squaring a binomial: Univariate
alge068 Squaring a binomial: Multivariate
alge973 Multiplying binomials with negative coefficients
alge935 Multiplication involving binomials and trinomials in one variable
alge180 Multiplication involving binomials and trinomials in two variables
alge759 Dividing a polynomial by a monomial: Univariate
alge760 Dividing a polynomial by a monomial: Multivariate
alge761 Polynomial long division: Problem type 1
alge762 Polynomial long division: Problem type 2
alge763 Polynomial long division: Problem type 3
alge985 Closure properties of integers and polynomials
alge605 Factoring a linear binomial
alge736 Introduction to the GCF of two monomials
alge930 Greatest common factor of three univariate monomials
alge037 Greatest common factor of two multivariate monomials
alge738 Factoring out a monomial from a polynomial: Univariate
alge739 Factoring out a monomial from a polynomial: Multivariate
alge949 Factoring out a binomial from a polynomial: GCF factoring, basic
alge923 Factoring a univariate polynomial by grouping: Problem type 1
alge950 Factoring a univariate polynomial by grouping: Problem type 2
alge951 Factoring a multivariate polynomial by grouping: Problem type 1
alge952 Factoring a multivariate polynomial by grouping: Problem type 2
alge039 Factoring a quadratic with leading coefficient 1
alge942 Factoring a quadratic in two variables with leading coefficient 1
alge936 Factoring out a constant before factoring a quadratic
alge939 Factoring a quadratic with leading coefficient greater than 1: Problem type 1
alge940 Factoring a quadratic with leading coefficient greater than 1: Problem type 2
alge941 Factoring a quadratic with leading coefficient greater than 1: Problem type 3
alge978 Factoring a quadratic by the ac-method
alge265 Factoring a quadratic in two variables with leading coefficient greater than 1
alge937 Factoring a quadratic with a negative leading coefficient

alge944 Factoring a perfect square trinomial with leading coefficient 1
 alge945 Factoring a perfect square trinomial with leading coefficient greater than 1
 alge946 Factoring a perfect square trinomial in two variables
 alge290 Factoring a difference of squares in one variable: Basic
 alge947 Factoring a difference of squares in one variable: Advanced
 alge839 Factoring a difference of squares in two variables
 alge948 Factoring a polynomial involving a GCF and a difference of squares: Univariate
 alge833 Factoring a polynomial involving a GCF and a difference of squares: Multivariate
 alge041 Factoring a product of a quadratic trinomial and a monomial
 alge042 Factoring with repeated use of the difference of squares formula
 alge044 Factoring a sum or difference of two cubes

Quadratic and Exponential Functions

alge681 Solving an equation written in factored form
 alge956 Finding the roots of a quadratic equation of the form $ax^2 + bx = 0$
 alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
 alge211 Solving a quadratic equation needing simplification
 alge703 Solving a word problem using a quadratic equation with rational roots
 alge713 Using the Pythagorean Theorem and a quadratic equation to find side lengths of a right triangle
 arith760 Square roots of perfect squares with signs
 arith093 Simplifying the square root of a whole number less than 100
 alge962 Solving an equation of the form $x^2 = a$ using the square root property
 alge092 Solving a quadratic equation using the square root property: Exact answers, basic
 alge227 Solving a quadratic equation using the square root property: Exact answers, advanced
 alge094 Completing the square
 alge780 Solving a quadratic equation by completing the square: Exact answers
 alge095 Applying the quadratic formula: Exact answers
 alge963 Applying the quadratic formula: Decimal answers
 alge214 Discriminant of a quadratic equation
 alge524 Solving a word problem using a quadratic equation with irrational roots
 alge974 Finding the vertex, x-intercepts, and axis of symmetry from the graph of a parabola
 alge954 Graphing a parabola of the form $y = ax^2$
 alge955 Graphing a parabola of the form $y = ax^2 + c$
 alge953 Translating the graph of a parabola: One step
 alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
 alge569 Graphing a parabola of the form $y = x^2 + bx + c$
 pcalc746 Graphing a parabola of the form $y = ax^2 + bx + c$: Integer coefficients
 pcalc747 Graphing a parabola of the form $y = ax^2 + bx + c$: Rational coefficients
 alge277 Finding the x-intercept(s) and the vertex of a parabola
 pcalc774 Rewriting a quadratic function to find the vertex of its graph
 pcalc775 Finding the maximum or minimum of a quadratic function
 alge785 Word problem involving the maximum or minimum of a quadratic function
 alge975 Domain and range from the graph of a parabola
 pcalc762 Range of a quadratic function
 alge957 Solving a quadratic equation by graphing
 alge996 Comparing properties of quadratic functions given in different forms
 alge702 Classifying the graph of a function
 alge723 How the leading coefficient affects the shape of a parabola
 alge971 Table for an exponential function
 alge830 Evaluating an exponential function that models a real-world situation
 arith853 Introduction to compound interest
 alge177 Finding a final amount in a word problem on exponential growth or decay
 alge741 Finding the final amount in a word problem on compound interest
 alge966 Finding the initial amount and rate of change given an exponential function
 alge968 Writing an equation that models exponential growth or decay
 alge301 Solving an exponential equation by finding common bases: Linear exponents
 alge969 Graphing an exponential function: $f(x) = ax$
 alge970 Graphing an exponential function: $f(x) = a(b)^x$

alge967 Writing an exponential function rule given a table of ordered pairs
 alge993 Comparing linear, polynomial, and exponential functions
 alge965 Identifying linear, quadratic, and exponential functions given ordered pairs

B.5 Liberal Arts Math

Problem Solving, Sets, and Logic

arith124 Whole number place value: Problem type 1
 arith125 Whole number place value: Problem type 2
 arith066 Expanded form
 arith643 Expanded form with zeros
 arith078 Rounding to tens or hundreds
 arith123 Rounding to hundreds or thousands
 arith061 Rounding to thousands, ten thousands, or hundred thousands
 arith110 Decimal place value: Tenths and hundredths
 arith220 Decimal place value: Hundreds to ten thousandths
 arith221 Rounding decimals
 arith101 Estimating a sum of whole numbers
 arith102 Estimating a difference of whole numbers
 arith604 Estimating a product or quotient of whole numbers
 arith131 Estimating a decimal sum or difference
 arith752 Estimating a product of decimals
 arith130 Word problem with multiplication and addition or subtraction of whole numbers
 alge732 Finding patterns in shapes
 alge925 Finding the next terms of an arithmetic sequence with whole numbers
 arith013 Decimal addition with 3 numbers
 arith132 Word problem with addition or subtraction of 2 decimals
 arith017 Multiplication of a decimal by a whole number
 arith055 Decimal multiplication: Problem type 1
 arith082 Multiplication of a decimal by a power of ten
 arith135 Word problem with multiplication of a decimal and a whole number
 arith137 Word problem with multiplication of two decimals
 arith224 Word problem with decimal addition and multiplication
 arith081 Division of a decimal by a whole number
 arith019 Division of a decimal by a 2-digit decimal
 arith083 Division of a decimal by a power of ten
 arith136 Word problem with division of a decimal and a whole number
 arith227 Word problem with decimal subtraction and division
 arith827 Finding a unit price
 arith828 Computing unit prices to find the better buy
 arith064 Solving a word problem on proportions using a unit rate
 arith228 Word problem on unit rates associated with ratios of whole numbers: Decimal answers
 mstat007 Interpreting a line graph
 mstat024 Interpreting a bar graph
 mstat044 Interpreting a double bar graph
 alge263 Interpreting the graphs of two functions
 set001 Set builder notation
 set002 Union and intersection of finite sets
 mstat042 Interpreting a Venn diagram of 2 sets
 mstat043 Interpreting a Venn diagram of 3 sets
 glogic001 Conditional statements and negations
 glogic005 The converse, inverse, and contrapositive of a conditional statement
 glogic008 Conditional statements and deductive reasoning

The Real Number System

arith655 Introduction to properties of addition
arith656 Introduction to properties of multiplication
arith692 Writing expressions using exponents
arith233 Introduction to exponents
arith683 Power of 10: Positive exponent
arith645 Introduction to parentheses
arith681 Introduction to order of operations
arith048 Order of operations with whole numbers
arith051 Order of operations with whole numbers and grouping symbols
arith693 Order of operations with whole numbers and exponents: Basic
arith713 Order of operations with whole numbers and exponents: Advanced
arith657 Understanding the distributive property
arith647 Divisibility rules for 2, 5, and 10
arith648 Divisibility rules for 3 and 9
arith056 Factors
arith034 Prime numbers
arith035 Prime factorization
arith033 Greatest common factor of 2 numbers
arith070 Least common multiple of 2 numbers
arith804 Least common multiple of 3 numbers
arith240 Word problem with common multiples
alge284 Evaluating an algebraic expression: Whole number addition or subtraction
alge683 Evaluating an algebraic expression: Whole number multiplication or division
alge285 Evaluating an algebraic expression: Whole numbers with two operations
alge286 Plotting integers on a number line
mstat038 Reading the temperature from a thermometer
arith699 Writing a signed number for a real-world situation
arith691 Ordering integers
arith200 Integer addition: Problem type 1
arith108 Integer addition: Problem type 2
arith688 Integer subtraction: Problem type 1
arith689 Integer subtraction: Problem type 2
arith690 Integer subtraction: Problem type 3
arith754 Addition and subtraction with 3 integers
arith701 Word problem with addition or subtraction of integers
arith231 Integer multiplication and division
arith800 Multiplication of 3 or 4 integers
arith118 Order of operations with integers
arith071 Absolute value of a number
arith744 Whole number division with decimal answers
arith623 Introduction to fractions
arith212 Equivalent fractions
arith666 Introduction to simplifying a fraction
arith067 Simplifying a fraction
arith687 Fractional position on a number line
arith667 Plotting fractions on a number line
arith092 Using a common denominator to order fractions
arith079 Product of a unit fraction and a whole number
arith086 Product of a fraction and a whole number: Problem type 1
arith119 Introduction to fraction multiplication
arith053 Fraction multiplication
arith813 Multiplication of 3 fractions
arith095 Multi-step word problem involving fractions and multiplication
arith088 The reciprocal of a number
arith022 Fraction division
arith819 Word problem involving fractions and division
arith618 Addition or subtraction of fractions with the same denominator
arith802 Addition or subtraction of fractions with the same denominator and simplification
arith801 Finding the LCD of two fractions
arith109 Addition or subtraction of unit fractions
arith664 Introduction to addition or subtraction of fractions with different denominators
arith230 Addition or subtraction of fractions with different denominators

arith803 Addition and subtraction of 3 fractions with different denominators
arith805 Word problem involving addition or subtraction of fractions with different denominators
arith100 Fractional part of a circle
arith821 Exponents and fractions
arith859 Order of operations with fractions: Problem type 1
arith860 Order of operations with fractions: Problem type 2
arith861 Order of operations with fractions: Problem type 3
arith695 Complex fraction without variables: Problem type 1
arith822 Signed fraction multiplication: Basic
arith814 Signed fraction division
arith116 Signed fraction addition or subtraction: Basic
arith864 Signed fraction subtraction involving double negation
arith106 Signed fraction addition or subtraction: Advanced
arith811 Addition and subtraction of 3 fractions involving signs
arith015 Writing an improper fraction as a mixed number
arith619 Writing a mixed number as an improper fraction
arith084 Addition of mixed numbers with the same denominator and carry
arith216 Subtraction of mixed numbers with the same denominator and borrowing
arith806 Addition or subtraction of mixed numbers with different denominators and no carry or borrow
arith808 Addition of mixed numbers with different denominators and carry
arith809 Subtraction of mixed numbers with different denominators and borrowing
arith807 Addition and subtraction of 3 mixed numbers with different denominators
arith810 Word problem involving addition or subtraction of mixed numbers with different denominators
arith815 Mixed number multiplication
arith816 Multiplication of a mixed number and a whole number
arith068 Mixed number division
arith820 Word problem involving multiplication or division with mixed numbers
arith717 Converting a decimal to a proper fraction without simplifying: Basic
arith719 Converting a decimal to a proper fraction without simplifying: Advanced
arith718 Converting a decimal to a proper fraction in simplest form: Basic
arith087 Converting a decimal to a proper fraction in simplest form: Advanced
arith721 Converting a decimal to a mixed number and an improper fraction without simplifying
arith722 Converting a decimal to a mixed number and an improper fraction in simplest form: Basic
arith725 Converting a fraction with a denominator of 10 or 100 to a decimal
arith726 Converting a fraction with a denominator of 100 or 1000 to a decimal
arith727 Converting a fraction to a terminating decimal: Basic
arith728 Converting a fraction to a terminating decimal: Advanced
arith730 Converting a fraction to a repeating decimal: Basic
arith731 Converting a fraction to a repeating decimal: Advanced
alge001 Identifying numbers as integers or non-integers
alge002 Identifying numbers as rational or irrational
alge187 Properties of addition
alge188 Properties of real numbers
arith702 Exponents and integers: Problem type 1
arith703 Exponents and integers: Problem type 2
arith704 Exponents and signed fractions
arith600 Order of operations with integers and exponents
alge821 Understanding the product rule of exponents
alge024 Introduction to the product rule of exponents
alge790 Evaluating expressions with exponents of zero
arith684 Power of 10: Negative exponent
arith729 Evaluating an expression with a negative exponent: Whole number base
arith042 Evaluating an expression with a negative exponent: Positive fraction base
arith043 Evaluating an expression with a negative exponent: Negative integer base
alge961 Introduction to the product rule with negative exponents
alge827 Introduction to the quotient rule of exponents
alge755 Quotient rule with negative exponents: Problem type 1
alge306 Introduction to the power of a power rule of exponents
arith036 Scientific notation with positive exponent
arith037 Scientific notation with negative exponent
scinot012 Converting between scientific notation and standard form in a real-world situation
scinot008 Multiplying numbers written in scientific notation: Basic

scinot009 Multiplying numbers written in scientific notation: Advanced
 scinot010 Dividing numbers written in scientific notation: Basic
 scinot011 Dividing numbers written in scientific notation: Advanced
 arith016 Square root of a perfect square
 arith760 Square roots of perfect squares with signs
 arith763 Using a calculator to approximate a square root
 arith602 Estimating a square root
 arith093 Simplifying the square root of a whole number less than 100
 arith762 Simplifying the square root of a whole number greater than 100
 arith601 Square root of a rational perfect square
 arith767 Introduction to square root addition or subtraction
 arith032 Square root addition or subtraction
 alge533 Square root addition or subtraction with three terms
 arith764 Introduction to square root multiplication
 arith765 Square root multiplication: Basic
 alge527 Rationalizing a denominator: Quotient involving square roots
 alge528 Rationalizing a denominator: Square root of a fraction
 alge933 Finding the next terms of a geometric sequence with whole numbers
 alge644 Finding the first terms of an arithmetic sequence using an explicit rule
 alge645 Finding the first terms of a geometric sequence using an explicit rule
 pcalc080 Finding the first terms of a sequence using an explicit rule with multiple occurrences of n
 pcalc085 Finding a specified term of an arithmetic sequence given the common difference and first term
 pcalc715 Finding a specified term of an arithmetic sequence given two terms of the sequence
 alge906 Finding the next terms of an arithmetic sequence with integers
 alge979 Identifying arithmetic sequences and finding the common difference
 alge931 Finding a specified term of an arithmetic sequence given the first terms
 alge909 Writing an explicit rule for an arithmetic sequence
 alge910 Writing a recursive rule for an arithmetic sequence

Basics of Algebra

alge700 Combining like terms: Whole number coefficients
 alge607 Combining like terms: Integer coefficients
 alge310 Multiplying a constant and a linear monomial
 alge606 Distributive property: Whole number coefficients
 alge604 Distributive property: Integer coefficients
 alge608 Using distribution and combining like terms to simplify: Univariate
 alge293 Combining like terms in a quadratic expression
 alge798 Simplifying a sum or difference of two univariate polynomials
 alge029 Simplifying a sum or difference of three univariate polynomials
 alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge808 Evaluating a linear expression: Signed fraction multiplication with addition or subtraction
 alge302 Evaluating a linear expression: Signed decimal addition and subtraction
 alge303 Evaluating a linear expression: Signed decimal multiplication with addition or subtraction
 alge004 Evaluating a quadratic expression: Integers
 alge733 Writing a one-step expression for a real-world situation
 alge831 Translating a phrase into a one-step expression
 alge291 Translating a phrase into a two-step expression
 alge016 Translating a sentence into a one-step equation
 alge841 Translating a sentence into a multi-step equation
 alge009 Additive property of equality with whole numbers
 alge801 Additive property of equality with fractions and mixed numbers
 alge800 Additive property of equality with decimals
 alge010 Additive property of equality with integers
 alge836 Additive property of equality with signed fractions
 alge008 Multiplicative property of equality with whole numbers
 alge820 Multiplicative property of equality with fractions
 alge825 Multiplicative property of equality with decimals
 alge797 Multiplicative property of equality with integers
 alge012 Multiplicative property of equality with signed fractions

alge834 Identifying solutions to a linear equation in one variable: Two-step equations
alge266 Additive property of equality with a negative coefficient
alge803 Using two steps to solve an equation with whole numbers
alge006 Solving a two-step equation with integers
alge920 Introduction to solving an equation with parentheses
alge837 Solving a multi-step equation given in fractional form
alge824 Solving a two-step equation with signed decimals
alge838 Introduction to solving an equation with variables on the same side
alge862 Solving a linear equation with several occurrences of the variable: Variables on the same side
alge863 Solving a linear equation with several occurrences of the variable: Variables on both sides
alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
alge420 Solving a linear equation with several occurrences of the variable: Fractional forms with monomial numerators
alge208 Solving a two-step equation with signed fractions
alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
alge742 Solving equations with zero, one, or infinitely many solutions
alge511 Solving for a variable in terms of other variables using addition or subtraction: Basic
alge512 Solving for a variable in terms of other variables using addition or subtraction: Advanced
alge513 Solving for a variable in terms of other variables using multiplication or division: Basic
alge514 Solving for a variable in terms of other variables using multiplication or division: Advanced
alge517 Solving for a variable in terms of other variables using addition or subtraction with division
alge518 Solving for a variable inside parentheses in terms of other variables
alge507 Solving for a variable in terms of other variables in a linear equation with fractions
alge802 Solving a fraction word problem using a linear equation of the form $Ax = B$
alge014 Solving a word problem with two unknowns using a linear equation
alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
alge730 Writing a multi-step equation for a real-world situation
alge219 Solving a decimal word problem using a linear equation with the variable on both sides
alge792 Solving a word problem with three unknowns using a linear equation
alge842 Solving a word problem involving consecutive integers
alge794 Solving a value mixture problem using a linear equation
alge218 Solving a word problem involving rates and time conversion
alge796 Solving a distance, rate, time problem using a linear equation
geom817 Finding a side length given the perimeter and side lengths with variables
geom530 Solving equations involving vertical angles
geom531 Solving equations involving angles and a pair of parallel lines
stat803 Finding the value for a new score that will yield a given mean
arith825 Simplifying a ratio of decimals
arith823 Writing ratios using different notations
arith663 Writing ratios for real-world situations
arith824 Simplifying a ratio of whole numbers: Problem type 1
alge272 Solving a proportion of the form $x/a = b/c$
alge840 Solving a proportion of the form $(x+a) \div b = c \div d$
arith610 Word problem on proportions: Problem type 1
arith611 Word problem on proportions: Problem type 2
alge060 Solving a rational equation that simplifies to linear: Denominator x
alge982 Identifying direct variation equations
alge903 Identifying direct and inverse variation equations
alge904 Writing a direct variation equation
alge905 Writing an inverse variation equation
alge175 Word problem on direct variation
alge220 Word problem on inverse proportions
alge176 Word problem on inverse variation
alge772 Word problem on combined variation

alge015 Translating a sentence by using an inequality symbol
 alge845 Translating a sentence into a one-step inequality
 alge846 Translating a sentence into a multi-step inequality
 alge186 Translating a sentence into a compound inequality
 alge748 Writing an inequality for a real-world situation
 alge822 Writing an inequality given a graph on the number line
 alge017 Graphing a linear inequality on the number line
 alge166 Graphing a compound inequality on the number line
 alge848 Additive property of inequality with whole numbers
 alge849 Additive property of inequality with integers
 alge852 Additive property of inequality with signed fractions
 alge853 Additive property of inequality with signed decimals
 alge854 Multiplicative property of inequality with integers
 alge964 Multiplicative property of inequality with signed fractions
 alge855 Solving a two-step linear inequality: Problem type 1
 alge856 Solving a two-step linear inequality: Problem type 2
 alge857 Solving a two-step linear inequality with a fractional coefficient
 alge977 Solving a linear inequality with multiple occurrences of the variable: Problem type 1
 alge858 Solving a linear inequality with multiple occurrences of the variable: Problem type 2
 alge746 Solving a compound linear inequality: Graph solution, basic
 alge749 Solving a decimal word problem using a two-step linear inequality
 alge750 Solving a decimal word problem using a linear inequality with the variable on both sides
 alge033 Multiplying binomials with leading coefficients of 1
 alge983 Multiplying binomials with leading coefficients greater than 1
 alge764 Multiplying conjugate binomials: Univariate
 alge039 Factoring a quadratic with leading coefficient 1
 alge944 Factoring a perfect square trinomial with leading coefficient 1
 alge936 Factoring out a constant before factoring a quadratic
 alge939 Factoring a quadratic with leading coefficient greater than 1: Problem type 1
 alge940 Factoring a quadratic with leading coefficient greater than 1: Problem type 2
 alge941 Factoring a quadratic with leading coefficient greater than 1: Problem type 3
 alge681 Solving an equation written in factored form
 alge956 Finding the roots of a quadratic equation of the form $ax^2 + bx = 0$
 alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
 alge211 Solving a quadratic equation needing simplification
 alge703 Solving a word problem using a quadratic equation with rational roots
 alge227 Solving a quadratic equation using the square root property: Exact answers, advanced
 alge095 Applying the quadratic formula: Exact answers
 alge963 Applying the quadratic formula: Decimal answers
 alge214 Discriminant of a quadratic equation
 alge524 Solving a word problem using a quadratic equation with irrational roots

Graphs and Functions

alge064 Reading a point in the coordinate plane
 alge067 Plotting a point in the coordinate plane
 alge850 Table for a linear equation
 alge873 Identifying solutions to a linear equation in two variables
 alge877 Graphing a linear equation of the form $y = mx$
 alge197 Graphing a line given its x - and y -intercepts
 alge878 Graphing a line given its equation in slope-intercept form: Integer slope
 alge879 Graphing a line given its equation in slope-intercept form: Fractional slope
 alge198 Graphing a vertical or horizontal line
 alge884 Finding x - and y -intercepts given the graph of a line on a grid
 alge924 Finding x - and y -intercepts of a line given the equation: Basic
 alge210 Finding x - and y -intercepts of a line given the equation: Advanced
 alge881 Graphing a line by first finding its x - and y -intercepts
 alge880 Graphing a line given its equation in standard form
 alge875 Classifying slopes given graphs of lines

alge886 Finding slope given the graph of a line on a grid
alge887 Finding slope given two points on the line
alge885 Finding the slope of horizontal and vertical lines
alge888 Finding the coordinate that yields a given slope
alge259 Graphing a line given its slope and y-intercept
alge196 Graphing a line through a given point with a given slope
alge889 Finding the slope and y-intercept of a line given its equation in the form $y = mx + b$
alge890 Finding the slope and y-intercept of a line given its equation in the form $Ax + By = C$
alge882 Graphing a line by first finding its slope and y-intercept
alge258 Writing an equation of a line given its slope and y-intercept
alge892 Writing an equation and graphing a line given its slope and y-intercept
alge883 Graphing a line given its equation in point-slope form
alge070 Writing an equation of a line given the y-intercept and another point
alge072 Writing the equation of the line through two given points
alge897 Writing and evaluating a function that models a real-world situation: Advanced
alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
alge992 Combining functions to write a new function that models a real-world situation
alge989 Interpreting the parameters of a linear function that models a real-world situation
alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
alge806 Application problem with a linear function: Finding a coordinate given two points
alge914 Identifying solutions to a system of linear equations
alge075 Classifying systems of linear equations from graphs
alge725 Graphically solving a system of linear equations
alge751 Solving a system of linear equations using substitution
alge915 Solving a system of linear equations using elimination with addition
alge076 Solving a system of linear equations using elimination with multiplication and addition
alge916 Solving a system of linear equations with fractional coefficients
alge917 Solving a system of linear equations with decimal coefficients
alge752 Solving a 2x2 system of linear equations that is inconsistent or consistent dependent
alge753 Solving a 3x3 system of linear equations: Problem type 1
alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations
alge919 Solving a word problem using a system of linear equations of the form $Ax + By = C$
alge918 Solving a word problem using a system of linear equations of the form $y = mx + b$
alge184 Solving a value mixture problem using a system of linear equations
alge172 Solving a tax rate or interest rate problem using a system of linear equations
alge912 Identifying solutions to a linear inequality in two variables
alge225 Graphing a linear inequality in the plane: Vertical or horizontal line
alge720 Graphing a linear inequality in the plane: Slope-intercept form
alge018 Graphing a linear inequality in the plane: Standard form
alge079 Graphing a system of two linear inequalities: Basic
alge921 Graphing a system of two linear inequalities: Advanced
alge922 Graphing a system of three linear inequalities
alge729 Writing a multi-step inequality for a real-world situation
pcalc093 Solving a word problem using a system of linear inequalities: Problem type 1
pcalc095 Linear programming
pcalc094 Solving a word problem using linear programming
pcalc037 Scalar multiplication of a matrix
pcalc038 Addition or subtraction of matrices
pcalc740 Linear combination of matrices
pcalc039 Multiplication of matrices: Basic
pcalc712 Gauss-Jordan elimination with a 2x2 matrix
fun032 Identifying functions from relations
fun010 Vertical line test
fun016 Domain and range from ordered pairs
fun001 Table for a linear function
pcalc760 Evaluating functions: Linear and quadratic or cubic
alge294 Finding outputs of a one-step function that models a real-world situation: Function notation
alge295 Finding outputs of a two-step function with decimals that models a real-world situation: Function notation
alge296 Finding inputs and outputs of a two-step function that models a real-world situation: Function notation
alge990 Domain and range of a linear function that models a real-world situation
fun026 Finding an output of a function from its graph

pcalc761 Finding inputs and outputs of a function from its graph
 fun024 Domain and range from the graph of a continuous function
 alge570 Graphing a function of the form $f(x) = ax + b$: Integer slope
 alge571 Graphing a function of the form $f(x) = ax + b$: Fractional slope
 alge572 Graphing a function of the form $f(x) = ax^2$
 alge573 Graphing a function of the form $f(x) = ax^2 + c$
 alge999 Finding where a function is increasing, decreasing, or constant given the graph
 mstat018 Choosing a graph to fit a narrative: Basic
 alge974 Finding the vertex, x-intercepts, and axis of symmetry from the graph of a parabola
 alge954 Graphing a parabola of the form $y = ax^2$
 alge955 Graphing a parabola of the form $y = ax^2 + c$
 alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
 alge569 Graphing a parabola of the form $y = x^2 + bx + c$
 pcalc746 Graphing a parabola of the form $y = ax^2 + bx + c$: Integer coefficients
 pcalc747 Graphing a parabola of the form $y = ax^2 + bx + c$: Rational coefficients
 alge277 Finding the x-intercept(s) and the vertex of a parabola
 pcalc775 Finding the maximum or minimum of a quadratic function
 alge785 Word problem involving the maximum or minimum of a quadratic function
 alge975 Domain and range from the graph of a parabola
 pcalc762 Range of a quadratic function
 alge723 How the leading coefficient affects the shape of a parabola
 alge971 Table for an exponential function
 alge830 Evaluating an exponential function that models a real-world situation
 alge177 Finding a final amount in a word problem on exponential growth or decay
 alge966 Finding the initial amount and rate of change given an exponential function
 alge968 Writing an equation that models exponential growth or decay
 alge969 Graphing an exponential function: $f(x) = a$
 alge970 Graphing an exponential function: $f(x) = a(b)^x$
 alge993 Comparing linear, polynomial, and exponential functions
 alge108 Converting between logarithmic and exponential equations
 pcalc612 Change of base for logarithms: Problem type 1
 pcalc799 Converting between natural logarithmic and exponential equations
 alge788 Graphing a logarithmic function: Basic

Consumer Mathematics

arith836 Converting a fraction with a denominator of 100 to a percentage
 arith837 Converting a percentage to a fraction with a denominator of 100
 arith723 Introduction to converting a percentage to a decimal
 arith833 Introduction to converting a decimal to a percentage
 arith834 Converting between percentages and decimals
 arith841 Converting a mixed number percentage to a decimal
 arith835 Converting between percentages and decimals in a real-world situation
 arith090 Converting a percentage to a fraction in simplest form
 arith839 Converting a decimal percentage to a fraction
 arith838 Converting a fraction to a percentage: Denominator of 4, 5, or 10
 arith002 Converting a fraction to a percentage: Denominator of 20, 25, or 50
 arith843 Using a calculator to convert a fraction to a rounded percentage
 arith842 Converting a fraction to a percentage in a real-world situation
 arith840 Finding a percentage of a whole number
 arith862 Applying the percent equation: Problem type 1
 arith863 Applying the percent equation: Problem type 2
 arith845 Finding a percentage of a total amount: Real-world situations
 arith846 Finding a percentage of a total amount without a calculator: Sales tax, commission, discount
 mstat049 Computing a percentage from a table of values
 arith850 Finding the rate of a tax or commission
 arith849 Finding the total amount given the percentage of a partial amount
 arith852 Finding the multiplier to give a final amount after a percentage increase or decrease
 arith851 Finding the final amount given the original amount and a percentage increase or decrease
 arith847 Finding the sale price given the original price and percent discount

arith848 Finding the total cost including tax or markup
 arith855 Finding the original amount given the result of a percentage increase or decrease
 arith031 Finding the original price given the sale price and percent discount
 arith858 Finding the percentage increase or decrease: Basic
 arith225 Finding the percentage increase or decrease: Advanced
 arith232 Finding simple interest without a calculator
 bmath037 Simple interest and maturity value
 bmath038 Exact and ordinary methods for simple interest and maturity value
 bmath039 Solving for principal, rate, or time in simple interest problems
 bmath101 The U. S. Rule: Making partial note payments before due date
 arith853 Introduction to compound interest
 alge741 Finding the final amount in a word problem on compound interest
 bmath042 Compound interest for daily compounding
 bmath041 Compound interest for annual, semiannual, and quarterly compounding
 bmath043 Present value tables
 bmath044 Ordinary annuity
 bmath045 Annuity due
 bmath047 Sinking funds
 bmath048 Amount financed, finance charge, and deferred payment
 bmath049 Cost of installment buying: Computing the APR
 bmath050 Cost of installment buying: Computing the monthly payment
 bmath052 Revolving charge credit cards
 bmath053 Monthly mortgage payment tables
 bmath054 Total cost of interest for a mortgage
 bmath055 Amortization schedule: Interest, principal, and new mortgage balance
 bmath083 Reading stock quotations
 bmath085 Calculating return on stock investment
 bmath139 Stock yield, earnings per share, and price-earnings ratio
 bmath084 Stock dividends
 bmath087 Calculating bond yields
 bmath088 Net asset value of a mutual fund

Measurement

mstat059 Choosing U.S. Customary measurement units
 unit005 U.S. Customary unit conversion with whole number values
 mstat035 Conversions involving measurements in feet and inches
 unit006 U.S. Customary unit conversion with whole number values: Two-step conversion
 unit009 U.S. Customary area unit conversion with whole number values
 mstat060 Choosing metric measurement units
 unit001 Metric distance conversion with whole number values
 unit002 Metric mass or capacity conversion with whole number values
 unit003 Metric distance conversion with decimal values
 unit004 Metric conversion with decimal values: Two-step problem
 unit010 Metric area unit conversion with decimal values
 mstat065 Converting between temperatures in Fahrenheit and Celsius
 unit034 Converting between metric and U.S. Customary unit systems
 unit035 Converting between compound units: Basic
 unit036 Converting between compound units: Advanced

Geometry

geom358 Identifying parallel and perpendicular lines
 geom349 Naming segments, rays, and lines
 geom151 Measuring an angle with the protractor
 geom152 Drawing an angle with the protractor
 geom303 Acute, obtuse, and right angles
 geom039 Finding supplementary and complementary angles

geom305 Identifying supplementary and vertical angles
geom304 Identifying corresponding and alternate angles
geom306 Acute, obtuse, and right triangles
geom307 Classifying scalene, isosceles, and equilateral triangles by side lengths or angles
geom001 Finding an angle measure of a triangle given two angles
geom908 Finding an angle measure for a triangle with an extended side
geom812 Finding an angle measure given extended triangles
geom813 Finding an angle measure given a triangle and parallel lines
alge407 Introduction to the Pythagorean Theorem
geom044 Pythagorean Theorem
alge408 Word problem involving the Pythagorean Theorem
geom339 Perimeter of a polygon
geom300 Perimeter of a square or a rectangle
geom078 Sides of polygons having the same perimeter
geom221 Finding the missing length in a figure
geom353 Perimeter of a piecewise rectangular figure
geom361 Naming polygons
geom867 Identifying parallelograms, rectangles, and squares
geom310 Properties of quadrilaterals
geom532 Classifying parallelograms
geom019 Area of a square or a rectangle
geom866 Perimeter and area on a grid
geom619 Area of a rectangle involving mixed numbers and fractions
geom350 Distinguishing between the area and perimeter of a rectangle
geom351 Areas of rectangles with the same perimeter
geom340 Area of a piecewise rectangular figure
geom142 Word problem involving the area between two rectangles
geom801 Area of a triangle
geom344 Area involving rectangles and triangles
geom022 Area of a parallelogram
geom023 Area of a trapezoid
geom016 Circumference of a circle
geom301 Perimeter involving rectangles and circles
geom802 Circumference and area of a circle
geom302 Area involving rectangles and circles
geom036 Word problem involving the area between two concentric circles
geom214 Area involving inscribed figures
geom868 Classifying solids
geom348 Vertices, edges, and faces of a solid
geom354 Volume of a rectangular prism made of unit cubes
geom311 Volume of a rectangular prism
geom505 Volume of a piecewise rectangular prism
geom090 Volume of a triangular prism
geom033 Volume of a pyramid
geom035 Volume of a cylinder
geom622 Volume of a cone
geom841 Volume of a sphere
geom031 Surface area of a cube or a rectangular prism
geom345 Surface area of a piecewise rectangular prism made of unit cubes
geom091 Surface area of a triangular prism
geom621 Surface area of a cylinder
geom842 Surface area of a sphere
geom359 Identifying congruent shapes on a grid
geom520 Identifying and naming congruent triangles
geom360 Identifying similar or congruent shapes on a grid
geom037 Similar polygons
geom038 Similar right triangles
geom337 Indirect measurement
geom510 Triangles and parallel lines
geom846 Computing ratios of side lengths, surface areas, and volumes for similar solids
geom357 Identifying transformations
geom330 Translating a polygon

geom332 Reflecting a polygon over a vertical or horizontal line
 geom334 Drawing lines of symmetry
 geom335 Rotating a figure about the origin
 geom815 Finding an angle of rotation
 pcalc609 Sine, cosine, and tangent ratios: Numbers for side lengths
 pcalc600 Sine, cosine, and tangent ratios: Variables for side lengths
 geom506 Special right triangles: Exact answers
 pcalc616 Using a calculator to approximate sine, cosine, and tangent values
 pcalc606 Using the Pythagorean Theorem to find a trigonometric ratio
 pcalc607 Using a trigonometric ratio to find a side length in a right triangle
 pcalc610 Using trigonometry to find a length in a word problem with one right triangle
 pcalc608 Using a trigonometric ratio to find an angle measure in a right triangle
 pcalc611 Using trigonometry to find angles of elevation or depression in a word problem
 pcalc642 Solving a right triangle
 pcalc648 Simplifying trigonometric expressions
 pcalc031 Solving a triangle with the law of sines: Problem type 1
 pcalc644 Solving a word problem using the law of sines
 pcalc033 Solving a triangle with the law of cosines
 pcalc645 Solving a word problem using the law of cosines
 pcalc646 Finding the area of a triangle using trigonometry
 pcalc647 Heron's formula

Counting and Probability

mstat041 Interpreting a tree diagram
 mstat040 Introduction to the counting principle
 mstat015 Counting principle
 pcalc082 Factorial expressions
 pcalc809 Introduction to permutations and combinations
 mstat017 Computing permutations and combinations
 mstat008 Word problem involving permutations
 mstat009 Word problem involving combinations
 pcalc810 Permutations and combinations: Problem type 1
 pcalc090 Permutations and combinations: Problem type 3
 mstat026 Introduction to the probability of an event
 mstat010 Probability of an event
 mstat039 Understanding likelihood
 mstat046 Experimental and theoretical probability
 mstat048 Odds of an event
 stat106 Outcomes and event probability
 stat226 Die rolling
 mstat011 Area as probability
 stat118 Probabilities of draws without replacement
 mstat012 Probability of independent events
 mstat047 Introduction to expectation
 stat020 Calculating relative frequencies in a contingency table
 stat805 Making a reasonable inference based on proportion statistics
 mstat032 Probability of the union of two events
 stat114 Probability of intersection or union: Word problems
 mstat013 Probability of dependent events
 stat116 Conditional probability: Basic
 stat109 Intersection and conditional probability
 stat174 Binomial problems: Basic
 stat155 Binomial problems: Advanced

Statistics

mstat056 Interpreting a tally table
 mstat005 Constructing a bar graph for non-numerical data

mstat004 Constructing a histogram for numerical data
 mstat031 Interpreting a stem-and-leaf plot
 stat804 Interpreting a circle graph or pie chart
 arith856 Finding a percentage of a total amount in a circle graph
 stat801 Computations from a circle graph
 geom814 Angle measure in a circle graph
 stat901 Computations from pie charts
 stat904 Interpreting pie charts
 stat702 Histograms for grouped data
 stat703 Frequency polygons for grouped data
 stat831 Interpreting a stem-and-leaf display
 mstat003 Mode of a data set
 mstat055 Finding the mode and range of a data set
 mstat001 Mean of a data set
 mstat028 Mean and median of a data set
 mstat029 How changing a value affects the mean and median
 mstat053 Choosing the best measure to describe data
 mstat066 Weighted mean
 stat719 Estimating the mean of grouped data
 stat798 Mean, median, and mode: Comparisons
 stat706 Mean, median, and mode: Computations
 stat165 Comparing standard deviations without calculation
 stat011 Sample standard deviation
 stat730 Chebyshev's theorem and the empirical rule
 stat009 Percentiles
 mstat072 Five-number summary and interquartile range
 mstat006 Constructing a box-and-whisker plot
 stat023 Box-and-whisker plots
 stat157 Standard normal probabilities
 stat760 Standard normal values: Basic
 stat160 Standard normal values: Advanced
 stat159 Normal versus standard normal density curves
 stat161 Normal distribution raw scores
 stat163 Normal distribution: Word problems
 stat852 Word problem involving calculations from a normal distribution
 stat185 Central limit theorem: Sample mean
 mstat052 Identifying independent and dependent variables from equations or real-world situations
 mstat030 Sketching the line of best fit
 mstat023 Scatter plots and correlation
 mstat068 Predictions from the line of best fit
 mstat071 Linear relationship and the correlation coefficient

B.6 Beginning Algebra

Arithmetic Readiness

arith692 Writing expressions using exponents
 arith233 Introduction to exponents
 arith683 Power of 10: Positive exponent
 arith048 Order of operations with whole numbers
 arith051 Order of operations with whole numbers and grouping symbols
 arith693 Order of operations with whole numbers and exponents: Basic
 arith713 Order of operations with whole numbers and exponents: Advanced
 alge285 Evaluating an algebraic expression: Whole numbers with two operations
 alge832 Evaluating an algebraic expression: Whole number operations and exponents
 arith056 Factors
 arith034 Prime numbers
 arith035 Prime factorization

arith033 Greatest common factor of 2 numbers
arith070 Least common multiple of 2 numbers
arith804 Least common multiple of 3 numbers
arith240 Word problem with common multiples
arith064 Solving a word problem on proportions using a unit rate
arith212 Equivalent fractions
arith067 Simplifying a fraction
arith618 Addition or subtraction of fractions with the same denominator
arith802 Addition or subtraction of fractions with the same denominator and simplification
arith801 Finding the LCD of two fractions
arith664 Introduction to addition or subtraction of fractions with different denominators
arith230 Addition or subtraction of fractions with different denominators
arith803 Addition and subtraction of 3 fractions with different denominators
arith805 Word problem involving addition or subtraction of fractions with different denominators
arith100 Fractional part of a circle
arith079 Product of a unit fraction and a whole number
arith086 Product of a fraction and a whole number: Problem type 1
arith119 Introduction to fraction multiplication
arith053 Fraction multiplication
arith812 Product of a fraction and a whole number: Problem type 2
arith813 Multiplication of 3 fractions
arith821 Exponents and fractions
arith818 Word problem involving fractions and multiplication
arith095 Multi-step word problem involving fractions and multiplication
arith088 The reciprocal of a number
arith694 Division involving a whole number and a fraction
arith022 Fraction division
arith819 Word problem involving fractions and division
arith859 Order of operations with fractions: Problem type 1
arith860 Order of operations with fractions: Problem type 2
arith861 Order of operations with fractions: Problem type 3
arith015 Writing an improper fraction as a mixed number
arith619 Writing a mixed number as an improper fraction
arith084 Addition of mixed numbers with the same denominator and carry
arith216 Subtraction of mixed numbers with the same denominator and borrowing
arith806 Addition or subtraction of mixed numbers with different denominators and no carry or borrow
arith808 Addition of mixed numbers with different denominators and carry
arith809 Subtraction of mixed numbers with different denominators and borrowing
arith807 Addition and subtraction of 3 mixed numbers with different denominators
arith810 Word problem involving addition or subtraction of mixed numbers with different denominators
arith815 Mixed number multiplication
arith816 Multiplication of a mixed number and a whole number
arith817 Division with a mixed number and a whole number
arith068 Mixed number division
arith820 Word problem involving multiplication or division with mixed numbers
arith110 Decimal place value: Tenths and hundredths
arith221 Rounding decimals
arith718 Converting a decimal to a proper fraction in simplest form: Basic
arith087 Converting a decimal to a proper fraction in simplest form: Advanced
arith722 Converting a decimal to a mixed number and an improper fraction in simplest form: Basic
arith724 Converting a decimal to a mixed number and an improper fraction in simplest form: Advanced
arith013 Decimal addition with 3 numbers
arith735 Decimal subtraction: Basic
arith736 Decimal subtraction: Advanced
arith737 Decimal addition and subtraction with 3 or more numbers
arith131 Estimating a decimal sum or difference
arith133 Word problem with addition of 3 or 4 decimals and whole numbers
arith134 Word problem with subtraction of a whole number and a decimal: Regrouping with zeros
arith017 Multiplication of a decimal by a whole number
arith055 Decimal multiplication: Problem type 1
arith082 Multiplication of a decimal by a power of ten
arith752 Estimating a product of decimals

arith753 Squaring decimal bases: Products greater than 0.1
 arith741 Exponents and decimals: Products less than 0.1
 arith137 Word problem with multiplication of two decimals
 arith224 Word problem with decimal addition and multiplication
 arith081 Division of a decimal by a whole number
 arith743 Division of a decimal by a 1-digit decimal
 arith019 Division of a decimal by a 2-digit decimal
 arith083 Division of a decimal by a power of ten
 arith138 Word problem with division of two decimals
 arith227 Word problem with decimal subtraction and division
 arith727 Converting a fraction to a terminating decimal: Basic
 arith728 Converting a fraction to a terminating decimal: Advanced
 arith730 Converting a fraction to a repeating decimal: Basic
 arith731 Converting a fraction to a repeating decimal: Advanced
 arith111 Converting a mixed number to a terminating decimal: Basic
 arith112 Converting a mixed number to a terminating decimal: Advanced
 arith720 Order of operations with decimals: Problem type 1
 arith746 Order of operations with decimals: Problem type 2
 arith747 Order of operations with decimals: Problem type 3
 arith836 Converting a fraction with a denominator of 100 to a percentage
 arith837 Converting a percentage to a fraction with a denominator of 100
 arith723 Introduction to converting a percentage to a decimal
 arith833 Introduction to converting a decimal to a percentage
 arith834 Converting between percentages and decimals
 arith841 Converting a mixed number percentage to a decimal
 arith835 Converting between percentages and decimals in a real-world situation
 arith090 Converting a percentage to a fraction in simplest form
 arith839 Converting a decimal percentage to a fraction
 arith838 Converting a fraction to a percentage: Denominator of 4, 5, or 10
 arith002 Converting a fraction to a percentage: Denominator of 20, 25, or 50
 arith843 Using a calculator to convert a fraction to a rounded percentage
 arith842 Converting a fraction to a percentage in a real-world situation
 mstat003 Mode of a data set
 arith103 Average of two numbers
 mstat001 Mean of a data set
 mstat028 Mean and median of a data set
 mstat066 Weighted mean
 mstat024 Interpreting a bar graph
 mstat007 Interpreting a line graph
 geom339 Perimeter of a polygon
 geom300 Perimeter of a square or a rectangle
 geom618 Perimeter of a polygon involving mixed numbers and fractions
 geom078 Sides of polygons having the same perimeter
 geom019 Area of a square or a rectangle
 geom350 Distinguishing between the area and perimeter of a rectangle
 geom620 Area of a rectangle involving fractions
 geom619 Area of a rectangle involving mixed numbers and fractions
 geom221 Finding the missing length in a figure
 geom340 Area of a piecewise rectangular figure
 geom142 Word problem involving the area between two rectangles
 geom801 Area of a triangle
 geom022 Area of a parallelogram
 geom023 Area of a trapezoid
 geom016 Circumference of a circle
 geom301 Perimeter involving rectangles and circles
 geom802 Circumference and area of a circle
 geom302 Area involving rectangles and circles
 geom036 Word problem involving the area between two concentric circles
 geom214 Area involving inscribed figures
 geom311 Volume of a rectangular prism
 geom090 Volume of a triangular prism
 geom033 Volume of a pyramid

geom035 Volume of a cylinder
geom092 Word problem involving the rate of filling or emptying a cylinder
geom622 Volume of a cone
geom841 Volume of a sphere
geom031 Surface area of a cube or a rectangular prism
geom091 Surface area of a triangular prism
geom621 Surface area of a cylinder
geom842 Surface area of a sphere
geom303 Acute, obtuse, and right angles
geom039 Finding supplementary and complementary angles
geom306 Acute, obtuse, and right triangles
geom307 Classifying scalene, isosceles, and equilateral triangles by side lengths or angles

Real Numbers and Algebraic Expressions

arith687 Fractional position on a number line
arith829 Reading decimal position on a number line: Tenths
arith830 Reading decimal position on a number line: Hundredths
alge286 Plotting integers on a number line
arith605 Plotting rational numbers on a number line
arith699 Writing a signed number for a real-world situation
arith092 Using a common denominator to order fractions
arith129 Introduction to ordering decimals
arith608 Ordering decimals
arith609 Ordering fractions and decimals
arith691 Ordering integers
arith016 Square root of a perfect square
arith763 Using a calculator to approximate a square root
arith602 Estimating a square root
arith712 Ordering real numbers
arith071 Absolute value of a number
arith200 Integer addition: Problem type 1
arith108 Integer addition: Problem type 2
arith688 Integer subtraction: Problem type 1
arith689 Integer subtraction: Problem type 2
arith690 Integer subtraction: Problem type 3
arith754 Addition and subtraction with 3 integers
arith755 Addition and subtraction with 4 or 5 integers
arith701 Word problem with addition or subtraction of integers
arith231 Integer multiplication and division
arith800 Multiplication of 3 or 4 integers
arith711 Division involving zero
alge001 Identifying numbers as integers or non-integers
alge002 Identifying numbers as rational or irrational
arith116 Signed fraction addition or subtraction: Basic
arith864 Signed fraction subtraction involving double negation
arith106 Signed fraction addition or subtraction: Advanced
arith811 Addition and subtraction of 3 fractions involving signs
arith822 Signed fraction multiplication: Basic
arith105 Signed fraction multiplication: Advanced
arith814 Signed fraction division
arith117 Signed decimal addition and subtraction
arith234 Signed decimal addition and subtraction with 3 numbers
arith750 Signed decimal multiplication
arith751 Signed decimal division
arith104 Operations with absolute value: Problem type 2
geom525 Computing distances between decimals on the number line
arith702 Exponents and integers: Problem type 1
arith703 Exponents and integers: Problem type 2
arith704 Exponents and signed fractions

arith118 Order of operations with integers
 arith600 Order of operations with integers and exponents
 alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge004 Evaluating a quadratic expression: Integers
 alge808 Evaluating a linear expression: Signed fraction multiplication with addition or subtraction
 alge302 Evaluating a linear expression: Signed decimal addition and subtraction
 alge303 Evaluating a linear expression: Signed decimal multiplication with addition or subtraction
 alge700 Combining like terms: Whole number coefficients
 alge607 Combining like terms: Integer coefficients
 arith655 Introduction to properties of addition
 alge187 Properties of addition
 arith657 Understanding the distributive property
 alge310 Multiplying a constant and a linear monomial
 alge606 Distributive property: Whole number coefficients
 alge604 Distributive property: Integer coefficients
 arith656 Introduction to properties of multiplication
 alge188 Properties of real numbers
 alge608 Using distribution and combining like terms to simplify: Univariate
 alge609 Using distribution with double negation and combining like terms to simplify: Multivariate
 alge293 Combining like terms in a quadratic expression

Linear Equations

alge009 Additive property of equality with whole numbers
 alge801 Additive property of equality with fractions and mixed numbers
 alge800 Additive property of equality with decimals
 alge010 Additive property of equality with integers
 alge836 Additive property of equality with signed fractions
 alge008 Multiplicative property of equality with whole numbers
 alge820 Multiplicative property of equality with fractions
 alge825 Multiplicative property of equality with decimals
 alge797 Multiplicative property of equality with integers
 alge012 Multiplicative property of equality with signed fractions
 alge834 Identifying solutions to a linear equation in one variable: Two-step equations
 alge803 Using two steps to solve an equation with whole numbers
 alge266 Additive property of equality with a negative coefficient
 alge006 Solving a two-step equation with integers
 alge200 Solving an equation to find the value of an expression
 alge920 Introduction to solving an equation with parentheses
 alge837 Solving a multi-step equation given in fractional form
 alge986 Identifying properties used to solve a linear equation
 alge824 Solving a two-step equation with signed decimals
 alge838 Introduction to solving an equation with variables on the same side
 alge862 Solving a linear equation with several occurrences of the variable: Variables on the same side
 alge863 Solving a linear equation with several occurrences of the variable: Variables on both sides
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
 alge420 Solving a linear equation with several occurrences of the variable: Fractional forms with monomial numerators
 alge208 Solving a two-step equation with signed fractions
 alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
 alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
 alge742 Solving equations with zero, one, or infinitely many solutions
 alge603 Introduction to solving an absolute value equation

alge864 Solving an absolute value equation: Problem type 1
alge272 Solving a proportion of the form $x/a = b/c$
alge840 Solving a proportion of the form $(x+a)/b = c/d$
alge511 Solving for a variable in terms of other variables using addition or subtraction: Basic
alge512 Solving for a variable in terms of other variables using addition or subtraction: Advanced
alge513 Solving for a variable in terms of other variables using multiplication or division: Basic
alge514 Solving for a variable in terms of other variables using multiplication or division: Advanced
alge517 Solving for a variable in terms of other variables using addition or subtraction with division
alge518 Solving for a variable inside parentheses in terms of other variables
alge507 Solving for a variable in terms of other variables in a linear equation with fractions
alge733 Writing a one-step expression for a real-world situation
alge831 Translating a phrase into a one-step expression
alge291 Translating a phrase into a two-step expression
alge016 Translating a sentence into a one-step equation
alge841 Translating a sentence into a multi-step equation
alge802 Solving a fraction word problem using a linear equation of the form $Ax = B$
alge014 Solving a word problem with two unknowns using a linear equation
alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
alge219 Solving a decimal word problem using a linear equation with the variable on both sides
alge704 Solving a fraction word problem using a linear equation with the variable on both sides
alge792 Solving a word problem with three unknowns using a linear equation
alge842 Solving a word problem involving consecutive integers
alge730 Writing a multi-step equation for a real-world situation
alge794 Solving a value mixture problem using a linear equation
alge823 Solving a one-step word problem using the formula $d = rt$
alge218 Solving a word problem involving rates and time conversion
alge796 Solving a distance, rate, time problem using a linear equation
mstat065 Converting between temperatures in Fahrenheit and Celsius
geom217 Finding the side length of a rectangle given its perimeter or area
geom817 Finding a side length given the perimeter and side lengths with variables
geom143 Finding the perimeter or area of a rectangle given one of these values
geom218 Finding the radius or the diameter of a circle given its circumference
geom530 Solving equations involving vertical angles
geom001 Finding an angle measure of a triangle given two angles
geom623 Finding angle measures of a triangle given angles with variables
geom502 Finding angle measures of a right or isosceles triangle given angles with variables
geom812 Finding an angle measure given extended triangles
geom813 Finding an angle measure given a triangle and parallel lines
stat803 Finding the value for a new score that will yield a given mean
arith840 Finding a percentage of a whole number
arith030 Finding a percentage of a whole number without a calculator: Basic
arith844 Finding a percentage of a whole number without a calculator: Advanced
arith862 Applying the percent equation: Problem type 1
arith863 Applying the percent equation: Problem type 2
arith845 Finding a percentage of a total amount: Real-world situations
arith846 Finding a percentage of a total amount without a calculator: Sales tax, commission, discount
arith857 Estimating a tip without a calculator
arith069 Writing a ratio as a percentage without a calculator
mstat049 Computing a percentage from a table of values
arith850 Finding the rate of a tax or commission
arith849 Finding the total amount given the percentage of a partial amount
arith852 Finding the multiplier to give a final amount after a percentage increase or decrease
arith851 Finding the final amount given the original amount and a percentage increase or decrease
arith847 Finding the sale price given the original price and percent discount
arith074 Finding the sale price without a calculator given the original price and percent discount
arith848 Finding the total cost including tax or markup
arith855 Finding the original amount given the result of a percentage increase or decrease
arith031 Finding the original price given the sale price and percent discount
arith858 Finding the percentage increase or decrease: Basic
arith225 Finding the percentage increase or decrease: Advanced
unit052 Finding the absolute error and percent error of a measurement
arith854 Computing a percent mixture

alge795 Solving a percent mixture problem using a linear equation
 stat804 Interpreting a circle graph or pie chart
 arith856 Finding a percentage of a total amount in a circle graph
 stat801 Computations from a circle graph
 arith232 Finding simple interest without a calculator

Linear Inequalities

alge015 Translating a sentence by using an inequality symbol
 alge845 Translating a sentence into a one-step inequality
 alge846 Translating a sentence into a multi-step inequality
 alge748 Writing an inequality for a real-world situation
 alge017 Graphing a linear inequality on the number line
 alge822 Writing an inequality given a graph on the number line
 alge186 Translating a sentence into a compound inequality
 alge166 Graphing a compound inequality on the number line
 alge847 Writing a compound inequality given a graph on the number line
 set001 Set builder notation
 set004 Set builder and interval notation
 set002 Union and intersection of finite sets
 alge844 Identifying solutions to a two-step linear inequality in one variable
 alge848 Additive property of inequality with whole numbers
 alge849 Additive property of inequality with integers
 alge852 Additive property of inequality with signed fractions
 alge853 Additive property of inequality with signed decimals
 alge854 Multiplicative property of inequality with integers
 alge964 Multiplicative property of inequality with signed fractions
 alge855 Solving a two-step linear inequality: Problem type 1
 alge856 Solving a two-step linear inequality: Problem type 2
 alge857 Solving a two-step linear inequality with a fractional coefficient
 alge977 Solving a linear inequality with multiple occurrences of the variable: Problem type 1
 alge858 Solving a linear inequality with multiple occurrences of the variable: Problem type 2
 alge859 Solving a linear inequality with multiple occurrences of the variable: Problem type 3
 alge860 Solving inequalities with no solution or all real numbers as solutions
 alge746 Solving a compound linear inequality: Graph solution, basic
 alge747 Solving a compound linear inequality: Interval notation
 alge868 Solving an absolute value inequality: Problem type 1
 alge749 Solving a decimal word problem using a two-step linear inequality
 alge750 Solving a decimal word problem using a linear inequality with the variable on both sides

Lines and Functions

alge064 Reading a point in the coordinate plane
 alge067 Plotting a point in the coordinate plane
 alge850 Table for a linear equation
 alge873 Identifying solutions to a linear equation in two variables
 alge066 Finding a solution to a linear equation in two variables
 alge191 Midpoint of a line segment in the plane
 alge877 Graphing a linear equation of the form $y = mx$
 alge878 Graphing a line given its equation in slope-intercept form: Integer slope
 alge879 Graphing a line given its equation in slope-intercept form: Fractional slope
 alge880 Graphing a line given its equation in standard form
 alge198 Graphing a vertical or horizontal line
 alge884 Finding x - and y -intercepts given the graph of a line on a grid
 alge924 Finding x - and y -intercepts of a line given the equation: Basic
 alge210 Finding x - and y -intercepts of a line given the equation: Advanced
 alge197 Graphing a line given its x - and y -intercepts
 alge881 Graphing a line by first finding its x - and y -intercepts

alge875 Classifying slopes given graphs of lines
 alge886 Finding slope given the graph of a line on a grid
 alge887 Finding slope given two points on the line
 alge885 Finding the slope of horizontal and vertical lines
 alge888 Finding the coordinate that yields a given slope
 alge259 Graphing a line given its slope and y-intercept
 alge196 Graphing a line through a given point with a given slope
 alge876 Identifying linear equations: Advanced
 alge874 Identifying linear functions given ordered pairs
 alge891 Rewriting a linear equation in the form $Ax + By = C$
 alge889 Finding the slope and y-intercept of a line given its equation in the form $y = mx + b$
 alge890 Finding the slope and y-intercept of a line given its equation in the form $Ax + By = C$
 alge882 Graphing a line by first finding its slope and y-intercept
 alge258 Writing an equation of a line given its slope and y-intercept
 alge892 Writing an equation and graphing a line given its slope and y-intercept
 alge893 Writing an equation in slope-intercept form given the slope and a point
 alge883 Graphing a line given its equation in point-slope form
 alge894 Writing an equation in point-slope form given the slope and a point
 alge070 Writing an equation of a line given the y-intercept and another point
 alge072 Writing the equation of the line through two given points
 alge073 Writing the equations of vertical and horizontal lines through a given point
 geom806 Finding slopes of lines parallel and perpendicular to a line given in slope-intercept form
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 alge895 Identifying parallel and perpendicular lines from equations
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 alge897 Writing and evaluating a function that models a real-world situation: Advanced
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 fun005 Writing a function rule given a table of ordered pairs: One-step rules
 fun006 Writing a function rule given a table of ordered pairs: Two-step rules
 alge992 Combining functions to write a new function that models a real-world situation
 alge987 Comparing properties of linear functions given in different forms
 alge989 Interpreting the parameters of a linear function that models a real-world situation
 alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
 alge806 Application problem with a linear function: Finding a coordinate given two points
 mstat052 Identifying independent and dependent variables from equations or real-world situations
 alge991 Solving a linear equation by graphing
 mstat030 Sketching the line of best fit
 mstat023 Scatter plots and correlation
 mstat068 Predictions from the line of best fit
 mstat067 Approximating the equation of a line of best fit and making predictions
 mstat069 Computing residuals
 mstat070 Interpreting residual plots
 mstat071 Linear relationship and the correlation coefficient
 mstat074 Identifying correlation and causation
 alge898 Translating the graph of an absolute value function: One step
 alge899 Translating the graph of an absolute value function: Two steps
 alge913 Graphing an absolute value equation of the form $y = A|x - h| + k$
 alge900 Graphing an absolute value equation in the plane: Basic
 alge168 Graphing an absolute value equation in the plane: Advanced
 alge901 How the leading coefficient affects the graph of an absolute value function
 fun032 Identifying functions from relations
 fun010 Vertical line test
 fun016 Domain and range from ordered pairs
 fun001 Table for a linear function
 pcalc760 Evaluating functions: Linear and quadratic or cubic
 fun033 Variable expressions as inputs of functions: Problem type 1
 alge294 Finding outputs of a one-step function that models a real-world situation: Function notation
 alge295 Finding outputs of a two-step function with decimals that models a real-world situation: Function notation
 alge296 Finding inputs and outputs of a two-step function that models a real-world situation: Function notation
 alge990 Domain and range of a linear function that models a real-world situation
 fun026 Finding an output of a function from its graph

pcalc761 Finding inputs and outputs of a function from its graph
 fun007 Domain and range from the graph of a discrete relation
 fun024 Domain and range from the graph of a continuous function
 alge896 Graphing an integer function and finding its range for a given domain
 alge570 Graphing a function of the form $f(x) = ax + b$: Integer slope
 alge571 Graphing a function of the form $f(x) = ax + b$: Fractional slope
 alge954 Graphing a parabola of the form $y = ax^2$
 alge955 Graphing a parabola of the form $y = ax^2 + c$
 alge572 Graphing a function of the form $f(x) = ax^2$
 alge573 Graphing a function of the form $f(x) = ax^2 + c$
 pcalc750 Finding intercepts of a nonlinear function given its graph
 pcalc751 Finding where a function is increasing, decreasing, or constant given the graph: Interval notation
 pcalc752 Finding local maxima and minima of a function given the graph
 mstat018 Choosing a graph to fit a narrative: Basic
 mstat051 Choosing a graph to fit a narrative: Advanced

Systems

alge914 Identifying solutions to a system of linear equations
 alge075 Classifying systems of linear equations from graphs
 alge725 Graphically solving a system of linear equations
 alge751 Solving a system of linear equations using substitution
 alge915 Solving a system of linear equations using elimination with addition
 alge076 Solving a system of linear equations using elimination with multiplication and addition
 alge916 Solving a system of linear equations with fractional coefficients
 alge917 Solving a system of linear equations with decimal coefficients
 alge752 Solving a 2×2 system of linear equations that is inconsistent or consistent dependent
 alge988 Identifying the operations used to create equivalent systems of equations
 alge753 Solving a 3×3 system of linear equations: Problem type 1
 alge263 Interpreting the graphs of two functions
 alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations
 alge919 Solving a word problem using a system of linear equations of the form $Ax + By = C$
 alge918 Solving a word problem using a system of linear equations of the form $y = mx + b$
 alge184 Solving a value mixture problem using a system of linear equations
 alge192 Solving a percent mixture problem using a system of linear equations
 alge224 Solving a distance, rate, time problem using a system of linear equations
 alge172 Solving a tax rate or interest rate problem using a system of linear equations
 alge793 Solving a word problem using a 3×3 system of linear equations: Problem type 1
 alge912 Identifying solutions to a linear inequality in two variables
 alge225 Graphing a linear inequality in the plane: Vertical or horizontal line
 alge720 Graphing a linear inequality in the plane: Slope-intercept form
 alge018 Graphing a linear inequality in the plane: Standard form
 alge079 Graphing a system of two linear inequalities: Basic
 alge921 Graphing a system of two linear inequalities: Advanced
 alge922 Graphing a system of three linear inequalities
 alge729 Writing a multi-step inequality for a real-world situation
 pcalc093 Solving a word problem using a system of linear inequalities: Problem type 1

Exponents

alge821 Understanding the product rule of exponents
 alge024 Introduction to the product rule of exponents
 alge311 Product rule with positive exponents: Univariate
 alge030 Product rule with positive exponents: Multivariate
 arith029 Ordering numbers with positive exponents
 alge826 Understanding the power rules of exponents
 alge306 Introduction to the power of a power rule of exponents
 alge305 Introduction to the power of a product rule of exponents

alge307 Power rules with positive exponents: Multivariate products
 alge308 Power rules with positive exponents: Multivariate quotients
 alge756 Power and product rules with positive exponents
 alge451 Simplifying a ratio of multivariate monomials: Basic
 alge827 Introduction to the quotient rule of exponents
 alge452 Simplifying a ratio of univariate monomials
 alge026 Quotient of expressions involving exponents
 alge453 Simplifying a ratio of multivariate monomials: Advanced
 alge927 Power and quotient rules with positive exponents
 alge790 Evaluating expressions with exponents of zero
 arith684 Power of 10: Negative exponent
 arith729 Evaluating an expression with a negative exponent: Whole number base
 arith042 Evaluating an expression with a negative exponent: Positive fraction base
 arith043 Evaluating an expression with a negative exponent: Negative integer base
 arith024 Ordering numbers with negative exponents
 alge791 Rewriting an algebraic expression without a negative exponent
 alge961 Introduction to the product rule with negative exponents
 alge028 Product rule with negative exponents
 alge755 Quotient rule with negative exponents: Problem type 1
 alge926 Quotient rule with negative exponents: Problem type 2
 alge025 Power of a power rule with negative exponents
 alge799 Power rules with negative exponents
 alge928 Power and quotient rules with negative exponents: Problem type 1
 alge929 Power and quotient rules with negative exponents: Problem type 2
 alge757 Power, product, and quotient rules with negative exponents
 arith036 Scientific notation with positive exponent
 arith037 Scientific notation with negative exponent
 scinot012 Converting between scientific notation and standard form in a real-world situation
 scinot008 Multiplying numbers written in scientific notation: Basic
 scinot009 Multiplying numbers written in scientific notation: Advanced
 scinot010 Dividing numbers written in scientific notation: Basic
 scinot011 Dividing numbers written in scientific notation: Advanced
 alge971 Table for an exponential function
 alge830 Evaluating an exponential function that models a real-world situation
 arith853 Introduction to compound interest
 alge177 Finding a final amount in a word problem on exponential growth or decay
 alge741 Finding the final amount in a word problem on compound interest
 alge966 Finding the initial amount and rate of change given an exponential function
 alge968 Writing an equation that models exponential growth or decay
 alge301 Solving an exponential equation by finding common bases: Linear exponents
 alge969 Graphing an exponential function: $f(x) = ax$
 alge970 Graphing an exponential function: $f(x) = a(b)x$
 alge967 Writing an exponential function rule given a table of ordered pairs
 alge993 Comparing linear, polynomial, and exponential functions

Polynomials and Factoring

alge758 Degree and leading coefficient of a univariate polynomial
 alge031 Degree of a multivariate polynomial
 alge798 Simplifying a sum or difference of two univariate polynomials
 alge029 Simplifying a sum or difference of three univariate polynomials
 alge932 Simplifying a sum or difference of multivariate polynomials
 alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
 alge972 Multiplying a univariate polynomial by a monomial with a negative coefficient
 alge835 Multiplying a multivariate polynomial by a monomial
 alge033 Multiplying binomials with leading coefficients of 1
 alge983 Multiplying binomials with leading coefficients greater than 1
 alge765 Multiplying binomials in two variables
 alge764 Multiplying conjugate binomials: Univariate
 alge081 Multiplying conjugate binomials: Multivariate

alge032 Squaring a binomial: Univariate
 alge068 Squaring a binomial: Multivariate
 alge973 Multiplying binomials with negative coefficients
 alge935 Multiplication involving binomials and trinomials in one variable
 alge180 Multiplication involving binomials and trinomials in two variables
 alge759 Dividing a polynomial by a monomial: Univariate
 alge760 Dividing a polynomial by a monomial: Multivariate
 alge761 Polynomial long division: Problem type 1
 alge762 Polynomial long division: Problem type 2
 alge763 Polynomial long division: Problem type 3
 alge985 Closure properties of integers and polynomials
 alge605 Factoring a linear binomial
 alge736 Introduction to the GCF of two monomials
 alge930 Greatest common factor of three univariate monomials
 alge037 Greatest common factor of two multivariate monomials
 alge738 Factoring out a monomial from a polynomial: Univariate
 alge739 Factoring out a monomial from a polynomial: Multivariate
 alge949 Factoring out a binomial from a polynomial: GCF factoring, basic
 alge923 Factoring a univariate polynomial by grouping: Problem type 1
 alge950 Factoring a univariate polynomial by grouping: Problem type 2
 alge951 Factoring a multivariate polynomial by grouping: Problem type 1
 alge952 Factoring a multivariate polynomial by grouping: Problem type 2
 alge039 Factoring a quadratic with leading coefficient 1
 alge942 Factoring a quadratic in two variables with leading coefficient 1
 alge936 Factoring out a constant before factoring a quadratic
 alge939 Factoring a quadratic with leading coefficient greater than 1: Problem type 1
 alge940 Factoring a quadratic with leading coefficient greater than 1: Problem type 2
 alge941 Factoring a quadratic with leading coefficient greater than 1: Problem type 3
 alge978 Factoring a quadratic by the ac-method
 alge265 Factoring a quadratic in two variables with leading coefficient greater than 1
 alge937 Factoring a quadratic with a negative leading coefficient
 alge944 Factoring a perfect square trinomial with leading coefficient 1
 alge945 Factoring a perfect square trinomial with leading coefficient greater than 1
 alge946 Factoring a perfect square trinomial in two variables
 alge290 Factoring a difference of squares in one variable: Basic
 alge947 Factoring a difference of squares in one variable: Advanced
 alge839 Factoring a difference of squares in two variables
 alge948 Factoring a polynomial involving a GCF and a difference of squares: Univariate
 alge833 Factoring a polynomial involving a GCF and a difference of squares: Multivariate
 alge041 Factoring a product of a quadratic trinomial and a monomial
 alge042 Factoring with repeated use of the difference of squares formula
 alge044 Factoring a sum or difference of two cubes
 alge681 Solving an equation written in factored form
 alge956 Finding the roots of a quadratic equation of the form $ax^2 + bx = 0$
 alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
 alge211 Solving a quadratic equation needing simplification
 alge703 Solving a word problem using a quadratic equation with rational roots
 alge407 Introduction to the Pythagorean Theorem
 geom044 Pythagorean Theorem
 alge408 Word problem involving the Pythagorean Theorem
 alge713 Using the Pythagorean Theorem and a quadratic equation to find side lengths of a right triangle

Rational Expressions

alge049 Restriction on a variable in a denominator: Linear
 alge467 Restriction on a variable in a denominator: Quadratic
 alge468 Evaluating a rational function: Problem type 1
 alge469 Evaluating a rational function: Problem type 2
 alge715 Domain of a rational function: Excluded values

alge454 Simplifying a ratio of factored polynomials: Linear factors
alge455 Simplifying a ratio of factored polynomials: Factors with exponents
alge456 Simplifying a ratio of polynomials using GCF factoring
alge457 Simplifying a ratio of linear polynomials: 1, -1, and no simplification
alge458 Simplifying a ratio of polynomials by factoring a quadratic with leading coefficient 1
alge710 Simplifying a ratio of polynomials: Problem type 1
alge682 Simplifying a ratio of polynomials: Problem type 2
alge459 Simplifying a ratio of polynomials: Problem type 3
alge034 Simplifying a ratio of multivariate polynomials
alge053 Multiplying rational expressions involving multivariate monomials
alge460 Multiplying rational expressions made up of linear expressions
alge620 Multiplying rational expressions involving quadratics with leading coefficients of 1
alge461 Multiplying rational expressions involving quadratics with leading coefficients greater than 1
alge462 Multiplying rational expressions involving multivariate quadratics
alge054 Dividing rational expressions involving multivariate monomials
alge463 Dividing rational expressions involving linear expressions
alge766 Dividing rational expressions involving quadratics with leading coefficients of 1
alge464 Dividing rational expressions involving quadratics with leading coefficients greater than 1
alge465 Dividing rational expressions involving multivariate quadratics
alge466 Multiplication and division of 3 rational expressions
alge737 Introduction to the LCM of two monomials
alge055 Least common multiple of two monomials
alge427 Finding the LCD of rational expressions with linear denominators: Relatively prime
alge428 Finding the LCD of rational expressions with linear denominators: Common factors
alge429 Finding the LCD of rational expressions with quadratic denominators
alge430 Writing equivalent rational expressions with monomial denominators
alge431 Writing equivalent rational expressions with polynomial denominators
alge304 Writing equivalent rational expressions involving opposite factors
alge432 Introduction to adding fractions with variables and common denominators
alge433 Adding rational expressions with common denominators and monomial numerators
alge056 Adding rational expressions with common denominators and binomial numerators
alge434 Adding rational expressions with common denominators and GCF factoring
alge435 Adding rational expressions with common denominators and quadratic factoring
alge436 Adding rational expressions with different denominators and a single occurrence of a variable
alge437 Adding rational expressions with denominators ax and bx : Basic
alge438 Adding rational expressions with denominators ax and bx : Advanced
alge439 Adding rational expressions with denominators axn and bxm
alge440 Adding rational expressions with multivariate monomial denominators: Basic
alge226 Adding rational expressions with multivariate monomial denominators: Advanced
alge441 Adding rational expressions with linear denominators without common factors: Basic
alge442 Adding rational expressions with linear denominators without common factors: Advanced
alge443 Adding rational expressions with linear denominators with common factors: Basic
alge444 Adding rational expressions with linear denominators with common factors: Advanced
alge445 Adding rational expressions with denominators $ax-b$ and $b-ax$
alge661 Adding rational expressions involving different quadratic denominators
alge446 Adding 3 rational expressions with different quadratic denominators
arith695 Complex fraction without variables: Problem type 1
arith696 Complex fraction without variables: Problem type 2
alge470 Complex fraction involving univariate monomials
alge058 Complex fraction involving multivariate monomials
alge471 Complex fraction: GCF factoring
alge472 Complex fraction: Quadratic factoring
alge473 Complex fraction made of sums involving rational expressions: Problem type 1
alge474 Complex fraction made of sums involving rational expressions: Problem type 2
alge475 Complex fraction made of sums involving rational expressions: Problem type 3
alge476 Complex fraction made of sums involving rational expressions: Problem type 4
alge477 Complex fraction made of sums involving rational expressions: Problem type 5
alge478 Complex fraction made of sums involving rational expressions: Problem type 6
alge479 Complex fraction made of sums involving rational expressions: Multivariate
alge480 Complex fraction with negative exponents: Problem type 1
alge481 Complex fraction with negative exponents: Problem type 2
alge162 Complex fraction that contains a complex fraction

alge271 Solving a proportion of the form $a/(x+b) = c/x$
 alge060 Solving a rational equation that simplifies to linear: Denominator x
 alge205 Solving a rational equation that simplifies to linear: Denominator $x+a$
 alge769 Solving a rational equation that simplifies to linear: Denominators a , x , or ax
 alge421 Solving a rational equation that simplifies to linear: Denominators ax and bx
 alge422 Solving a rational equation that simplifies to linear: Like binomial denominators
 alge206 Solving a rational equation that simplifies to linear: Unlike binomial denominators
 alge423 Solving a rational equation that simplifies to linear: Factorable quadratic denominator
 alge424 Solving a rational equation that simplifies to quadratic: Proportional form, basic
 alge425 Solving a rational equation that simplifies to quadratic: Denominator x
 alge212 Solving a rational equation that simplifies to quadratic: Binomial denominators, constant numerators
 alge062 Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators
 alge426 Solving a rational equation that simplifies to quadratic: Factorable quadratic denominator
 alge047 Solving a rational equation that simplifies to quadratic: Proportional form, advanced
 arith823 Writing ratios using different notations
 arith663 Writing ratios for real-world situations
 arith824 Simplifying a ratio of whole numbers: Problem type 1
 arith826 Simplifying a ratio of whole numbers: Problem type 2
 arith825 Simplifying a ratio of decimals
 arith827 Finding a unit price
 arith828 Computing unit prices to find the better buy
 arith228 Word problem on unit rates associated with ratios of whole numbers: Decimal answers
 unit005 U.S. Customary unit conversion with whole number values
 unit001 Metric distance conversion with whole number values
 unit034 Converting between metric and U.S. Customary unit systems
 unit035 Converting between compound units: Basic
 unit036 Converting between compound units: Advanced
 alge508 Solving for a variable in terms of other variables in a rational equation: Problem type 1
 alge509 Solving for a variable in terms of other variables in a rational equation: Problem type 2
 alge510 Solving for a variable in terms of other variables in a rational equation: Problem type 3
 arith610 Word problem on proportions: Problem type 1
 arith611 Word problem on proportions: Problem type 2
 geom037 Similar polygons
 geom038 Similar right triangles
 geom337 Indirect measurement
 geom838 Circumference ratios
 arith612 Word problem involving multiple rates
 alge770 Solving a work problem using a rational equation
 alge450 Solving a distance, rate, time problem using a rational equation
 alge059 Ordering fractions with variables
 alge982 Identifying direct variation equations
 alge938 Identifying direct variation from ordered pairs and writing equations
 alge904 Writing a direct variation equation
 alge175 Word problem on direct variation
 alge828 Interpreting direct variation from a graph
 alge905 Writing an inverse variation equation
 alge903 Identifying direct and inverse variation equations
 alge902 Identifying direct and inverse variation from ordered pairs and writing equations
 alge176 Word problem on inverse variation
 alge220 Word problem on inverse proportions
 pcalc681 Writing an equation that models variation
 alge772 Word problem on combined variation

Radicals

alge413 Finding all square roots of a number
 arith601 Square root of a rational perfect square
 arith760 Square roots of perfect squares with signs
 alge415 Introduction to simplifying a radical expression with an even exponent
 alge264 Square root of a perfect square monomial

arith094 Cube root of an integer
alge549 Finding nth roots of perfect nth powers with signs
arith768 Finding the nth root of a perfect nth power fraction
alge550 Finding the nth root of a perfect nth power monomial
arith093 Simplifying the square root of a whole number less than 100
arith762 Simplifying the square root of a whole number greater than 100
alge080 Simplifying a radical expression with an even exponent
alge520 Introduction to simplifying a radical expression with an odd exponent
alge521 Simplifying a radical expression with an odd exponent
alge275 Simplifying a radical expression with two variables
alge273 Simplifying a higher root of a whole number
alge551 Introduction to simplifying a higher radical expression
alge552 Simplifying a higher radical expression: Univariate
alge811 Simplifying a higher radical expression: Multivariate
arith767 Introduction to square root addition or subtraction
arith032 Square root addition or subtraction
alge533 Square root addition or subtraction with three terms
alge531 Introduction to simplifying a sum or difference of radical expressions: Univariate
alge532 Simplifying a sum or difference of radical expressions: Univariate
alge084 Simplifying a sum or difference of radical expressions: Multivariate
alge554 Simplifying a sum or difference of higher roots
alge555 Simplifying a sum or difference of higher radical expressions
arith764 Introduction to square root multiplication
arith765 Square root multiplication: Basic
arith039 Square root multiplication: Advanced
alge522 Introduction to simplifying a product of radical expressions: Univariate
alge523 Simplifying a product of radical expressions: Univariate
alge640 Simplifying a product of radical expressions: Multivariate
alge556 Introduction to simplifying a product of higher roots
alge557 Simplifying a product of higher radical expressions
alge525 Introduction to simplifying a product involving square roots using the distributive property
alge526 Simplifying a product involving square roots using the distributive property: Basic
alge276 Simplifying a product involving square roots using the distributive property: Advanced
alge774 Special products of radical expressions: Conjugates and squaring
alge984 Classifying sums and products as rational or irrational
arith766 Simplifying a quotient of square roots
alge530 Simplifying a quotient involving a sum or difference with a square root
alge527 Rationalizing a denominator: Quotient involving square roots
alge528 Rationalizing a denominator: Square root of a fraction
alge529 Rationalizing a denominator: Quotient involving a monomial
alge534 Rationalizing a denominator using conjugates: Integer numerator
alge535 Rationalizing a denominator using conjugates: Square root in numerator
alge536 Rationalizing a denominator using conjugates: Variable in denominator
alge564 Rationalizing a denominator: Quotient involving a higher radical
alge400 Introduction to solving a radical equation
alge089 Solving a radical equation that simplifies to a linear equation: One radical, basic
alge402 Solving a radical equation that simplifies to a linear equation: One radical, advanced
alge090 Solving a radical equation that simplifies to a linear equation: Two radicals
alge405 Solving a radical equation with two radicals that simplifies to $\sqrt{x} = a$
alge403 Solving a radical equation that simplifies to a quadratic equation: One radical, basic
alge404 Solving a radical equation that simplifies to a quadratic equation: One radical, advanced
alge411 Solving a radical equation with a quadratic expression under the radical
alge182 Solving a radical equation that simplifies to a quadratic equation: Two radicals
alge410 Solving an equation with a root index greater than 2: Problem type 1
alge417 Solving an equation with a root index greater than 2: Problem type 2
alge412 Algebraic symbol manipulation with radicals
alge542 Word problem involving radical equations: Basic
alge409 Word problem involving radical equations: Advanced
alge132 Distance between two points in the plane: Exact answers
alge539 Table for a square root function
alge540 Domain of a square root function: Basic
pcalc763 Domain of a square root function: Advanced

alge543 Graphing a square root function: Problem type 1
 alge544 Graphing a square root function: Problem type 2
 alge812 Converting between radical form and exponent form
 alge560 Rational exponents: Unit fraction exponents and whole number bases
 alge561 Rational exponents: Unit fraction exponents and bases involving signs
 alge250 Rational exponents: Non-unit fraction exponent with a whole number base
 alge251 Rational exponents: Negative exponents and fractional bases
 alge558 Rational exponents: Product rule
 alge559 Rational exponents: Quotient rule
 alge773 Rational exponents: Products and quotients with negative exponents
 alge562 Rational exponents: Power of a power rule
 alge249 Rational exponents: Powers of powers with negative exponents
 alge563 Simplifying products or quotients of higher radicals with different indices: Univariate

Complex Numbers and Quadratic Equations

alge778 Using i to rewrite square roots of negative numbers
 alge779 Simplifying a product and quotient involving square roots of negative numbers
 pcalc048 Adding or subtracting complex numbers
 pcalc049 Multiplying complex numbers
 pcalc050 Dividing complex numbers
 pcalc053 Simplifying a power of i
 alge962 Solving an equation of the form $x^2 = a$ using the square root property
 alge092 Solving a quadratic equation using the square root property: Exact answers, basic
 alge227 Solving a quadratic equation using the square root property: Exact answers, advanced
 alge094 Completing the square
 alge780 Solving a quadratic equation by completing the square: Exact answers
 alge095 Applying the quadratic formula: Exact answers
 alge963 Applying the quadratic formula: Decimal answers
 pcalc051 Solving a quadratic equation with complex roots
 alge214 Discriminant of a quadratic equation
 alge524 Solving a word problem using a quadratic equation with irrational roots
 alge974 Finding the vertex, x -intercepts, and axis of symmetry from the graph of a parabola
 alge953 Translating the graph of a parabola: One step
 alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
 alge569 Graphing a parabola of the form $y = x^2 + bx + c$
 pcalc746 Graphing a parabola of the form $y = ax^2 + bx + c$: Integer coefficients
 pcalc747 Graphing a parabola of the form $y = ax^2 + bx + c$: Rational coefficients
 alge277 Finding the x -intercept(s) and the vertex of a parabola
 pcalc774 Rewriting a quadratic function to find the vertex of its graph
 pcalc775 Finding the maximum or minimum of a quadratic function
 alge785 Word problem involving the maximum or minimum of a quadratic function
 alge975 Domain and range from the graph of a parabola
 pcalc762 Range of a quadratic function
 alge957 Solving a quadratic equation by graphing
 alge996 Comparing properties of quadratic functions given in different forms
 alge702 Classifying the graph of a function
 alge723 How the leading coefficient affects the shape of a parabola
 alge965 Identifying linear, quadratic, and exponential functions given ordered pairs
 alge262 Graphing a cubic function of the form $y = ax^3$
 fun019 Sum, difference, and product of two functions
 fun022 Composition of two functions: Basic
 pcalc776 Expressing a function as a composition of two functions
 pcalc924 Determining whether an equation defines a function: Basic
 pcalc757 Determining whether an equation defines a function: Advanced

B.7 Intro. to Geometry

Algebra and Deductive Reasoning

arith048 Order of operations with whole numbers
 arith051 Order of operations with whole numbers and grouping symbols
 arith056 Factors
 arith070 Least common multiple of 2 numbers
 alge807 Finding the next terms of a sequence with whole numbers
 arith212 Equivalent fractions
 arith067 Simplifying a fraction
 arith230 Addition or subtraction of fractions with different denominators
 arith086 Product of a fraction and a whole number: Problem type 1
 arith053 Fraction multiplication
 arith022 Fraction division
 arith663 Writing ratios for real-world situations
 arith015 Writing an improper fraction as a mixed number
 arith220 Decimal place value: Hundreds to ten thousandths
 arith221 Rounding decimals
 arith030 Finding a percentage of a whole number without a calculator: Basic
 arith200 Integer addition: Problem type 1
 arith108 Integer addition: Problem type 2
 arith107 Integer subtraction
 arith231 Integer multiplication and division
 arith071 Absolute value of a number
 alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge004 Evaluating a quadratic expression: Integers
 alge016 Translating a sentence into a one-step equation
 alge606 Distributive property: Whole number coefficients
 alge607 Combining like terms: Integer coefficients
 alge007 Additive property of equality: Problem type 3
 alge012 Multiplicative property of equality with signed fractions
 alge006 Solving a two-step equation with integers
 alge208 Solving a two-step equation with signed fractions
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge019 Solving a linear inequality: Problem type 1
 alge017 Graphing a linear inequality on the number line
 alge166 Graphing a compound inequality on the number line
 alge060 Solving a rational equation that simplifies to linear: Denominator x
 alge272 Solving a proportion of the form $x/a = b/c$
 alge271 Solving a proportion of the form $a/(x+b) = c/x$
 arith610 Word problem on proportions: Problem type 1
 arith047 Evaluating expressions with exponents: Problem type 1
 arith016 Square root of a perfect square
 arith093 Simplifying the square root of a whole number less than 100
 alge086 Rationalizing the denominator of a radical expression
 mstat042 Interpreting a Venn diagram of 2 sets
 mstat043 Interpreting a Venn diagram of 3 sets
 glogic001 Conditional statements and negations
 glogic005 The converse, inverse, and contrapositive of a conditional statement
 glogic008 Conditional statements and deductive reasoning

Lines and Angles

geom349 Naming segments, rays, and lines
 mstat034 Measuring length to the nearest quarter or half inch
 geom525 Computing distances between decimals on the number line
 geom526 Midpoint of a number line segment

geom521 Segment addition and midpoints
 geom616 Introduction to proofs: Justifying statements
 geom614 Proofs involving segment congruence
 geom358 Identifying parallel and perpendicular lines
 geom154 Constructing the perpendicular bisector of a line segment
 geom150 Constructing a pair of perpendicular lines
 geom157 Constructing a pair of parallel lines
 geom835 Introduction to proofs involving parallel lines
 geom836 Proofs involving parallel lines
 geom151 Measuring an angle with the protractor
 geom152 Drawing an angle with the protractor
 geom303 Acute, obtuse, and right angles
 geom039 Finding supplementary and complementary angles
 geom304 Identifying corresponding and alternate angles
 geom800 Identifying linear pairs and vertical angles
 geom500 Solving equations involving vertical angles and linear pairs
 geom503 Solving equations involving angles and two pairs of parallel lines
 geom159 Constructing congruent angles
 geom158 Constructing an angle bisector
 geom850 Angle addition with relationships between angles
 geom851 Angle addition and angle bisectors
 geom611 Proofs involving angle congruence

Triangles

geom306 Acute, obtuse, and right triangles
 geom307 Classifying scalene, isosceles, and equilateral triangles by side lengths or angles
 geom801 Area of a triangle
 geom001 Finding an angle measure of a triangle given two angles
 geom812 Finding an angle measure given extended triangles
 geom813 Finding an angle measure given a triangle and parallel lines
 geom502 Finding angle measures of a right or isosceles triangle given angles with variables
 geom908 Finding an angle measure for a triangle with an extended side
 geom309 Finding an angle measure for a triangle sharing a side with another triangle
 geom844 Using triangle inequality to determine if side lengths form a triangle
 geom845 Using triangle inequality to determine possible lengths of a third side
 geom854 Relationship between angle measures and side lengths in a triangle
 geom855 Relationship between angle measures and side lengths in two triangles
 geom650 Indirect proof (proof by contradiction)
 geom520 Identifying and naming congruent triangles
 geom617 Proofs involving congruent triangles and vertical angles or the reflexive property
 geom837 Proofs involving congruent triangles and segment or angle bisectors
 geom840 Proofs involving congruent triangles that overlap: Basic
 geom839 Proofs involving congruent triangles, parallel or perpendicular segments, and CPCTC
 geom843 Proofs involving congruent triangles that overlap: Advanced
 geom044 Pythagorean Theorem
 geom068 Computing an area using the Pythagorean Theorem
 geom506 Special right triangles: Exact answers
 geom212 Circles inscribed in and circumscribed about regular polygons
 pcalc600 Sine, cosine, and tangent ratios: Variables for side lengths
 pcalc607 Using a trigonometric ratio to find a side length in a right triangle
 pcalc610 Using trigonometry to find a length in a word problem with one right triangle
 pcalc608 Using a trigonometric ratio to find an angle measure in a right triangle
 pcalc611 Using trigonometry to find angles of elevation or depression in a word problem
 pcalc031 Solving a triangle with the law of sines: Problem type 1
 pcalc032 Solving a triangle with the law of sines: Problem type 2
 pcalc033 Solving a triangle with the law of cosines

Polygons and Circles

geom310 Properties of quadrilaterals
 geom523 Conditions for quadrilaterals
 geom532 Classifying parallelograms
 geom528 Finding measures involving diagonals of parallelograms
 geom527 Conditions for parallelograms
 geom833 Finding measures involving diagonals of rectangles
 geom834 Finding measures involving diagonals of rhombi
 geom852 The sum of interior angle measures in a convex polygon
 geom853 Interior and exterior angle measures in a regular polygon
 geom339 Perimeter of a polygon
 geom300 Perimeter of a square or a rectangle
 geom353 Perimeter of a piecewise rectangular figure
 geom078 Sides of polygons having the same perimeter
 geom817 Finding a side length given the perimeter and side lengths with variables
 geom019 Area of a square or a rectangle
 geom350 Distinguishing between the area and perimeter of a rectangle
 geom351 Areas of rectangles with the same perimeter
 geom340 Area of a piecewise rectangular figure
 geom217 Finding the side length of a rectangle given its perimeter or area
 geom143 Finding the perimeter or area of a rectangle given one of these values
 geom022 Area of a parallelogram
 geom023 Area of a trapezoid
 geom142 Word problem involving the area between two rectangles
 geom344 Area involving rectangles and triangles
 geom213 Area of a regular polygon
 geom347 Introduction to a circle: Diameter, radius, and chord
 geom343 Identifying central angles, inscribed angles, arcs, chords, and tangents of a circle
 geom848 Tangents of a circle: Problem type 1
 geom849 Tangents of a circle: Problem type 2
 geom511 Lengths of chords, secants, and tangents
 geom514 Inscribed angles of a circle
 geom512 Central angles and inscribed angles of a circle
 geom513 Angles of intersecting secants and tangents
 geom814 Angle measure in a circle graph
 geom218 Finding the radius or the diameter of a circle given its circumference
 geom802 Circumference and area of a circle
 geom301 Perimeter involving rectangles and circles
 geom838 Circumference ratios
 geom805 Arc length and area of a sector of a circle
 geom036 Word problem involving the area between two concentric circles
 geom302 Area involving rectangles and circles
 geom211 Area involving rectangles and circles: Advanced problem
 mstat011 Area as probability

Similarities and Transformations

geom359 Identifying congruent shapes on a grid
 geom360 Identifying similar or congruent shapes on a grid
 geom037 Similar polygons
 geom510 Triangles and parallel lines
 geom038 Similar right triangles
 geom507 Right triangles and geometric mean
 geom337 Indirect measurement
 geom846 Computing ratios of side lengths, surface areas, and volumes for similar solids
 geom847 Similar solids: Problem type 2
 geom357 Identifying transformations
 geom330 Translating a polygon
 geom331 Using a translated point to find coordinates of other translated points
 geom332 Reflecting a polygon over a vertical or horizontal line
 geom333 Finding the coordinates of three points reflected over an axis

geom334 Drawing lines of symmetry
 geom335 Rotating a figure about the origin
 geom815 Finding an angle of rotation
 geom831 Rotational and point symmetries
 geom336 Dilating a figure

Volumes and Surface Areas

geom830 Counting the cubes in a solid made of cubes
 geom354 Volume of a rectangular prism made of unit cubes
 geom311 Volume of a rectangular prism
 geom505 Volume of a piecewise rectangular prism
 geom090 Volume of a triangular prism
 geom033 Volume of a pyramid
 geom035 Volume of a cylinder
 geom086 Volume of a cone: Exact answers in terms of pi
 geom841 Volume of a sphere
 geom092 Word problem involving the rate of filling or emptying a cylinder
 geom133 Ratio of volumes
 geom348 Vertices, edges, and faces of a solid
 geom219 Nets of solids
 geom816 Side views of a solid made of cubes
 geom345 Surface area of a piecewise rectangular prism made of unit cubes
 geom031 Surface area of a cube or a rectangular prism
 geom091 Surface area of a triangular prism
 geom034 Surface area of a cylinder: Exact answers in terms of pi
 geom338 Surface area involving prisms or cylinders
 geom842 Surface area of a sphere

Coordinate Geometry

alge067 Plotting a point in the coordinate plane
 alge191 Midpoint of a line segment in the plane
 alge132 Distance between two points in the plane: Exact answers
 geom819 Finding coordinates of vertices of polygons
 geom818 Finding the coordinates of a point to make a parallelogram
 geom832 Area of quadrilaterals in the coordinate plane
 alge197 Graphing a line given its x- and y-intercepts
 alge194 Graphing a line given its equation in slope-intercept form
 alge210 Finding x- and y-intercepts of a line given the equation: Advanced
 alge195 Graphing a line given its equation in standard form
 alge196 Graphing a line through a given point with a given slope
 alge637 Determining the slope of a line given its graph
 alge631 Finding the slope of a line given its equation
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 alge070 Writing an equation of a line given the y-intercept and another point
 alge071 Writing the equation of a line given the slope and a point on the line
 alge072 Writing the equation of the line through two given points
 pcalc605 Graphing a circle given its equation in standard form
 pcalc065 Writing an equation of a circle given its center and a point on the circle
 pcalc066 Writing an equation of a circle given the endpoints of a diameter
 geom858 Scalar multiplication of a vector: Geometric Approach
 geom857 Vector addition: Geometric approach
 geom856 Vector addition and scalar multiplication: Component form
 pcalc060 Magnitude of a vector given in component form
 vector002 Finding the magnitude and direction of a vector given its graph
 vector005 Finding the components of a vector given its graph

pcalc063 Translation of a vector
 pcalc038 Addition or subtraction of matrices
 pcalc037 Scalar multiplication of a matrix

B.8 Intermediate Algebra

Real Numbers

arith687 Fractional position on a number line
 arith829 Reading decimal position on a number line: Tenths
 arith830 Reading decimal position on a number line: Hundredths
 alge286 Plotting integers on a number line
 arith605 Plotting rational numbers on a number line
 arith691 Ordering integers
 arith016 Square root of a perfect square
 arith763 Using a calculator to approximate a square root
 arith602 Estimating a square root
 arith712 Ordering real numbers
 arith071 Absolute value of a number
 arith200 Integer addition: Problem type 1
 arith108 Integer addition: Problem type 2
 arith688 Integer subtraction: Problem type 1
 arith689 Integer subtraction: Problem type 2
 arith690 Integer subtraction: Problem type 3
 arith754 Addition and subtraction with 3 integers
 arith755 Addition and subtraction with 4 or 5 integers
 arith701 Word problem with addition or subtraction of integers
 arith231 Integer multiplication and division
 arith800 Multiplication of 3 or 4 integers
 arith711 Division involving zero
 alge001 Identifying numbers as integers or non-integers
 alge002 Identifying numbers as rational or irrational
 arith070 Least common multiple of 2 numbers
 arith116 Signed fraction addition or subtraction: Basic
 arith864 Signed fraction subtraction involving double negation
 arith106 Signed fraction addition or subtraction: Advanced
 arith811 Addition and subtraction of 3 fractions involving signs
 arith822 Signed fraction multiplication: Basic
 arith105 Signed fraction multiplication: Advanced
 arith814 Signed fraction division
 arith117 Signed decimal addition and subtraction
 arith234 Signed decimal addition and subtraction with 3 numbers
 arith750 Signed decimal multiplication
 arith751 Signed decimal division
 arith104 Operations with absolute value: Problem type 2
 arith702 Exponents and integers: Problem type 1
 arith703 Exponents and integers: Problem type 2
 arith704 Exponents and signed fractions
 arith118 Order of operations with integers
 arith600 Order of operations with integers and exponents
 alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge004 Evaluating a quadratic expression: Integers
 alge808 Evaluating a linear expression: Signed fraction multiplication with addition or subtraction
 alge302 Evaluating a linear expression: Signed decimal addition and subtraction
 alge303 Evaluating a linear expression: Signed decimal multiplication with addition or subtraction
 alge700 Combining like terms: Whole number coefficients
 alge607 Combining like terms: Integer coefficients
 arith655 Introduction to properties of addition

alge187 Properties of addition
 alge310 Multiplying a constant and a linear monomial
 alge606 Distributive property: Whole number coefficients
 alge604 Distributive property: Integer coefficients
 arith656 Introduction to properties of multiplication
 alge188 Properties of real numbers
 alge608 Using distribution and combining like terms to simplify: Univariate
 alge609 Using distribution with double negation and combining like terms to simplify: Multivariate
 alge293 Combining like terms in a quadratic expression
 geom300 Perimeter of a square or a rectangle
 geom078 Sides of polygons having the same perimeter
 geom019 Area of a square or a rectangle
 geom620 Area of a rectangle involving fractions
 geom340 Area of a piecewise rectangular figure
 geom142 Word problem involving the area between two rectangles
 geom801 Area of a triangle
 geom022 Area of a parallelogram
 geom023 Area of a trapezoid
 geom016 Circumference of a circle
 geom301 Perimeter involving rectangles and circles
 geom802 Circumference and area of a circle
 geom302 Area involving rectangles and circles
 geom036 Word problem involving the area between two concentric circles
 geom214 Area involving inscribed figures
 geom311 Volume of a rectangular prism
 geom090 Volume of a triangular prism
 geom033 Volume of a pyramid
 geom035 Volume of a cylinder
 geom092 Word problem involving the rate of filling or emptying a cylinder
 geom622 Volume of a cone
 geom841 Volume of a sphere
 geom031 Surface area of a cube or a rectangular prism
 geom091 Surface area of a triangular prism
 geom621 Surface area of a cylinder
 geom842 Surface area of a sphere

Linear Equations and Inequalities

alge800 Additive property of equality with decimals
 alge010 Additive property of equality with integers
 alge836 Additive property of equality with signed fractions
 alge008 Multiplicative property of equality with whole numbers
 alge820 Multiplicative property of equality with fractions
 alge825 Multiplicative property of equality with decimals
 alge797 Multiplicative property of equality with integers
 alge012 Multiplicative property of equality with signed fractions
 alge834 Identifying solutions to a linear equation in one variable: Two-step equations
 alge266 Additive property of equality with a negative coefficient
 alge006 Solving a two-step equation with integers
 alge200 Solving an equation to find the value of an expression
 alge837 Solving a multi-step equation given in fractional form
 alge986 Identifying properties used to solve a linear equation
 alge824 Solving a two-step equation with signed decimals
 alge862 Solving a linear equation with several occurrences of the variable: Variables on the same side
 alge863 Solving a linear equation with several occurrences of the variable: Variables on both sides
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions

alge420 Solving a linear equation with several occurrences of the variable: Fractional forms with monomial numerators
alge208 Solving a two-step equation with signed fractions
alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
alge742 Solving equations with zero, one, or infinitely many solutions
alge272 Solving a proportion of the form $x/a = b/c$
alge840 Solving a proportion of the form $(x+a)/b = c/d$
alge511 Solving for a variable in terms of other variables using addition or subtraction: Basic
alge512 Solving for a variable in terms of other variables using addition or subtraction: Advanced
alge513 Solving for a variable in terms of other variables using multiplication or division: Basic
alge514 Solving for a variable in terms of other variables using multiplication or division: Advanced
alge517 Solving for a variable in terms of other variables using addition or subtraction with division
alge518 Solving for a variable inside parentheses in terms of other variables
alge507 Solving for a variable in terms of other variables in a linear equation with fractions
mstat065 Converting between temperatures in Fahrenheit and Celsius
alge733 Writing a one-step expression for a real-world situation
alge831 Translating a phrase into a one-step expression
alge291 Translating a phrase into a two-step expression
alge016 Translating a sentence into a one-step equation
alge841 Translating a sentence into a multi-step equation
alge802 Solving a fraction word problem using a linear equation of the form $Ax = B$
alge014 Solving a word problem with two unknowns using a linear equation
alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
alge219 Solving a decimal word problem using a linear equation with the variable on both sides
alge704 Solving a fraction word problem using a linear equation with the variable on both sides
alge792 Solving a word problem with three unknowns using a linear equation
alge842 Solving a word problem involving consecutive integers
alge730 Writing a multi-step equation for a real-world situation
alge794 Solving a value mixture problem using a linear equation
arith228 Word problem on unit rates associated with ratios of whole numbers: Decimal answers
alge823 Solving a one-step word problem using the formula $d = rt$
alge218 Solving a word problem involving rates and time conversion
alge796 Solving a distance, rate, time problem using a linear equation
geom217 Finding the side length of a rectangle given its perimeter or area
geom817 Finding a side length given the perimeter and side lengths with variables
geom143 Finding the perimeter or area of a rectangle given one of these values
geom838 Circumference ratios
geom530 Solving equations involving vertical angles
geom623 Finding angle measures of a triangle given angles with variables
geom502 Finding angle measures of a right or isosceles triangle given angles with variables
stat803 Finding the value for a new score that will yield a given mean
mstat049 Computing a percentage from a table of values
arith852 Finding the multiplier to give a final amount after a percentage increase or decrease
arith851 Finding the final amount given the original amount and a percentage increase or decrease
arith847 Finding the sale price given the original price and percent discount
arith074 Finding the sale price without a calculator given the original price and percent discount
arith848 Finding the total cost including tax or markup
arith855 Finding the original amount given the result of a percentage increase or decrease
arith031 Finding the original price given the sale price and percent discount
arith858 Finding the percentage increase or decrease: Basic
arith225 Finding the percentage increase or decrease: Advanced
arith854 Computing a percent mixture
alge795 Solving a percent mixture problem using a linear equation
arith856 Finding a percentage of a total amount in a circle graph
stat801 Computations from a circle graph
arith232 Finding simple interest without a calculator
alge015 Translating a sentence by using an inequality symbol
alge845 Translating a sentence into a one-step inequality
alge846 Translating a sentence into a multi-step inequality

alge748 Writing an inequality for a real-world situation
 alge017 Graphing a linear inequality on the number line
 alge822 Writing an inequality given a graph on the number line
 alge186 Translating a sentence into a compound inequality
 alge166 Graphing a compound inequality on the number line
 alge847 Writing a compound inequality given a graph on the number line
 set001 Set builder notation
 set004 Set builder and interval notation
 set002 Union and intersection of finite sets
 set005 Union and intersection of intervals
 alge844 Identifying solutions to a two-step linear inequality in one variable
 alge848 Additive property of inequality with whole numbers
 alge849 Additive property of inequality with integers
 alge852 Additive property of inequality with signed fractions
 alge853 Additive property of inequality with signed decimals
 alge854 Multiplicative property of inequality with integers
 alge964 Multiplicative property of inequality with signed fractions
 alge855 Solving a two-step linear inequality: Problem type 1
 alge856 Solving a two-step linear inequality: Problem type 2
 alge857 Solving a two-step linear inequality with a fractional coefficient
 alge977 Solving a linear inequality with multiple occurrences of the variable: Problem type 1
 alge858 Solving a linear inequality with multiple occurrences of the variable: Problem type 2
 alge859 Solving a linear inequality with multiple occurrences of the variable: Problem type 3
 alge860 Solving inequalities with no solution or all real numbers as solutions
 alge746 Solving a compound linear inequality: Graph solution, basic
 alge747 Solving a compound linear inequality: Interval notation
 alge749 Solving a decimal word problem using a two-step linear inequality
 alge750 Solving a decimal word problem using a linear inequality with the variable on both sides
 alge603 Introduction to solving an absolute value equation
 alge864 Solving an absolute value equation: Problem type 1
 alge865 Solving an absolute value equation: Problem type 2
 alge866 Solving an absolute value equation: Problem type 3
 alge867 Solving an absolute value equation: Problem type 4
 alge167 Solving an absolute value equation of the form $-ax+b = -cx+d$
 alge868 Solving an absolute value inequality: Problem type 1
 alge943 Writing an absolute value inequality given a graph on the number line
 alge869 Solving an absolute value inequality: Problem type 2
 alge870 Solving an absolute value inequality: Problem type 3
 alge871 Solving an absolute value inequality: Problem type 4
 alge872 Solving an absolute value inequality: Problem type 5

Lines and Functions

alge064 Reading a point in the coordinate plane
 alge067 Plotting a point in the coordinate plane
 alge850 Table for a linear equation
 alge873 Identifying solutions to a linear equation in two variables
 alge066 Finding a solution to a linear equation in two variables
 alge877 Graphing a linear equation of the form $y = mx$
 alge878 Graphing a line given its equation in slope-intercept form: Integer slope
 alge879 Graphing a line given its equation in slope-intercept form: Fractional slope
 alge880 Graphing a line given its equation in standard form
 alge198 Graphing a vertical or horizontal line
 alge884 Finding x - and y -intercepts given the graph of a line on a grid
 alge924 Finding x - and y -intercepts of a line given the equation: Basic
 alge210 Finding x - and y -intercepts of a line given the equation: Advanced
 alge197 Graphing a line given its x - and y -intercepts
 alge881 Graphing a line by first finding its x - and y -intercepts
 alge875 Classifying slopes given graphs of lines
 alge886 Finding slope given the graph of a line on a grid

alge887 Finding slope given two points on the line
 alge885 Finding the slope of horizontal and vertical lines
 alge888 Finding the coordinate that yields a given slope
 alge259 Graphing a line given its slope and y-intercept
 alge196 Graphing a line through a given point with a given slope
 alge876 Identifying linear equations: Advanced
 alge874 Identifying linear functions given ordered pairs
 alge891 Rewriting a linear equation in the form $Ax + By = C$
 alge889 Finding the slope and y-intercept of a line given its equation in the form $y = mx + b$
 alge890 Finding the slope and y-intercept of a line given its equation in the form $Ax + By = C$
 alge882 Graphing a line by first finding its slope and y-intercept
 alge258 Writing an equation of a line given its slope and y-intercept
 alge892 Writing an equation and graphing a line given its slope and y-intercept
 alge893 Writing an equation in slope-intercept form given the slope and a point
 alge883 Graphing a line given its equation in point-slope form
 alge894 Writing an equation in point-slope form given the slope and a point
 alge070 Writing an equation of a line given the y-intercept and another point
 alge072 Writing the equation of the line through two given points
 alge073 Writing the equations of vertical and horizontal lines through a given point
 geom806 Finding slopes of lines parallel and perpendicular to a line given in slope-intercept form
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 alge895 Identifying parallel and perpendicular lines from equations
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 alge897 Writing and evaluating a function that models a real-world situation: Advanced
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 alge992 Combining functions to write a new function that models a real-world situation
 alge987 Comparing properties of linear functions given in different forms
 alge989 Interpreting the parameters of a linear function that models a real-world situation
 alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
 alge806 Application problem with a linear function: Finding a coordinate given two points
 mstat052 Identifying independent and dependent variables from equations or real-world situations
 alge991 Solving a linear equation by graphing
 mstat030 Sketching the line of best fit
 mstat023 Scatter plots and correlation
 mstat068 Predictions from the line of best fit
 mstat067 Approximating the equation of a line of best fit and making predictions
 fun032 Identifying functions from relations
 fun010 Vertical line test
 fun016 Domain and range from ordered pairs
 fun001 Table for a linear function
 pcalc760 Evaluating functions: Linear and quadratic or cubic
 fun030 Evaluating a piecewise-defined function
 fun033 Variable expressions as inputs of functions: Problem type 1
 alge294 Finding outputs of a one-step function that models a real-world situation: Function notation
 alge295 Finding outputs of a two-step function with decimals that models a real-world situation: Function notation
 alge296 Finding inputs and outputs of a two-step function that models a real-world situation: Function notation
 alge990 Domain and range of a linear function that models a real-world situation
 fun026 Finding an output of a function from its graph
 pcalc761 Finding inputs and outputs of a function from its graph
 fun007 Domain and range from the graph of a discrete relation
 fun024 Domain and range from the graph of a continuous function
 fun025 Domain and range from the graph of a piecewise function
 pcalc750 Finding intercepts of a nonlinear function given its graph
 pcalc751 Finding where a function is increasing, decreasing, or constant given the graph: Interval notation
 pcalc752 Finding local maxima and minima of a function given the graph
 mstat018 Choosing a graph to fit a narrative: Basic
 mstat051 Choosing a graph to fit a narrative: Advanced
 alge896 Graphing an integer function and finding its range for a given domain
 alge570 Graphing a function of the form $f(x) = ax + b$: Integer slope
 alge571 Graphing a function of the form $f(x) = ax + b$: Fractional slope
 alge913 Graphing an absolute value equation of the form $y = A - x -$

alge954 Graphing a parabola of the form $y = ax^2$
 alge955 Graphing a parabola of the form $y = ax^2 + c$
 alge572 Graphing a function of the form $f(x) = ax^2$
 alge573 Graphing a function of the form $f(x) = ax^2 + c$
 alge262 Graphing a cubic function of the form $y = ax^3$
 fun031 Graphing a piecewise-defined function: Problem type 1

Systems of Linear Equations

alge914 Identifying solutions to a system of linear equations
 alge075 Classifying systems of linear equations from graphs
 alge725 Graphically solving a system of linear equations
 alge751 Solving a system of linear equations using substitution
 alge915 Solving a system of linear equations using elimination with addition
 alge076 Solving a system of linear equations using elimination with multiplication and addition
 alge916 Solving a system of linear equations with fractional coefficients
 alge917 Solving a system of linear equations with decimal coefficients
 alge752 Solving a 2x2 system of linear equations that is inconsistent or consistent dependent
 alge077 Creating an inconsistent system of linear equations
 alge988 Identifying the operations used to create equivalent systems of equations
 alge753 Solving a 3x3 system of linear equations: Problem type 1
 alge263 Interpreting the graphs of two functions
 alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations
 alge919 Solving a word problem using a system of linear equations of the form $Ax + By = C$
 alge918 Solving a word problem using a system of linear equations of the form $y = mx + b$
 alge184 Solving a value mixture problem using a system of linear equations
 alge192 Solving a percent mixture problem using a system of linear equations
 alge224 Solving a distance, rate, time problem using a system of linear equations
 alge172 Solving a tax rate or interest rate problem using a system of linear equations
 alge793 Solving a word problem using a 3x3 system of linear equations: Problem type 1
 alge912 Identifying solutions to a linear inequality in two variables
 alge225 Graphing a linear inequality in the plane: Vertical or horizontal line
 alge720 Graphing a linear inequality in the plane: Slope-intercept form
 alge018 Graphing a linear inequality in the plane: Standard form
 alge079 Graphing a system of two linear inequalities: Basic
 alge921 Graphing a system of two linear inequalities: Advanced
 alge922 Graphing a system of three linear inequalities
 alge729 Writing a multi-step inequality for a real-world situation
 pcalc093 Solving a word problem using a system of linear inequalities: Problem type 1
 pcalc095 Linear programming
 pcalc094 Solving a word problem using linear programming
 pcalc037 Scalar multiplication of a matrix
 pcalc038 Addition or subtraction of matrices
 pcalc740 Linear combination of matrices
 pcalc042 Finding the determinant of a 2x2 matrix
 pcalc043 Finding the determinant of a 3x3 matrix
 pcalc045 Using Cramer's rule to solve a 2x2 system of linear equations
 pcalc047 Using Cramer's rule to solve a 3x3 system of linear equations
 pcalc712 Gauss-Jordan elimination with a 2x2 matrix
 pcalc046 Solving a system of linear equations given its augmented matrix

Exponents and Polynomials

alge821 Understanding the product rule of exponents
 alge024 Introduction to the product rule of exponents
 alge311 Product rule with positive exponents: Univariate
 alge030 Product rule with positive exponents: Multivariate
 arith029 Ordering numbers with positive exponents

alge826 Understanding the power rules of exponents
alge306 Introduction to the power of a power rule of exponents
alge305 Introduction to the power of a product rule of exponents
alge307 Power rules with positive exponents: Multivariate products
alge308 Power rules with positive exponents: Multivariate quotients
alge756 Power and product rules with positive exponents
alge451 Simplifying a ratio of multivariate monomials: Basic
alge827 Introduction to the quotient rule of exponents
alge452 Simplifying a ratio of univariate monomials
alge026 Quotient of expressions involving exponents
alge453 Simplifying a ratio of multivariate monomials: Advanced
alge927 Power and quotient rules with positive exponents
alge790 Evaluating expressions with exponents of zero
arith729 Evaluating an expression with a negative exponent: Whole number base
arith042 Evaluating an expression with a negative exponent: Positive fraction base
arith043 Evaluating an expression with a negative exponent: Negative integer base
arith024 Ordering numbers with negative exponents
alge791 Rewriting an algebraic expression without a negative exponent
alge961 Introduction to the product rule with negative exponents
alge028 Product rule with negative exponents
alge755 Quotient rule with negative exponents: Problem type 1
alge926 Quotient rule with negative exponents: Problem type 2
alge025 Power of a power rule with negative exponents
alge799 Power rules with negative exponents
alge928 Power and quotient rules with negative exponents: Problem type 1
alge929 Power and quotient rules with negative exponents: Problem type 2
alge757 Power, product, and quotient rules with negative exponents
arith036 Scientific notation with positive exponent
arith037 Scientific notation with negative exponent
scinot012 Converting between scientific notation and standard form in a real-world situation
scinot008 Multiplying numbers written in scientific notation: Basic
scinot009 Multiplying numbers written in scientific notation: Advanced
scinot010 Dividing numbers written in scientific notation: Basic
scinot011 Dividing numbers written in scientific notation: Advanced
alge758 Degree and leading coefficient of a univariate polynomial
alge031 Degree of a multivariate polynomial
alge798 Simplifying a sum or difference of two univariate polynomials
alge029 Simplifying a sum or difference of three univariate polynomials
alge932 Simplifying a sum or difference of multivariate polynomials
alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
alge972 Multiplying a univariate polynomial by a monomial with a negative coefficient
alge835 Multiplying a multivariate polynomial by a monomial
alge033 Multiplying binomials with leading coefficients of 1
alge983 Multiplying binomials with leading coefficients greater than 1
alge765 Multiplying binomials in two variables
alge764 Multiplying conjugate binomials: Univariate
alge081 Multiplying conjugate binomials: Multivariate
alge032 Squaring a binomial: Univariate
alge068 Squaring a binomial: Multivariate
alge973 Multiplying binomials with negative coefficients
alge935 Multiplication involving binomials and trinomials in one variable
alge180 Multiplication involving binomials and trinomials in two variables
alge759 Dividing a polynomial by a monomial: Univariate
alge760 Dividing a polynomial by a monomial: Multivariate
alge761 Polynomial long division: Problem type 1
alge762 Polynomial long division: Problem type 2
alge763 Polynomial long division: Problem type 3
pcalc117 Synthetic division
pcalc786 Using the remainder theorem to evaluate a polynomial
alge985 Closure properties of integers and polynomials

Factoring Polynomials

arith034 Prime numbers
 arith035 Prime factorization
 arith033 Greatest common factor of 2 numbers
 alge605 Factoring a linear binomial
 alge736 Introduction to the GCF of two monomials
 alge930 Greatest common factor of three univariate monomials
 alge037 Greatest common factor of two multivariate monomials
 alge738 Factoring out a monomial from a polynomial: Univariate
 alge739 Factoring out a monomial from a polynomial: Multivariate
 alge949 Factoring out a binomial from a polynomial: GCF factoring, basic
 alge923 Factoring a univariate polynomial by grouping: Problem type 1
 alge950 Factoring a univariate polynomial by grouping: Problem type 2
 alge951 Factoring a multivariate polynomial by grouping: Problem type 1
 alge952 Factoring a multivariate polynomial by grouping: Problem type 2
 alge039 Factoring a quadratic with leading coefficient 1
 alge942 Factoring a quadratic in two variables with leading coefficient 1
 alge936 Factoring out a constant before factoring a quadratic
 alge939 Factoring a quadratic with leading coefficient greater than 1: Problem type 1
 alge940 Factoring a quadratic with leading coefficient greater than 1: Problem type 2
 alge941 Factoring a quadratic with leading coefficient greater than 1: Problem type 3
 alge978 Factoring a quadratic by the ac-method
 alge265 Factoring a quadratic in two variables with leading coefficient greater than 1
 alge937 Factoring a quadratic with a negative leading coefficient
 alge944 Factoring a perfect square trinomial with leading coefficient 1
 alge945 Factoring a perfect square trinomial with leading coefficient greater than 1
 alge946 Factoring a perfect square trinomial in two variables
 alge290 Factoring a difference of squares in one variable: Basic
 alge947 Factoring a difference of squares in one variable: Advanced
 alge839 Factoring a difference of squares in two variables
 alge948 Factoring a polynomial involving a GCF and a difference of squares: Univariate
 alge833 Factoring a polynomial involving a GCF and a difference of squares: Multivariate
 alge041 Factoring a product of a quadratic trinomial and a monomial
 alge042 Factoring with repeated use of the difference of squares formula
 alge044 Factoring a sum or difference of two cubes
 alge681 Solving an equation written in factored form
 alge956 Finding the roots of a quadratic equation of the form $ax^2 + bx = 0$
 alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
 alge211 Solving a quadratic equation needing simplification
 alge703 Solving a word problem using a quadratic equation with rational roots
 alge046 Roots of a product of polynomials
 alge163 Writing a quadratic equation given the roots and the leading coefficient
 alge407 Introduction to the Pythagorean Theorem
 geom044 Pythagorean Theorem
 alge408 Word problem involving the Pythagorean Theorem
 alge713 Using the Pythagorean Theorem and a quadratic equation to find side lengths of a right triangle

Rational Expressions

alge049 Restriction on a variable in a denominator: Linear
 alge467 Restriction on a variable in a denominator: Quadratic
 alge468 Evaluating a rational function: Problem type 1
 alge469 Evaluating a rational function: Problem type 2
 alge715 Domain of a rational function: Excluded values
 alge454 Simplifying a ratio of factored polynomials: Linear factors
 alge455 Simplifying a ratio of factored polynomials: Factors with exponents
 alge456 Simplifying a ratio of polynomials using GCF factoring

alge457 Simplifying a ratio of linear polynomials: 1, -1, and no simplification
alge458 Simplifying a ratio of polynomials by factoring a quadratic with leading coefficient 1
alge710 Simplifying a ratio of polynomials: Problem type 1
alge682 Simplifying a ratio of polynomials: Problem type 2
alge459 Simplifying a ratio of polynomials: Problem type 3
alge034 Simplifying a ratio of multivariate polynomials
alge053 Multiplying rational expressions involving multivariate monomials
alge460 Multiplying rational expressions made up of linear expressions
alge620 Multiplying rational expressions involving quadratics with leading coefficients of 1
alge461 Multiplying rational expressions involving quadratics with leading coefficients greater than 1
alge462 Multiplying rational expressions involving multivariate quadratics
alge054 Dividing rational expressions involving multivariate monomials
alge463 Dividing rational expressions involving linear expressions
alge766 Dividing rational expressions involving quadratics with leading coefficients of 1
alge464 Dividing rational expressions involving quadratics with leading coefficients greater than 1
alge465 Dividing rational expressions involving multivariate quadratics
alge466 Multiplication and division of 3 rational expressions
alge737 Introduction to the LCM of two monomials
alge055 Least common multiple of two monomials
alge427 Finding the LCD of rational expressions with linear denominators: Relatively prime
alge428 Finding the LCD of rational expressions with linear denominators: Common factors
alge429 Finding the LCD of rational expressions with quadratic denominators
alge430 Writing equivalent rational expressions with monomial denominators
alge431 Writing equivalent rational expressions with polynomial denominators
alge304 Writing equivalent rational expressions involving opposite factors
alge432 Introduction to adding fractions with variables and common denominators
alge433 Adding rational expressions with common denominators and monomial numerators
alge056 Adding rational expressions with common denominators and binomial numerators
alge434 Adding rational expressions with common denominators and GCF factoring
alge435 Adding rational expressions with common denominators and quadratic factoring
alge436 Adding rational expressions with different denominators and a single occurrence of a variable
alge437 Adding rational expressions with denominators ax and bx : Basic
alge438 Adding rational expressions with denominators ax and bx : Advanced
alge439 Adding rational expressions with denominators axn and bxm
alge440 Adding rational expressions with multivariate monomial denominators: Basic
alge226 Adding rational expressions with multivariate monomial denominators: Advanced
alge441 Adding rational expressions with linear denominators without common factors: Basic
alge442 Adding rational expressions with linear denominators without common factors: Advanced
alge443 Adding rational expressions with linear denominators with common factors: Basic
alge444 Adding rational expressions with linear denominators with common factors: Advanced
alge445 Adding rational expressions with denominators $ax-b$ and $b-ax$
alge661 Adding rational expressions involving different quadratic denominators
alge446 Adding 3 rational expressions with different quadratic denominators
arith695 Complex fraction without variables: Problem type 1
arith696 Complex fraction without variables: Problem type 2
alge470 Complex fraction involving univariate monomials
alge058 Complex fraction involving multivariate monomials
alge471 Complex fraction: GCF factoring
alge472 Complex fraction: Quadratic factoring
alge473 Complex fraction made of sums involving rational expressions: Problem type 1
alge474 Complex fraction made of sums involving rational expressions: Problem type 2
alge475 Complex fraction made of sums involving rational expressions: Problem type 3
alge476 Complex fraction made of sums involving rational expressions: Problem type 4
alge477 Complex fraction made of sums involving rational expressions: Problem type 5
alge478 Complex fraction made of sums involving rational expressions: Problem type 6
alge479 Complex fraction made of sums involving rational expressions: Multivariate
alge480 Complex fraction with negative exponents: Problem type 1
alge481 Complex fraction with negative exponents: Problem type 2
alge162 Complex fraction that contains a complex fraction
alge271 Solving a proportion of the form $a/(x+b) = c/x$
alge060 Solving a rational equation that simplifies to linear: Denominator x
alge205 Solving a rational equation that simplifies to linear: Denominator $x+a$

alge769 Solving a rational equation that simplifies to linear: Denominators a , x , or ax
 alge421 Solving a rational equation that simplifies to linear: Denominators ax and bx
 alge422 Solving a rational equation that simplifies to linear: Like binomial denominators
 alge206 Solving a rational equation that simplifies to linear: Unlike binomial denominators
 alge423 Solving a rational equation that simplifies to linear: Factorable quadratic denominator
 alge424 Solving a rational equation that simplifies to quadratic: Proportional form, basic
 alge425 Solving a rational equation that simplifies to quadratic: Denominator x
 alge212 Solving a rational equation that simplifies to quadratic: Binomial denominators, constant numerators
 alge062 Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators
 alge426 Solving a rational equation that simplifies to quadratic: Factorable quadratic denominator
 alge047 Solving a rational equation that simplifies to quadratic: Proportional form, advanced
 alge508 Solving for a variable in terms of other variables in a rational equation: Problem type 1
 alge509 Solving for a variable in terms of other variables in a rational equation: Problem type 2
 alge510 Solving for a variable in terms of other variables in a rational equation: Problem type 3
 arith610 Word problem on proportions: Problem type 1
 arith611 Word problem on proportions: Problem type 2
 geom037 Similar polygons
 geom038 Similar right triangles
 geom337 Indirect measurement
 geom133 Ratio of volumes
 arith612 Word problem involving multiple rates
 alge770 Solving a work problem using a rational equation
 alge450 Solving a distance, rate, time problem using a rational equation
 alge059 Ordering fractions with variables
 alge982 Identifying direct variation equations
 alge938 Identifying direct variation from ordered pairs and writing equations
 alge904 Writing a direct variation equation
 alge175 Word problem on direct variation
 alge828 Interpreting direct variation from a graph
 alge905 Writing an inverse variation equation
 alge903 Identifying direct and inverse variation equations
 alge902 Identifying direct and inverse variation from ordered pairs and writing equations
 alge176 Word problem on inverse variation
 alge220 Word problem on inverse proportions
 pcalc681 Writing an equation that models variation
 alge772 Word problem on combined variation
 pcalc917 Finding the asymptotes of a rational function: Constant over linear
 pcalc918 Finding the asymptotes of a rational function: Linear over linear
 alge515 Graphing a rational function: Constant over linear
 alge516 Graphing a rational function: Linear over linear

Radicals

alge413 Finding all square roots of a number
 arith601 Square root of a rational perfect square
 arith760 Square roots of perfect squares with signs
 arith761 Square roots of integers raised to even exponents
 alge415 Introduction to simplifying a radical expression with an even exponent
 alge264 Square root of a perfect square monomial
 alge537 Using absolute value to simplify square roots of perfect square monomials
 arith094 Cube root of an integer
 alge549 Finding n th roots of perfect n th powers with signs
 arith768 Finding the n th root of a perfect n th power fraction
 alge550 Finding the n th root of a perfect n th power monomial
 alge538 Using absolute value to simplify higher radical expressions
 alge539 Table for a square root function
 alge546 Evaluating a cube root function
 alge540 Domain of a square root function: Basic
 pcalc763 Domain of a square root function: Advanced
 alge547 Domains of higher root functions

alge543 Graphing a square root function: Problem type 1
alge544 Graphing a square root function: Problem type 2
alge545 Graphing a square root function: Problem type 3
alge548 Graphing a cube root function
alge812 Converting between radical form and exponent form
alge560 Rational exponents: Unit fraction exponents and whole number bases
alge561 Rational exponents: Unit fraction exponents and bases involving signs
alge250 Rational exponents: Non-unit fraction exponent with a whole number base
alge251 Rational exponents: Negative exponents and fractional bases
alge558 Rational exponents: Product rule
alge559 Rational exponents: Quotient rule
alge773 Rational exponents: Products and quotients with negative exponents
alge562 Rational exponents: Power of a power rule
alge249 Rational exponents: Powers of powers with negative exponents
arith093 Simplifying the square root of a whole number less than 100
arith762 Simplifying the square root of a whole number greater than 100
alge080 Simplifying a radical expression with an even exponent
alge520 Introduction to simplifying a radical expression with an odd exponent
alge521 Simplifying a radical expression with an odd exponent
alge275 Simplifying a radical expression with two variables
alge273 Simplifying a higher root of a whole number
alge551 Introduction to simplifying a higher radical expression
alge552 Simplifying a higher radical expression: Univariate
alge811 Simplifying a higher radical expression: Multivariate
arith767 Introduction to square root addition or subtraction
arith032 Square root addition or subtraction
alge533 Square root addition or subtraction with three terms
alge531 Introduction to simplifying a sum or difference of radical expressions: Univariate
alge532 Simplifying a sum or difference of radical expressions: Univariate
alge084 Simplifying a sum or difference of radical expressions: Multivariate
alge554 Simplifying a sum or difference of higher roots
alge555 Simplifying a sum or difference of higher radical expressions
arith764 Introduction to square root multiplication
arith765 Square root multiplication: Basic
arith039 Square root multiplication: Advanced
alge522 Introduction to simplifying a product of radical expressions: Univariate
alge523 Simplifying a product of radical expressions: Univariate
alge640 Simplifying a product of radical expressions: Multivariate
alge082 Simplifying a product of radical expressions: Multivariate, fractional expressions
alge556 Introduction to simplifying a product of higher roots
alge557 Simplifying a product of higher radical expressions
alge525 Introduction to simplifying a product involving square roots using the distributive property
alge526 Simplifying a product involving square roots using the distributive property: Basic
alge276 Simplifying a product involving square roots using the distributive property: Advanced
alge774 Special products of radical expressions: Conjugates and squaring
alge984 Classifying sums and products as rational or irrational
arith766 Simplifying a quotient of square roots
alge530 Simplifying a quotient involving a sum or difference with a square root
alge527 Rationalizing a denominator: Quotient involving square roots
alge528 Rationalizing a denominator: Square root of a fraction
alge529 Rationalizing a denominator: Quotient involving a monomial
alge534 Rationalizing a denominator using conjugates: Integer numerator
alge535 Rationalizing a denominator using conjugates: Square root in numerator
alge536 Rationalizing a denominator using conjugates: Variable in denominator
alge564 Rationalizing a denominator: Quotient involving a higher radical
alge775 Rationalizing a denominator: Quotient involving higher radicals and monomials
alge563 Simplifying products or quotients of higher radicals with different indices: Univariate
alge776 Simplifying products or quotients of higher radicals with different indices: Multivariate
alge400 Introduction to solving a radical equation
alge089 Solving a radical equation that simplifies to a linear equation: One radical, basic
alge402 Solving a radical equation that simplifies to a linear equation: One radical, advanced
alge090 Solving a radical equation that simplifies to a linear equation: Two radicals

alge405 Solving a radical equation with two radicals that simplifies to $\sqrt{x} = a$
 alge403 Solving a radical equation that simplifies to a quadratic equation: One radical, basic
 alge404 Solving a radical equation that simplifies to a quadratic equation: One radical, advanced
 alge411 Solving a radical equation with a quadratic expression under the radical
 alge182 Solving a radical equation that simplifies to a quadratic equation: Two radicals
 alge412 Algebraic symbol manipulation with radicals
 alge542 Word problem involving radical equations: Basic
 alge409 Word problem involving radical equations: Advanced
 alge410 Solving an equation with a root index greater than 2: Problem type 1
 alge417 Solving an equation with a root index greater than 2: Problem type 2
 alge416 Solving an equation with exponent $1/a$: Problem type 1
 alge418 Solving an equation with exponent $1/a$: Problem type 2
 alge778 Using i to rewrite square roots of negative numbers
 alge779 Simplifying a product and quotient involving square roots of negative numbers
 pcalc048 Adding or subtracting complex numbers
 pcalc049 Multiplying complex numbers
 pcalc050 Dividing complex numbers
 pcalc053 Simplifying a power of i

Quadratic Equations and Functions

alge962 Solving an equation of the form $x^2 = a$ using the square root property
 alge092 Solving a quadratic equation using the square root property: Exact answers, basic
 alge227 Solving a quadratic equation using the square root property: Exact answers, advanced
 alge094 Completing the square
 alge780 Solving a quadratic equation by completing the square: Exact answers
 alge095 Applying the quadratic formula: Exact answers
 alge963 Applying the quadratic formula: Decimal answers
 pcalc051 Solving a quadratic equation with complex roots
 alge214 Discriminant of a quadratic equation
 alge193 Discriminant of a quadratic equation with parameter
 alge524 Solving a word problem using a quadratic equation with irrational roots
 alge093 Solving an equation using the odd-root property: Problem type 1
 alge228 Solving an equation using the odd-root property: Problem type 2
 alge781 Solving an equation that can be written in quadratic form: Problem type 1
 alge782 Solving an equation that can be written in quadratic form: Problem type 2
 alge230 Solving an equation with positive rational exponent
 alge231 Solving an equation with negative rational exponent
 alge974 Finding the vertex, x -intercepts, and axis of symmetry from the graph of a parabola
 alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
 alge569 Graphing a parabola of the form $y = x^2 + bx + c$
 pcalc746 Graphing a parabola of the form $y = ax^2 + bx + c$: Integer coefficients
 pcalc747 Graphing a parabola of the form $y = ax^2 + bx + c$: Rational coefficients
 alge277 Finding the x -intercept(s) and the vertex of a parabola
 pcalc793 Using a graphing calculator to find the x -intercept(s) and vertex of a quadratic function
 pcalc774 Rewriting a quadratic function to find the vertex of its graph
 pcalc775 Finding the maximum or minimum of a quadratic function
 alge785 Word problem involving the maximum or minimum of a quadratic function
 alge975 Domain and range from the graph of a parabola
 pcalc762 Range of a quadratic function
 pcalc680 Writing the equation of a quadratic function given its graph
 alge957 Solving a quadratic equation by graphing
 alge996 Comparing properties of quadratic functions given in different forms
 alge702 Classifying the graph of a function
 alge723 How the leading coefficient affects the shape of a parabola
 alge784 Solving a quadratic inequality written in factored form
 alge771 Solving a quadratic inequality
 pcalc676 Solving a polynomial inequality
 alge783 Solving a rational inequality: Problem type 1
 pcalc677 Solving a rational inequality: Problem type 2

Function Operations and Inverses

alge953 Translating the graph of a parabola: One step
 alge898 Translating the graph of an absolute value function: One step
 alge899 Translating the graph of an absolute value function: Two steps
 alge900 Graphing an absolute value equation in the plane: Basic
 alge168 Graphing an absolute value equation in the plane: Advanced
 alge901 How the leading coefficient affects the graph of an absolute value function
 alge185 Writing an equation for a function after a vertical translation
 fun020 Writing an equation for a function after a vertical and horizontal translation
 fun019 Sum, difference, and product of two functions
 alge786 Quotient of two functions: Basic
 pcalc756 Combining functions: Advanced
 fun022 Composition of two functions: Basic
 pcalc776 Expressing a function as a composition of two functions
 fun021 Composition of two functions: Domain and range
 alge129 Composition of two functions: Advanced
 pcalc924 Determining whether an equation defines a function: Basic
 pcalc757 Determining whether an equation defines a function: Advanced
 fun011 Horizontal line test
 pcalc777 Determining whether two functions are inverses of each other
 fun012 Inverse functions: Linear, discrete
 alge130 Inverse functions: Rational
 pcalc778 Inverse functions: Quadratic, cubic, radical

Exponential and Logarithmic Functions

alge971 Table for an exponential function
 alge969 Graphing an exponential function: $f(x) = ax$
 alge970 Graphing an exponential function: $f(x) = a(b)^x$
 alge712 Graphing an exponential function and its asymptote: $f(x) = a(b)^x$
 pcalc922 Translating the graph of an exponential function
 pcalc797 The graph, domain, and range of an exponential function
 pcalc103 Graphing an exponential function and its asymptote: $f(x) = a(e)^{x-b} + c$
 alge830 Evaluating an exponential function that models a real-world situation
 pcalc919 Evaluating an exponential function with base e that models a real-world situation
 arith853 Introduction to compound interest
 alge177 Finding a final amount in a word problem on exponential growth or decay
 alge741 Finding the final amount in a word problem on compound interest
 alge966 Finding the initial amount and rate of change given an exponential function
 alge968 Writing an equation that models exponential growth or decay
 alge967 Writing an exponential function rule given a table of ordered pairs
 alge993 Comparing linear, polynomial, and exponential functions
 alge108 Converting between logarithmic and exponential equations
 pcalc799 Converting between natural logarithmic and exponential equations
 alge232 Evaluating a logarithmic expression
 alge233 Solving an equation of the form $\log_b a = c$
 pcalc923 Translating the graph of a logarithmic function
 alge788 Graphing a logarithmic function: Basic
 pcalc800 The graph, domain, and range of a logarithmic function
 pcalc104 Graphing a logarithmic function: Advanced
 pcalc708 Basic properties of logarithms
 pcalc779 Expanding a logarithmic expression: Problem type 1
 pcalc780 Expanding a logarithmic expression: Problem type 2
 alge787 Writing an expression as a single logarithm
 pcalc612 Change of base for logarithms: Problem type 1
 pcalc613 Change of base for logarithms: Problem type 2
 pcalc803 Solving a multi-step equation involving a single logarithm
 pcalc804 Solving a multi-step equation involving natural logarithms

alge113 Solving an equation involving logarithms on both sides: Problem type 1
 pcalc805 Solving an equation involving logarithms on both sides: Problem type 2
 alge301 Solving an exponential equation by finding common bases: Linear exponents
 alge482 Solving an exponential equation by finding common bases: Linear and quadratic exponents
 pcalc920 Solving an exponential equation by using logarithms: Decimal answers, basic
 pcalc921 Solving an exponential equation by using natural logarithms: Decimal answers
 alge111 Solving an exponential equation by using logarithms: Exact answers in logarithmic form
 pcalc806 Using a graphing calculator to solve an exponential or logarithmic equation
 alge178 Finding the time to reach a limit in a word problem on exponential growth or decay
 pcalc614 Finding the initial or final amount in a word problem on exponential growth or decay
 pcalc615 Finding the rate or time in a word problem on continuous exponential growth or decay

Conic Sections and Sequences

alge191 Midpoint of a line segment in the plane
 alge414 Finding an endpoint of a line segment given the other endpoint and the midpoint
 alge132 Distance between two points in the plane: Exact answers
 pcalc067 Graphing a parabola of the form $ay^2 + by + cx + d = 0$ or $ax^2 + bx + cy + d = 0$
 pcalc068 Writing an equation of a parabola given the vertex and the focus
 pcalc069 Finding the focus of a parabola of the form $ay^2 + by + cx + d = 0$ or $ax^2 + bx + cy + d = 0$
 pcalc605 Graphing a circle given its equation in standard form
 pcalc128 Graphing a circle given its equation in general form: Basic
 pcalc129 Graphing a circle given its equation in general form: Advanced
 pcalc065 Writing an equation of a circle given its center and a point on the circle
 pcalc066 Writing an equation of a circle given the endpoints of a diameter
 pcalc734 Graphing an ellipse given its equation in standard form
 pcalc070 Graphing an ellipse centered at the origin: $Ax^2 + By^2 = C$
 pcalc071 Graphing an ellipse given its equation in general form
 pcalc735 Graphing a hyperbola given its equation in standard form
 pcalc075 Graphing a hyperbola centered at the origin: $Ax^2 - By^2 - C = 0$
 pcalc076 Graphing a hyperbola given its equation in general form
 pcalc736 Classifying conics given their equations
 alge994 Graphically solving a system of linear and quadratic equations
 pcalc796 Using a graphing calculator to solve a system of equations
 alge995 Solving a system of linear and quadratic equations
 pcalc098 Solving a system of nonlinear equations: Problem type 1
 pcalc748 Graphing a quadratic inequality: Problem type 1
 pcalc749 Graphing a quadratic inequality: Problem type 2
 pcalc096 Graphing a system of nonlinear inequalities: Problem type 1
 pcalc097 Graphing a system of nonlinear inequalities: Problem type 2
 alge644 Finding the first terms of an arithmetic sequence using an explicit rule
 alge645 Finding the first terms of a geometric sequence using an explicit rule
 pcalc080 Finding the first terms of a sequence using an explicit rule with multiple occurrences of n
 alge906 Finding the next terms of an arithmetic sequence with integers
 alge908 Finding the first terms of a sequence using a recursive rule
 alge979 Identifying arithmetic sequences and finding the common difference
 alge931 Finding a specified term of an arithmetic sequence given the first terms
 pcalc085 Finding a specified term of an arithmetic sequence given the common difference and first term
 pcalc715 Finding a specified term of an arithmetic sequence given two terms of the sequence
 alge909 Writing an explicit rule for an arithmetic sequence
 alge910 Writing a recursive rule for an arithmetic sequence
 pcalc718 Sum of the first n terms of an arithmetic sequence
 alge907 Finding the next terms of a geometric sequence with signed numbers
 alge981 Identifying arithmetic and geometric sequences
 alge980 Identifying geometric sequences and finding the common ratio
 alge934 Finding a specified term of a geometric sequence given the first terms
 pcalc086 Finding a specified term of a geometric sequence given the common ratio and first term
 pcalc717 Finding a specified term of a geometric sequence given two terms of the sequence
 pcalc713 Arithmetic and geometric sequences: Identifying and writing an explicit rule
 alge911 Writing recursive rules for arithmetic and geometric sequences

pcalc719 Sum of the first n terms of a geometric sequence
 pcalc720 Sum of an infinite geometric series
 alge965 Identifying linear, quadratic, and exponential functions given ordered pairs
 pcalc082 Factorial expressions
 pcalc087 Binomial formula

B.9 Beginning and Intermediate Algebra Combined

Arithmetic Readiness

arith692 Writing expressions using exponents
 arith233 Introduction to exponents
 arith683 Power of 10: Positive exponent
 arith048 Order of operations with whole numbers
 arith051 Order of operations with whole numbers and grouping symbols
 arith693 Order of operations with whole numbers and exponents: Basic
 arith713 Order of operations with whole numbers and exponents: Advanced
 alge285 Evaluating an algebraic expression: Whole numbers with two operations
 alge832 Evaluating an algebraic expression: Whole number operations and exponents
 arith056 Factors
 arith034 Prime numbers
 arith035 Prime factorization
 arith033 Greatest common factor of 2 numbers
 arith070 Least common multiple of 2 numbers
 arith804 Least common multiple of 3 numbers
 arith240 Word problem with common multiples
 arith064 Solving a word problem on proportions using a unit rate
 arith212 Equivalent fractions
 arith067 Simplifying a fraction
 arith618 Addition or subtraction of fractions with the same denominator
 arith802 Addition or subtraction of fractions with the same denominator and simplification
 arith801 Finding the LCD of two fractions
 arith664 Introduction to addition or subtraction of fractions with different denominators
 arith230 Addition or subtraction of fractions with different denominators
 arith803 Addition and subtraction of 3 fractions with different denominators
 arith805 Word problem involving addition or subtraction of fractions with different denominators
 arith100 Fractional part of a circle
 arith079 Product of a unit fraction and a whole number
 arith086 Product of a fraction and a whole number: Problem type 1
 arith119 Introduction to fraction multiplication
 arith053 Fraction multiplication
 arith812 Product of a fraction and a whole number: Problem type 2
 arith813 Multiplication of 3 fractions
 arith821 Exponents and fractions
 arith818 Word problem involving fractions and multiplication
 arith095 Multi-step word problem involving fractions and multiplication
 arith088 The reciprocal of a number
 arith694 Division involving a whole number and a fraction
 arith022 Fraction division
 arith819 Word problem involving fractions and division
 arith859 Order of operations with fractions: Problem type 1
 arith860 Order of operations with fractions: Problem type 2
 arith861 Order of operations with fractions: Problem type 3
 arith015 Writing an improper fraction as a mixed number
 arith619 Writing a mixed number as an improper fraction
 arith084 Addition of mixed numbers with the same denominator and carry
 arith216 Subtraction of mixed numbers with the same denominator and borrowing
 arith806 Addition or subtraction of mixed numbers with different denominators and no carry or borrow

arith808 Addition of mixed numbers with different denominators and carry
arith809 Subtraction of mixed numbers with different denominators and borrowing
arith807 Addition and subtraction of 3 mixed numbers with different denominators
arith810 Word problem involving addition or subtraction of mixed numbers with different denominators
arith815 Mixed number multiplication
arith816 Multiplication of a mixed number and a whole number
arith817 Division with a mixed number and a whole number
arith068 Mixed number division
arith820 Word problem involving multiplication or division with mixed numbers
arith110 Decimal place value: Tenths and hundredths
arith221 Rounding decimals
arith718 Converting a decimal to a proper fraction in simplest form: Basic
arith087 Converting a decimal to a proper fraction in simplest form: Advanced
arith722 Converting a decimal to a mixed number and an improper fraction in simplest form: Basic
arith724 Converting a decimal to a mixed number and an improper fraction in simplest form: Advanced
arith013 Decimal addition with 3 numbers
arith735 Decimal subtraction: Basic
arith736 Decimal subtraction: Advanced
arith737 Decimal addition and subtraction with 3 or more numbers
arith131 Estimating a decimal sum or difference
arith133 Word problem with addition of 3 or 4 decimals and whole numbers
arith134 Word problem with subtraction of a whole number and a decimal: Regrouping with zeros
arith017 Multiplication of a decimal by a whole number
arith055 Decimal multiplication: Problem type 1
arith082 Multiplication of a decimal by a power of ten
arith752 Estimating a product of decimals
arith753 Squaring decimal bases: Products greater than 0.1
arith741 Exponents and decimals: Products less than 0.1
arith137 Word problem with multiplication of two decimals
arith224 Word problem with decimal addition and multiplication
arith081 Division of a decimal by a whole number
arith743 Division of a decimal by a 1-digit decimal
arith019 Division of a decimal by a 2-digit decimal
arith083 Division of a decimal by a power of ten
arith138 Word problem with division of two decimals
arith227 Word problem with decimal subtraction and division
arith727 Converting a fraction to a terminating decimal: Basic
arith728 Converting a fraction to a terminating decimal: Advanced
arith730 Converting a fraction to a repeating decimal: Basic
arith731 Converting a fraction to a repeating decimal: Advanced
arith111 Converting a mixed number to a terminating decimal: Basic
arith112 Converting a mixed number to a terminating decimal: Advanced
arith720 Order of operations with decimals: Problem type 1
arith746 Order of operations with decimals: Problem type 2
arith747 Order of operations with decimals: Problem type 3
arith836 Converting a fraction with a denominator of 100 to a percentage
arith837 Converting a percentage to a fraction with a denominator of 100
arith723 Introduction to converting a percentage to a decimal
arith833 Introduction to converting a decimal to a percentage
arith834 Converting between percentages and decimals
arith841 Converting a mixed number percentage to a decimal
arith835 Converting between percentages and decimals in a real-world situation
arith090 Converting a percentage to a fraction in simplest form
arith839 Converting a decimal percentage to a fraction
arith838 Converting a fraction to a percentage: Denominator of 4, 5, or 10
arith002 Converting a fraction to a percentage: Denominator of 20, 25, or 50
arith843 Using a calculator to convert a fraction to a rounded percentage
arith842 Converting a fraction to a percentage in a real-world situation
mstat003 Mode of a data set
arith103 Average of two numbers
mstat001 Mean of a data set
mstat028 Mean and median of a data set

mstat066 Weighted mean
 mstat024 Interpreting a bar graph
 mstat007 Interpreting a line graph
 geom339 Perimeter of a polygon
 geom300 Perimeter of a square or a rectangle
 geom618 Perimeter of a polygon involving mixed numbers and fractions
 geom078 Sides of polygons having the same perimeter
 geom019 Area of a square or a rectangle
 geom350 Distinguishing between the area and perimeter of a rectangle
 geom620 Area of a rectangle involving fractions
 geom619 Area of a rectangle involving mixed numbers and fractions
 geom221 Finding the missing length in a figure
 geom340 Area of a piecewise rectangular figure
 geom142 Word problem involving the area between two rectangles
 geom801 Area of a triangle
 geom022 Area of a parallelogram
 geom023 Area of a trapezoid
 geom016 Circumference of a circle
 geom301 Perimeter involving rectangles and circles
 geom802 Circumference and area of a circle
 geom302 Area involving rectangles and circles
 geom036 Word problem involving the area between two concentric circles
 geom214 Area involving inscribed figures
 geom311 Volume of a rectangular prism
 geom090 Volume of a triangular prism
 geom033 Volume of a pyramid
 geom035 Volume of a cylinder
 geom092 Word problem involving the rate of filling or emptying a cylinder
 geom622 Volume of a cone
 geom841 Volume of a sphere
 geom031 Surface area of a cube or a rectangular prism
 geom091 Surface area of a triangular prism
 geom621 Surface area of a cylinder
 geom842 Surface area of a sphere
 geom303 Acute, obtuse, and right angles
 geom039 Finding supplementary and complementary angles
 geom306 Acute, obtuse, and right triangles
 geom307 Classifying scalene, isosceles, and equilateral triangles by side lengths or angles

Real Numbers and Algebraic Expressions

arith687 Fractional position on a number line
 arith829 Reading decimal position on a number line: Tenths
 arith830 Reading decimal position on a number line: Hundredths
 alge286 Plotting integers on a number line
 arith605 Plotting rational numbers on a number line
 arith699 Writing a signed number for a real-world situation
 arith092 Using a common denominator to order fractions
 arith129 Introduction to ordering decimals
 arith608 Ordering decimals
 arith609 Ordering fractions and decimals
 arith691 Ordering integers
 arith016 Square root of a perfect square
 arith763 Using a calculator to approximate a square root
 arith602 Estimating a square root
 arith712 Ordering real numbers
 arith071 Absolute value of a number
 arith200 Integer addition: Problem type 1
 arith108 Integer addition: Problem type 2
 arith688 Integer subtraction: Problem type 1

arith689 Integer subtraction: Problem type 2
 arith690 Integer subtraction: Problem type 3
 arith754 Addition and subtraction with 3 integers
 arith755 Addition and subtraction with 4 or 5 integers
 arith701 Word problem with addition or subtraction of integers
 arith231 Integer multiplication and division
 arith800 Multiplication of 3 or 4 integers
 arith711 Division involving zero
 alge001 Identifying numbers as integers or non-integers
 alge002 Identifying numbers as rational or irrational
 arith116 Signed fraction addition or subtraction: Basic
 arith864 Signed fraction subtraction involving double negation
 arith106 Signed fraction addition or subtraction: Advanced
 arith811 Addition and subtraction of 3 fractions involving signs
 arith822 Signed fraction multiplication: Basic
 arith105 Signed fraction multiplication: Advanced
 arith814 Signed fraction division
 arith117 Signed decimal addition and subtraction
 arith234 Signed decimal addition and subtraction with 3 numbers
 arith750 Signed decimal multiplication
 arith751 Signed decimal division
 arith104 Operations with absolute value: Problem type 2
 geom525 Computing distances between decimals on the number line
 arith702 Exponents and integers: Problem type 1
 arith703 Exponents and integers: Problem type 2
 arith704 Exponents and signed fractions
 arith118 Order of operations with integers
 arith600 Order of operations with integers and exponents
 alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge004 Evaluating a quadratic expression: Integers
 alge808 Evaluating a linear expression: Signed fraction multiplication with addition or subtraction
 alge302 Evaluating a linear expression: Signed decimal addition and subtraction
 alge303 Evaluating a linear expression: Signed decimal multiplication with addition or subtraction
 alge700 Combining like terms: Whole number coefficients
 alge607 Combining like terms: Integer coefficients
 arith655 Introduction to properties of addition
 alge187 Properties of addition
 arith657 Understanding the distributive property
 alge310 Multiplying a constant and a linear monomial
 alge606 Distributive property: Whole number coefficients
 alge604 Distributive property: Integer coefficients
 arith656 Introduction to properties of multiplication
 alge188 Properties of real numbers
 alge608 Using distribution and combining like terms to simplify: Univariate
 alge609 Using distribution with double negation and combining like terms to simplify: Multivariate
 alge293 Combining like terms in a quadratic expression

Linear Equations and Inequalities

alge009 Additive property of equality with whole numbers
 alge801 Additive property of equality with fractions and mixed numbers
 alge800 Additive property of equality with decimals
 alge010 Additive property of equality with integers
 alge836 Additive property of equality with signed fractions
 alge008 Multiplicative property of equality with whole numbers
 alge820 Multiplicative property of equality with fractions
 alge825 Multiplicative property of equality with decimals
 alge797 Multiplicative property of equality with integers
 alge012 Multiplicative property of equality with signed fractions
 alge834 Identifying solutions to a linear equation in one variable: Two-step equations

alge803 Using two steps to solve an equation with whole numbers
alge266 Additive property of equality with a negative coefficient
alge006 Solving a two-step equation with integers
alge200 Solving an equation to find the value of an expression
alge920 Introduction to solving an equation with parentheses
alge837 Solving a multi-step equation given in fractional form
alge986 Identifying properties used to solve a linear equation
alge824 Solving a two-step equation with signed decimals
alge838 Introduction to solving an equation with variables on the same side
alge862 Solving a linear equation with several occurrences of the variable: Variables on the same side
alge863 Solving a linear equation with several occurrences of the variable: Variables on both sides
alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
alge420 Solving a linear equation with several occurrences of the variable: Fractional forms with monomial numerators
alge208 Solving a two-step equation with signed fractions
alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
alge742 Solving equations with zero, one, or infinitely many solutions
alge272 Solving a proportion of the form $x/a = b/c$
alge840 Solving a proportion of the form $(x+a) \div b = c \div d$
alge511 Solving for a variable in terms of other variables using addition or subtraction: Basic
alge512 Solving for a variable in terms of other variables using addition or subtraction: Advanced
alge513 Solving for a variable in terms of other variables using multiplication or division: Basic
alge514 Solving for a variable in terms of other variables using multiplication or division: Advanced
alge517 Solving for a variable in terms of other variables using addition or subtraction with division
alge518 Solving for a variable inside parentheses in terms of other variables
alge507 Solving for a variable in terms of other variables in a linear equation with fractions
alge733 Writing a one-step expression for a real-world situation
alge831 Translating a phrase into a one-step expression
alge291 Translating a phrase into a two-step expression
alge016 Translating a sentence into a one-step equation
alge841 Translating a sentence into a multi-step equation
alge802 Solving a fraction word problem using a linear equation of the form $Ax = B$
alge014 Solving a word problem with two unknowns using a linear equation
alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
alge730 Writing a multi-step equation for a real-world situation
alge219 Solving a decimal word problem using a linear equation with the variable on both sides
alge704 Solving a fraction word problem using a linear equation with the variable on both sides
alge792 Solving a word problem with three unknowns using a linear equation
alge842 Solving a word problem involving consecutive integers
alge794 Solving a value mixture problem using a linear equation
alge823 Solving a one-step word problem using the formula $d = rt$
alge218 Solving a word problem involving rates and time conversion
alge796 Solving a distance, rate, time problem using a linear equation
mstat065 Converting between temperatures in Fahrenheit and Celsius
geom217 Finding the side length of a rectangle given its perimeter or area
geom817 Finding a side length given the perimeter and side lengths with variables
geom143 Finding the perimeter or area of a rectangle given one of these values
geom218 Finding the radius or the diameter of a circle given its circumference
geom530 Solving equations involving vertical angles
geom001 Finding an angle measure of a triangle given two angles
geom623 Finding angle measures of a triangle given angles with variables
geom502 Finding angle measures of a right or isosceles triangle given angles with variables
geom812 Finding an angle measure given extended triangles
geom813 Finding an angle measure given a triangle and parallel lines

stat803 Finding the value for a new score that will yield a given mean
arith840 Finding a percentage of a whole number
arith030 Finding a percentage of a whole number without a calculator: Basic
arith844 Finding a percentage of a whole number without a calculator: Advanced
arith862 Applying the percent equation: Problem type 1
arith863 Applying the percent equation: Problem type 2
arith845 Finding a percentage of a total amount: Real-world situations
arith846 Finding a percentage of a total amount without a calculator: Sales tax, commission, discount
arith857 Estimating a tip without a calculator
arith069 Writing a ratio as a percentage without a calculator
mstat049 Computing a percentage from a table of values
arith850 Finding the rate of a tax or commission
arith849 Finding the total amount given the percentage of a partial amount
arith852 Finding the multiplier to give a final amount after a percentage increase or decrease
arith851 Finding the final amount given the original amount and a percentage increase or decrease
arith847 Finding the sale price given the original price and percent discount
arith074 Finding the sale price without a calculator given the original price and percent discount
arith848 Finding the total cost including tax or markup
arith855 Finding the original amount given the result of a percentage increase or decrease
arith031 Finding the original price given the sale price and percent discount
arith858 Finding the percentage increase or decrease: Basic
arith225 Finding the percentage increase or decrease: Advanced
unit052 Finding the absolute error and percent error of a measurement
arith854 Computing a percent mixture
alge795 Solving a percent mixture problem using a linear equation
stat804 Interpreting a circle graph or pie chart
arith856 Finding a percentage of a total amount in a circle graph
stat801 Computations from a circle graph
arith232 Finding simple interest without a calculator
alge015 Translating a sentence by using an inequality symbol
alge845 Translating a sentence into a one-step inequality
alge846 Translating a sentence into a multi-step inequality
alge748 Writing an inequality for a real-world situation
alge017 Graphing a linear inequality on the number line
alge822 Writing an inequality given a graph on the number line
alge186 Translating a sentence into a compound inequality
alge166 Graphing a compound inequality on the number line
alge847 Writing a compound inequality given a graph on the number line
set001 Set builder notation
set004 Set builder and interval notation
set002 Union and intersection of finite sets
set005 Union and intersection of intervals
alge844 Identifying solutions to a two-step linear inequality in one variable
alge848 Additive property of inequality with whole numbers
alge849 Additive property of inequality with integers
alge852 Additive property of inequality with signed fractions
alge853 Additive property of inequality with signed decimals
alge854 Multiplicative property of inequality with integers
alge964 Multiplicative property of inequality with signed fractions
alge855 Solving a two-step linear inequality: Problem type 1
alge856 Solving a two-step linear inequality: Problem type 2
alge857 Solving a two-step linear inequality with a fractional coefficient
alge977 Solving a linear inequality with multiple occurrences of the variable: Problem type 1
alge858 Solving a linear inequality with multiple occurrences of the variable: Problem type 2
alge859 Solving a linear inequality with multiple occurrences of the variable: Problem type 3
alge860 Solving inequalities with no solution or all real numbers as solutions
alge746 Solving a compound linear inequality: Graph solution, basic
alge747 Solving a compound linear inequality: Interval notation
alge749 Solving a decimal word problem using a two-step linear inequality
alge750 Solving a decimal word problem using a linear inequality with the variable on both sides
alge603 Introduction to solving an absolute value equation
alge864 Solving an absolute value equation: Problem type 1

alge865 Solving an absolute value equation: Problem type 2
 alge866 Solving an absolute value equation: Problem type 3
 alge867 Solving an absolute value equation: Problem type 4
 alge167 Solving an absolute value equation of the form $-ax+b = -cx+d$
 alge868 Solving an absolute value inequality: Problem type 1
 alge943 Writing an absolute value inequality given a graph on the number line
 alge869 Solving an absolute value inequality: Problem type 2
 alge870 Solving an absolute value inequality: Problem type 3
 alge871 Solving an absolute value inequality: Problem type 4
 alge872 Solving an absolute value inequality: Problem type 5

Lines and Functions

alge064 Reading a point in the coordinate plane
 alge067 Plotting a point in the coordinate plane
 alge850 Table for a linear equation
 alge873 Identifying solutions to a linear equation in two variables
 alge066 Finding a solution to a linear equation in two variables
 alge877 Graphing a linear equation of the form $y = mx$
 alge878 Graphing a line given its equation in slope-intercept form: Integer slope
 alge879 Graphing a line given its equation in slope-intercept form: Fractional slope
 alge880 Graphing a line given its equation in standard form
 alge198 Graphing a vertical or horizontal line
 alge884 Finding x- and y-intercepts given the graph of a line on a grid
 alge924 Finding x- and y-intercepts of a line given the equation: Basic
 alge210 Finding x- and y-intercepts of a line given the equation: Advanced
 alge197 Graphing a line given its x- and y-intercepts
 alge881 Graphing a line by first finding its x- and y-intercepts
 alge875 Classifying slopes given graphs of lines
 alge886 Finding slope given the graph of a line on a grid
 alge887 Finding slope given two points on the line
 alge885 Finding the slope of horizontal and vertical lines
 alge888 Finding the coordinate that yields a given slope
 alge259 Graphing a line given its slope and y-intercept
 alge196 Graphing a line through a given point with a given slope
 alge876 Identifying linear equations: Advanced
 alge874 Identifying linear functions given ordered pairs
 alge891 Rewriting a linear equation in the form $Ax + By = C$
 alge889 Finding the slope and y-intercept of a line given its equation in the form $y = mx + b$
 alge890 Finding the slope and y-intercept of a line given its equation in the form $Ax + By = C$
 alge882 Graphing a line by first finding its slope and y-intercept
 alge258 Writing an equation of a line given its slope and y-intercept
 alge892 Writing an equation and graphing a line given its slope and y-intercept
 alge893 Writing an equation in slope-intercept form given the slope and a point
 alge883 Graphing a line given its equation in point-slope form
 alge894 Writing an equation in point-slope form given the slope and a point
 alge070 Writing an equation of a line given the y-intercept and another point
 alge072 Writing the equation of the line through two given points
 alge073 Writing the equations of vertical and horizontal lines through a given point
 geom806 Finding slopes of lines parallel and perpendicular to a line given in slope-intercept form
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 alge895 Identifying parallel and perpendicular lines from equations
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 alge897 Writing and evaluating a function that models a real-world situation: Advanced
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 fun005 Writing a function rule given a table of ordered pairs: One-step rules
 fun006 Writing a function rule given a table of ordered pairs: Two-step rules
 alge992 Combining functions to write a new function that models a real-world situation
 alge987 Comparing properties of linear functions given in different forms
 alge989 Interpreting the parameters of a linear function that models a real-world situation

alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
 alge806 Application problem with a linear function: Finding a coordinate given two points
 mstat052 Identifying independent and dependent variables from equations or real-world situations
 alge991 Solving a linear equation by graphing
 mstat030 Sketching the line of best fit
 mstat023 Scatter plots and correlation
 mstat068 Predictions from the line of best fit
 mstat067 Approximating the equation of a line of best fit and making predictions
 mstat069 Computing residuals
 mstat070 Interpreting residual plots
 mstat071 Linear relationship and the correlation coefficient
 mstat074 Identifying correlation and causation
 fun032 Identifying functions from relations
 fun010 Vertical line test
 fun016 Domain and range from ordered pairs
 fun001 Table for a linear function
 pcalc760 Evaluating functions: Linear and quadratic or cubic
 fun030 Evaluating a piecewise-defined function
 fun033 Variable expressions as inputs of functions: Problem type 1
 alge294 Finding outputs of a one-step function that models a real-world situation: Function notation
 alge295 Finding outputs of a two-step function with decimals that models a real-world situation: Function notation
 alge296 Finding inputs and outputs of a two-step function that models a real-world situation: Function notation
 alge990 Domain and range of a linear function that models a real-world situation
 fun026 Finding an output of a function from its graph
 pcalc761 Finding inputs and outputs of a function from its graph
 fun007 Domain and range from the graph of a discrete relation
 fun024 Domain and range from the graph of a continuous function
 fun025 Domain and range from the graph of a piecewise function
 pcalc750 Finding intercepts of a nonlinear function given its graph
 pcalc751 Finding where a function is increasing, decreasing, or constant given the graph: Interval notation
 pcalc752 Finding local maxima and minima of a function given the graph
 mstat018 Choosing a graph to fit a narrative: Basic
 mstat051 Choosing a graph to fit a narrative: Advanced
 alge896 Graphing an integer function and finding its range for a given domain
 alge570 Graphing a function of the form $f(x) = ax + b$: Integer slope
 alge571 Graphing a function of the form $f(x) = ax + b$: Fractional slope
 alge913 Graphing an absolute value equation of the form $y = A - x -$
 alge954 Graphing a parabola of the form $y = ax^2$
 alge955 Graphing a parabola of the form $y = ax^2 + c$
 alge572 Graphing a function of the form $f(x) = ax^2$
 alge573 Graphing a function of the form $f(x) = ax^2 + c$
 alge262 Graphing a cubic function of the form $y = ax^3$
 fun031 Graphing a piecewise-defined function: Problem type 1

Systems of Linear Equations

alge914 Identifying solutions to a system of linear equations
 alge075 Classifying systems of linear equations from graphs
 alge725 Graphically solving a system of linear equations
 alge751 Solving a system of linear equations using substitution
 alge915 Solving a system of linear equations using elimination with addition
 alge076 Solving a system of linear equations using elimination with multiplication and addition
 alge916 Solving a system of linear equations with fractional coefficients
 alge917 Solving a system of linear equations with decimal coefficients
 alge752 Solving a 2×2 system of linear equations that is inconsistent or consistent dependent
 alge077 Creating an inconsistent system of linear equations
 alge988 Identifying the operations used to create equivalent systems of equations
 alge753 Solving a 3×3 system of linear equations: Problem type 1
 alge263 Interpreting the graphs of two functions

alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations
 alge919 Solving a word problem using a system of linear equations of the form $Ax + By = C$
 alge918 Solving a word problem using a system of linear equations of the form $y = mx + b$
 alge184 Solving a value mixture problem using a system of linear equations
 alge192 Solving a percent mixture problem using a system of linear equations
 alge224 Solving a distance, rate, time problem using a system of linear equations
 alge172 Solving a tax rate or interest rate problem using a system of linear equations
 alge793 Solving a word problem using a 3x3 system of linear equations: Problem type 1
 alge912 Identifying solutions to a linear inequality in two variables
 alge225 Graphing a linear inequality in the plane: Vertical or horizontal line
 alge720 Graphing a linear inequality in the plane: Slope-intercept form
 alge018 Graphing a linear inequality in the plane: Standard form
 alge079 Graphing a system of two linear inequalities: Basic
 alge921 Graphing a system of two linear inequalities: Advanced
 alge922 Graphing a system of three linear inequalities
 alge729 Writing a multi-step inequality for a real-world situation
 pcalc093 Solving a word problem using a system of linear inequalities: Problem type 1
 pcalc095 Linear programming
 pcalc094 Solving a word problem using linear programming
 pcalc037 Scalar multiplication of a matrix
 pcalc038 Addition or subtraction of matrices
 pcalc740 Linear combination of matrices
 pcalc042 Finding the determinant of a 2x2 matrix
 pcalc043 Finding the determinant of a 3x3 matrix
 pcalc045 Using Cramer's rule to solve a 2x2 system of linear equations
 pcalc047 Using Cramer's rule to solve a 3x3 system of linear equations
 pcalc712 Gauss-Jordan elimination with a 2x2 matrix
 pcalc046 Solving a system of linear equations given its augmented matrix

Exponents and Polynomials

alge821 Understanding the product rule of exponents
 alge024 Introduction to the product rule of exponents
 alge311 Product rule with positive exponents: Univariate
 alge030 Product rule with positive exponents: Multivariate
 arith029 Ordering numbers with positive exponents
 alge826 Understanding the power rules of exponents
 alge306 Introduction to the power of a power rule of exponents
 alge305 Introduction to the power of a product rule of exponents
 alge307 Power rules with positive exponents: Multivariate products
 alge308 Power rules with positive exponents: Multivariate quotients
 alge756 Power and product rules with positive exponents
 alge451 Simplifying a ratio of multivariate monomials: Basic
 alge827 Introduction to the quotient rule of exponents
 alge452 Simplifying a ratio of univariate monomials
 alge026 Quotient of expressions involving exponents
 alge453 Simplifying a ratio of multivariate monomials: Advanced
 alge927 Power and quotient rules with positive exponents
 alge790 Evaluating expressions with exponents of zero
 arith684 Power of 10: Negative exponent
 arith729 Evaluating an expression with a negative exponent: Whole number base
 arith042 Evaluating an expression with a negative exponent: Positive fraction base
 arith043 Evaluating an expression with a negative exponent: Negative integer base
 arith024 Ordering numbers with negative exponents
 alge791 Rewriting an algebraic expression without a negative exponent
 alge961 Introduction to the product rule with negative exponents
 alge028 Product rule with negative exponents
 alge755 Quotient rule with negative exponents: Problem type 1
 alge926 Quotient rule with negative exponents: Problem type 2
 alge025 Power of a power rule with negative exponents

alge799 Power rules with negative exponents
 alge928 Power and quotient rules with negative exponents: Problem type 1
 alge929 Power and quotient rules with negative exponents: Problem type 2
 alge757 Power, product, and quotient rules with negative exponents
 arith036 Scientific notation with positive exponent
 arith037 Scientific notation with negative exponent
 scinot012 Converting between scientific notation and standard form in a real-world situation
 scinot008 Multiplying numbers written in scientific notation: Basic
 scinot009 Multiplying numbers written in scientific notation: Advanced
 scinot010 Dividing numbers written in scientific notation: Basic
 scinot011 Dividing numbers written in scientific notation: Advanced
 alge758 Degree and leading coefficient of a univariate polynomial
 alge031 Degree of a multivariate polynomial
 alge798 Simplifying a sum or difference of two univariate polynomials
 alge029 Simplifying a sum or difference of three univariate polynomials
 alge932 Simplifying a sum or difference of multivariate polynomials
 alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
 alge972 Multiplying a univariate polynomial by a monomial with a negative coefficient
 alge835 Multiplying a multivariate polynomial by a monomial
 alge033 Multiplying binomials with leading coefficients of 1
 alge983 Multiplying binomials with leading coefficients greater than 1
 alge765 Multiplying binomials in two variables
 alge764 Multiplying conjugate binomials: Univariate
 alge081 Multiplying conjugate binomials: Multivariate
 alge032 Squaring a binomial: Univariate
 alge068 Squaring a binomial: Multivariate
 alge973 Multiplying binomials with negative coefficients
 alge935 Multiplication involving binomials and trinomials in one variable
 alge180 Multiplication involving binomials and trinomials in two variables
 alge759 Dividing a polynomial by a monomial: Univariate
 alge760 Dividing a polynomial by a monomial: Multivariate
 alge761 Polynomial long division: Problem type 1
 alge762 Polynomial long division: Problem type 2
 alge763 Polynomial long division: Problem type 3
 pcalc117 Synthetic division
 pcalc786 Using the remainder theorem to evaluate a polynomial
 alge985 Closure properties of integers and polynomials
 alge605 Factoring a linear binomial
 alge736 Introduction to the GCF of two monomials
 alge930 Greatest common factor of three univariate monomials
 alge037 Greatest common factor of two multivariate monomials
 alge738 Factoring out a monomial from a polynomial: Univariate
 alge739 Factoring out a monomial from a polynomial: Multivariate
 alge949 Factoring out a binomial from a polynomial: GCF factoring, basic
 alge923 Factoring a univariate polynomial by grouping: Problem type 1
 alge950 Factoring a univariate polynomial by grouping: Problem type 2
 alge951 Factoring a multivariate polynomial by grouping: Problem type 1
 alge952 Factoring a multivariate polynomial by grouping: Problem type 2
 alge039 Factoring a quadratic with leading coefficient 1
 alge942 Factoring a quadratic in two variables with leading coefficient 1
 alge936 Factoring out a constant before factoring a quadratic
 alge939 Factoring a quadratic with leading coefficient greater than 1: Problem type 1
 alge940 Factoring a quadratic with leading coefficient greater than 1: Problem type 2
 alge941 Factoring a quadratic with leading coefficient greater than 1: Problem type 3
 alge978 Factoring a quadratic by the ac-method
 alge265 Factoring a quadratic in two variables with leading coefficient greater than 1
 alge937 Factoring a quadratic with a negative leading coefficient
 alge944 Factoring a perfect square trinomial with leading coefficient 1
 alge945 Factoring a perfect square trinomial with leading coefficient greater than 1
 alge946 Factoring a perfect square trinomial in two variables
 alge290 Factoring a difference of squares in one variable: Basic
 alge947 Factoring a difference of squares in one variable: Advanced

alge839 Factoring a difference of squares in two variables
 alge948 Factoring a polynomial involving a GCF and a difference of squares: Univariate
 alge833 Factoring a polynomial involving a GCF and a difference of squares: Multivariate
 alge041 Factoring a product of a quadratic trinomial and a monomial
 alge042 Factoring with repeated use of the difference of squares formula
 alge044 Factoring a sum or difference of two cubes
 alge681 Solving an equation written in factored form
 alge956 Finding the roots of a quadratic equation of the form $ax^2 + bx = 0$
 alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
 alge211 Solving a quadratic equation needing simplification
 alge703 Solving a word problem using a quadratic equation with rational roots
 alge046 Roots of a product of polynomials
 alge163 Writing a quadratic equation given the roots and the leading coefficient
 alge407 Introduction to the Pythagorean Theorem
 geom044 Pythagorean Theorem
 alge408 Word problem involving the Pythagorean Theorem
 alge713 Using the Pythagorean Theorem and a quadratic equation to find side lengths of a right triangle

Rational Expressions

alge049 Restriction on a variable in a denominator: Linear
 alge467 Restriction on a variable in a denominator: Quadratic
 alge468 Evaluating a rational function: Problem type 1
 alge469 Evaluating a rational function: Problem type 2
 alge715 Domain of a rational function: Excluded values
 alge454 Simplifying a ratio of factored polynomials: Linear factors
 alge455 Simplifying a ratio of factored polynomials: Factors with exponents
 alge456 Simplifying a ratio of polynomials using GCF factoring
 alge457 Simplifying a ratio of linear polynomials: 1, -1, and no simplification
 alge458 Simplifying a ratio of polynomials by factoring a quadratic with leading coefficient 1
 alge710 Simplifying a ratio of polynomials: Problem type 1
 alge682 Simplifying a ratio of polynomials: Problem type 2
 alge459 Simplifying a ratio of polynomials: Problem type 3
 alge034 Simplifying a ratio of multivariate polynomials
 alge053 Multiplying rational expressions involving multivariate monomials
 alge460 Multiplying rational expressions made up of linear expressions
 alge620 Multiplying rational expressions involving quadratics with leading coefficients of 1
 alge461 Multiplying rational expressions involving quadratics with leading coefficients greater than 1
 alge462 Multiplying rational expressions involving multivariate quadratics
 alge054 Dividing rational expressions involving multivariate monomials
 alge463 Dividing rational expressions involving linear expressions
 alge766 Dividing rational expressions involving quadratics with leading coefficients of 1
 alge464 Dividing rational expressions involving quadratics with leading coefficients greater than 1
 alge465 Dividing rational expressions involving multivariate quadratics
 alge466 Multiplication and division of 3 rational expressions
 alge737 Introduction to the LCM of two monomials
 alge055 Least common multiple of two monomials
 alge427 Finding the LCD of rational expressions with linear denominators: Relatively prime
 alge428 Finding the LCD of rational expressions with linear denominators: Common factors
 alge429 Finding the LCD of rational expressions with quadratic denominators
 alge430 Writing equivalent rational expressions with monomial denominators
 alge431 Writing equivalent rational expressions with polynomial denominators
 alge304 Writing equivalent rational expressions involving opposite factors
 alge432 Introduction to adding fractions with variables and common denominators
 alge433 Adding rational expressions with common denominators and monomial numerators
 alge056 Adding rational expressions with common denominators and binomial numerators
 alge434 Adding rational expressions with common denominators and GCF factoring
 alge435 Adding rational expressions with common denominators and quadratic factoring
 alge436 Adding rational expressions with different denominators and a single occurrence of a variable

alge437 Adding rational expressions with denominators ax and bx : Basic
 alge438 Adding rational expressions with denominators ax and bx : Advanced
 alge439 Adding rational expressions with denominators axn and bxm
 alge440 Adding rational expressions with multivariate monomial denominators: Basic
 alge226 Adding rational expressions with multivariate monomial denominators: Advanced
 alge441 Adding rational expressions with linear denominators without common factors: Basic
 alge442 Adding rational expressions with linear denominators without common factors: Advanced
 alge443 Adding rational expressions with linear denominators with common factors: Basic
 alge444 Adding rational expressions with linear denominators with common factors: Advanced
 alge445 Adding rational expressions with denominators $ax-b$ and $b-ax$
 alge661 Adding rational expressions involving different quadratic denominators
 alge446 Adding 3 rational expressions with different quadratic denominators
 arith695 Complex fraction without variables: Problem type 1
 arith696 Complex fraction without variables: Problem type 2
 alge470 Complex fraction involving univariate monomials
 alge058 Complex fraction involving multivariate monomials
 alge471 Complex fraction: GCF factoring
 alge472 Complex fraction: Quadratic factoring
 alge473 Complex fraction made of sums involving rational expressions: Problem type 1
 alge474 Complex fraction made of sums involving rational expressions: Problem type 2
 alge475 Complex fraction made of sums involving rational expressions: Problem type 3
 alge476 Complex fraction made of sums involving rational expressions: Problem type 4
 alge477 Complex fraction made of sums involving rational expressions: Problem type 5
 alge478 Complex fraction made of sums involving rational expressions: Problem type 6
 alge479 Complex fraction made of sums involving rational expressions: Multivariate
 alge480 Complex fraction with negative exponents: Problem type 1
 alge481 Complex fraction with negative exponents: Problem type 2
 alge162 Complex fraction that contains a complex fraction
 alge271 Solving a proportion of the form $a/(x+b) = c/x$
 alge060 Solving a rational equation that simplifies to linear: Denominator x
 alge205 Solving a rational equation that simplifies to linear: Denominator $x+a$
 alge769 Solving a rational equation that simplifies to linear: Denominators a , x , or ax
 alge421 Solving a rational equation that simplifies to linear: Denominators ax and bx
 alge422 Solving a rational equation that simplifies to linear: Like binomial denominators
 alge206 Solving a rational equation that simplifies to linear: Unlike binomial denominators
 alge423 Solving a rational equation that simplifies to linear: Factorable quadratic denominator
 alge424 Solving a rational equation that simplifies to quadratic: Proportional form, basic
 alge425 Solving a rational equation that simplifies to quadratic: Denominator x
 alge212 Solving a rational equation that simplifies to quadratic: Binomial denominators, constant numerators
 alge062 Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators
 alge426 Solving a rational equation that simplifies to quadratic: Factorable quadratic denominator
 alge047 Solving a rational equation that simplifies to quadratic: Proportional form, advanced
 arith823 Writing ratios using different notations
 arith663 Writing ratios for real-world situations
 arith824 Simplifying a ratio of whole numbers: Problem type 1
 arith826 Simplifying a ratio of whole numbers: Problem type 2
 arith825 Simplifying a ratio of decimals
 arith827 Finding a unit price
 arith828 Computing unit prices to find the better buy
 arith228 Word problem on unit rates associated with ratios of whole numbers: Decimal answers
 unit005 U.S. Customary unit conversion with whole number values
 unit001 Metric distance conversion with whole number values
 unit034 Converting between metric and U.S. Customary unit systems
 unit035 Converting between compound units: Basic
 unit036 Converting between compound units: Advanced
 alge508 Solving for a variable in terms of other variables in a rational equation: Problem type 1
 alge509 Solving for a variable in terms of other variables in a rational equation: Problem type 2
 alge510 Solving for a variable in terms of other variables in a rational equation: Problem type 3
 arith610 Word problem on proportions: Problem type 1
 arith611 Word problem on proportions: Problem type 2
 geom037 Similar polygons
 geom038 Similar right triangles

geom337 Indirect measurement
 geom838 Circumference ratios
 geom133 Ratio of volumes
 arith612 Word problem involving multiple rates
 alge770 Solving a work problem using a rational equation
 alge450 Solving a distance, rate, time problem using a rational equation
 alge059 Ordering fractions with variables
 alge982 Identifying direct variation equations
 alge938 Identifying direct variation from ordered pairs and writing equations
 alge904 Writing a direct variation equation
 alge175 Word problem on direct variation
 alge828 Interpreting direct variation from a graph
 alge905 Writing an inverse variation equation
 alge903 Identifying direct and inverse variation equations
 alge902 Identifying direct and inverse variation from ordered pairs and writing equations
 alge176 Word problem on inverse variation
 alge220 Word problem on inverse proportions
 pcalc681 Writing an equation that models variation
 alge772 Word problem on combined variation
 pcalc917 Finding the asymptotes of a rational function: Constant over linear
 pcalc918 Finding the asymptotes of a rational function: Linear over linear
 alge515 Graphing a rational function: Constant over linear
 alge516 Graphing a rational function: Linear over linear

Radicals

alge413 Finding all square roots of a number
 arith601 Square root of a rational perfect square
 arith760 Square roots of perfect squares with signs
 arith761 Square roots of integers raised to even exponents
 alge415 Introduction to simplifying a radical expression with an even exponent
 alge264 Square root of a perfect square monomial
 alge537 Using absolute value to simplify square roots of perfect square monomials
 arith094 Cube root of an integer
 alge549 Finding n th roots of perfect n th powers with signs
 arith768 Finding the n th root of a perfect n th power fraction
 alge550 Finding the n th root of a perfect n th power monomial
 alge538 Using absolute value to simplify higher radical expressions
 alge539 Table for a square root function
 alge546 Evaluating a cube root function
 alge540 Domain of a square root function: Basic
 pcalc763 Domain of a square root function: Advanced
 alge547 Domains of higher root functions
 alge543 Graphing a square root function: Problem type 1
 alge544 Graphing a square root function: Problem type 2
 alge545 Graphing a square root function: Problem type 3
 alge548 Graphing a cube root function
 alge812 Converting between radical form and exponent form
 alge560 Rational exponents: Unit fraction exponents and whole number bases
 alge561 Rational exponents: Unit fraction exponents and bases involving signs
 alge250 Rational exponents: Non-unit fraction exponent with a whole number base
 alge251 Rational exponents: Negative exponents and fractional bases
 alge558 Rational exponents: Product rule
 alge559 Rational exponents: Quotient rule
 alge773 Rational exponents: Products and quotients with negative exponents
 alge562 Rational exponents: Power of a power rule
 alge249 Rational exponents: Powers of powers with negative exponents
 arith093 Simplifying the square root of a whole number less than 100
 arith762 Simplifying the square root of a whole number greater than 100
 alge080 Simplifying a radical expression with an even exponent

alge520 Introduction to simplifying a radical expression with an odd exponent
 alge521 Simplifying a radical expression with an odd exponent
 alge275 Simplifying a radical expression with two variables
 alge273 Simplifying a higher root of a whole number
 alge551 Introduction to simplifying a higher radical expression
 alge552 Simplifying a higher radical expression: Univariate
 alge811 Simplifying a higher radical expression: Multivariate
 arith767 Introduction to square root addition or subtraction
 arith032 Square root addition or subtraction
 alge533 Square root addition or subtraction with three terms
 alge531 Introduction to simplifying a sum or difference of radical expressions: Univariate
 alge532 Simplifying a sum or difference of radical expressions: Univariate
 alge084 Simplifying a sum or difference of radical expressions: Multivariate
 alge554 Simplifying a sum or difference of higher roots
 alge555 Simplifying a sum or difference of higher radical expressions
 arith764 Introduction to square root multiplication
 arith765 Square root multiplication: Basic
 arith039 Square root multiplication: Advanced
 alge522 Introduction to simplifying a product of radical expressions: Univariate
 alge523 Simplifying a product of radical expressions: Univariate
 alge640 Simplifying a product of radical expressions: Multivariate
 alge082 Simplifying a product of radical expressions: Multivariate, fractional expressions
 alge556 Introduction to simplifying a product of higher roots
 alge557 Simplifying a product of higher radical expressions
 alge525 Introduction to simplifying a product involving square roots using the distributive property
 alge526 Simplifying a product involving square roots using the distributive property: Basic
 alge276 Simplifying a product involving square roots using the distributive property: Advanced
 alge774 Special products of radical expressions: Conjugates and squaring
 alge984 Classifying sums and products as rational or irrational
 arith766 Simplifying a quotient of square roots
 alge530 Simplifying a quotient involving a sum or difference with a square root
 alge527 Rationalizing a denominator: Quotient involving square roots
 alge528 Rationalizing a denominator: Square root of a fraction
 alge529 Rationalizing a denominator: Quotient involving a monomial
 alge534 Rationalizing a denominator using conjugates: Integer numerator
 alge535 Rationalizing a denominator using conjugates: Square root in numerator
 alge536 Rationalizing a denominator using conjugates: Variable in denominator
 alge564 Rationalizing a denominator: Quotient involving a higher radical
 alge775 Rationalizing a denominator: Quotient involving higher radicals and monomials
 alge563 Simplifying products or quotients of higher radicals with different indices: Univariate
 alge776 Simplifying products or quotients of higher radicals with different indices: Multivariate
 alge400 Introduction to solving a radical equation
 alge089 Solving a radical equation that simplifies to a linear equation: One radical, basic
 alge402 Solving a radical equation that simplifies to a linear equation: One radical, advanced
 alge090 Solving a radical equation that simplifies to a linear equation: Two radicals
 alge405 Solving a radical equation with two radicals that simplifies to $\sqrt{x} = a$
 alge403 Solving a radical equation that simplifies to a quadratic equation: One radical, basic
 alge404 Solving a radical equation that simplifies to a quadratic equation: One radical, advanced
 alge411 Solving a radical equation with a quadratic expression under the radical
 alge182 Solving a radical equation that simplifies to a quadratic equation: Two radicals
 alge412 Algebraic symbol manipulation with radicals
 alge542 Word problem involving radical equations: Basic
 alge409 Word problem involving radical equations: Advanced
 alge410 Solving an equation with a root index greater than 2: Problem type 1
 alge417 Solving an equation with a root index greater than 2: Problem type 2
 alge416 Solving an equation with exponent $1/a$: Problem type 1
 alge418 Solving an equation with exponent $1/a$: Problem type 2
 alge778 Using i to rewrite square roots of negative numbers
 alge779 Simplifying a product and quotient involving square roots of negative numbers
 pcalc048 Adding or subtracting complex numbers
 pcalc049 Multiplying complex numbers
 pcalc050 Dividing complex numbers

pcalc053 Simplifying a power of i

Quadratic Equations and Functions

alge962 Solving an equation of the form $x^2 = a$ using the square root property
 alge092 Solving a quadratic equation using the square root property: Exact answers, basic
 alge227 Solving a quadratic equation using the square root property: Exact answers, advanced
 alge094 Completing the square
 alge780 Solving a quadratic equation by completing the square: Exact answers
 alge095 Applying the quadratic formula: Exact answers
 alge963 Applying the quadratic formula: Decimal answers
 pcalc051 Solving a quadratic equation with complex roots
 alge214 Discriminant of a quadratic equation
 alge193 Discriminant of a quadratic equation with parameter
 alge524 Solving a word problem using a quadratic equation with irrational roots
 alge093 Solving an equation using the odd-root property: Problem type 1
 alge228 Solving an equation using the odd-root property: Problem type 2
 alge781 Solving an equation that can be written in quadratic form: Problem type 1
 alge782 Solving an equation that can be written in quadratic form: Problem type 2
 alge230 Solving an equation with positive rational exponent
 alge231 Solving an equation with negative rational exponent
 alge974 Finding the vertex, x -intercepts, and axis of symmetry from the graph of a parabola
 alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
 alge569 Graphing a parabola of the form $y = x^2 + bx + c$
 pcalc746 Graphing a parabola of the form $y = ax^2 + bx + c$: Integer coefficients
 pcalc747 Graphing a parabola of the form $y = ax^2 + bx + c$: Rational coefficients
 alge277 Finding the x -intercept(s) and the vertex of a parabola
 pcalc793 Using a graphing calculator to find the x -intercept(s) and vertex of a quadratic function
 pcalc774 Rewriting a quadratic function to find the vertex of its graph
 pcalc775 Finding the maximum or minimum of a quadratic function
 alge785 Word problem involving the maximum or minimum of a quadratic function
 alge975 Domain and range from the graph of a parabola
 pcalc762 Range of a quadratic function
 pcalc680 Writing the equation of a quadratic function given its graph
 alge957 Solving a quadratic equation by graphing
 alge996 Comparing properties of quadratic functions given in different forms
 alge702 Classifying the graph of a function
 alge723 How the leading coefficient affects the shape of a parabola
 alge784 Solving a quadratic inequality written in factored form
 alge771 Solving a quadratic inequality
 pcalc676 Solving a polynomial inequality
 alge783 Solving a rational inequality: Problem type 1
 pcalc677 Solving a rational inequality: Problem type 2

Function Operations and Inverses

alge953 Translating the graph of a parabola: One step
 alge898 Translating the graph of an absolute value function: One step
 alge899 Translating the graph of an absolute value function: Two steps
 alge900 Graphing an absolute value equation in the plane: Basic
 alge168 Graphing an absolute value equation in the plane: Advanced
 alge901 How the leading coefficient affects the graph of an absolute value function
 alge185 Writing an equation for a function after a vertical translation
 fun020 Writing an equation for a function after a vertical and horizontal translation
 fun019 Sum, difference, and product of two functions
 alge786 Quotient of two functions: Basic
 pcalc756 Combining functions: Advanced
 fun022 Composition of two functions: Basic

pcalc776 Expressing a function as a composition of two functions
 fun021 Composition of two functions: Domain and range
 alge129 Composition of two functions: Advanced
 pcalc924 Determining whether an equation defines a function: Basic
 pcalc757 Determining whether an equation defines a function: Advanced
 fun011 Horizontal line test
 pcalc777 Determining whether two functions are inverses of each other
 fun012 Inverse functions: Linear, discrete
 alge130 Inverse functions: Rational
 pcalc778 Inverse functions: Quadratic, cubic, radical

Exponential and Logarithmic Functions

alge971 Table for an exponential function
 alge969 Graphing an exponential function: $f(x) = ax$
 alge970 Graphing an exponential function: $f(x) = a(b)^x$
 alge712 Graphing an exponential function and its asymptote: $f(x) = a(b)^x$
 pcalc922 Translating the graph of an exponential function
 pcalc797 The graph, domain, and range of an exponential function
 pcalc103 Graphing an exponential function and its asymptote: $f(x) = a(e)^{x-b} + c$
 alge830 Evaluating an exponential function that models a real-world situation
 pcalc919 Evaluating an exponential function with base e that models a real-world situation
 arith853 Introduction to compound interest
 alge177 Finding a final amount in a word problem on exponential growth or decay
 alge741 Finding the final amount in a word problem on compound interest
 alge966 Finding the initial amount and rate of change given an exponential function
 alge968 Writing an equation that models exponential growth or decay
 alge967 Writing an exponential function rule given a table of ordered pairs
 alge993 Comparing linear, polynomial, and exponential functions
 alge108 Converting between logarithmic and exponential equations
 pcalc799 Converting between natural logarithmic and exponential equations
 alge232 Evaluating a logarithmic expression
 alge233 Solving an equation of the form $\log_b a = c$
 pcalc923 Translating the graph of a logarithmic function
 alge788 Graphing a logarithmic function: Basic
 pcalc800 The graph, domain, and range of a logarithmic function
 pcalc104 Graphing a logarithmic function: Advanced
 pcalc708 Basic properties of logarithms
 pcalc779 Expanding a logarithmic expression: Problem type 1
 pcalc780 Expanding a logarithmic expression: Problem type 2
 alge787 Writing an expression as a single logarithm
 pcalc612 Change of base for logarithms: Problem type 1
 pcalc613 Change of base for logarithms: Problem type 2
 pcalc803 Solving a multi-step equation involving a single logarithm
 pcalc804 Solving a multi-step equation involving natural logarithms
 alge113 Solving an equation involving logarithms on both sides: Problem type 1
 pcalc805 Solving an equation involving logarithms on both sides: Problem type 2
 alge301 Solving an exponential equation by finding common bases: Linear exponents
 alge482 Solving an exponential equation by finding common bases: Linear and quadratic exponents
 pcalc920 Solving an exponential equation by using logarithms: Decimal answers, basic
 pcalc921 Solving an exponential equation by using natural logarithms: Decimal answers
 alge111 Solving an exponential equation by using logarithms: Exact answers in logarithmic form
 pcalc806 Using a graphing calculator to solve an exponential or logarithmic equation
 alge178 Finding the time to reach a limit in a word problem on exponential growth or decay
 pcalc614 Finding the initial or final amount in a word problem on exponential growth or decay
 pcalc615 Finding the rate or time in a word problem on continuous exponential growth or decay

Conic Sections and Sequences

alge191 Midpoint of a line segment in the plane
 alge414 Finding an endpoint of a line segment given the other endpoint and the midpoint
 alge132 Distance between two points in the plane: Exact answers
 pcalc067 Graphing a parabola of the form $ay^2 + by + cx + d = 0$ or $ax^2 + bx + cy + d = 0$
 pcalc068 Writing an equation of a parabola given the vertex and the focus
 pcalc069 Finding the focus of a parabola of the form $ay^2 + by + cx + d = 0$ or $ax^2 + bx + cy + d = 0$
 pcalc605 Graphing a circle given its equation in standard form
 pcalc128 Graphing a circle given its equation in general form: Basic
 pcalc129 Graphing a circle given its equation in general form: Advanced
 pcalc065 Writing an equation of a circle given its center and a point on the circle
 pcalc066 Writing an equation of a circle given the endpoints of a diameter
 pcalc734 Graphing an ellipse given its equation in standard form
 pcalc070 Graphing an ellipse centered at the origin: $Ax^2 + By^2 = C$
 pcalc071 Graphing an ellipse given its equation in general form
 pcalc735 Graphing a hyperbola given its equation in standard form
 pcalc075 Graphing a hyperbola centered at the origin: $Ax^2 - By^2 - C = 0$
 pcalc076 Graphing a hyperbola given its equation in general form
 pcalc736 Classifying conics given their equations
 alge994 Graphically solving a system of linear and quadratic equations
 alge995 Solving a system of linear and quadratic equations
 pcalc796 Using a graphing calculator to solve a system of equations
 pcalc098 Solving a system of nonlinear equations: Problem type 1
 pcalc748 Graphing a quadratic inequality: Problem type 1
 pcalc749 Graphing a quadratic inequality: Problem type 2
 pcalc096 Graphing a system of nonlinear inequalities: Problem type 1
 pcalc097 Graphing a system of nonlinear inequalities: Problem type 2
 alge644 Finding the first terms of an arithmetic sequence using an explicit rule
 alge645 Finding the first terms of a geometric sequence using an explicit rule
 pcalc080 Finding the first terms of a sequence using an explicit rule with multiple occurrences of n
 alge906 Finding the next terms of an arithmetic sequence with integers
 alge908 Finding the first terms of a sequence using a recursive rule
 alge979 Identifying arithmetic sequences and finding the common difference
 alge931 Finding a specified term of an arithmetic sequence given the first terms
 pcalc085 Finding a specified term of an arithmetic sequence given the common difference and first term
 pcalc715 Finding a specified term of an arithmetic sequence given two terms of the sequence
 alge909 Writing an explicit rule for an arithmetic sequence
 alge910 Writing a recursive rule for an arithmetic sequence
 pcalc718 Sum of the first n terms of an arithmetic sequence
 alge907 Finding the next terms of a geometric sequence with signed numbers
 alge981 Identifying arithmetic and geometric sequences
 alge980 Identifying geometric sequences and finding the common ratio
 alge934 Finding a specified term of a geometric sequence given the first terms
 pcalc086 Finding a specified term of a geometric sequence given the common ratio and first term
 pcalc717 Finding a specified term of a geometric sequence given two terms of the sequence
 pcalc713 Arithmetic and geometric sequences: Identifying and writing an explicit rule
 alge911 Writing recursive rules for arithmetic and geometric sequences
 pcalc719 Sum of the first n terms of a geometric sequence
 pcalc720 Sum of an infinite geometric series
 alge965 Identifying linear, quadratic, and exponential functions given ordered pairs
 pcalc082 Factorial expressions
 pcalc087 Binomial formula

B.10 Developmental Math

Whole Numbers

arith124 Whole number place value: Problem type 1
 arith125 Whole number place value: Problem type 2

arith066 Expanded form
arith643 Expanded form with zeros
arith028 Numeral translation: Problem type 1
arith060 Numeral translation: Problem type 2
arith633 One-digit addition with carry
arith634 Addition of 3 or 4 one-digit numbers
arith001 Addition without carry
arith635 Adding a 2-digit number and a 1-digit number with carry
arith050 Addition with carry
arith630 Addition with carry to the hundreds place
arith012 Addition of large numbers
arith636 Subtracting a 1-digit number from a 2-digit number
arith007 Subtraction without borrowing
arith128 Adding or subtracting 10, 100, or 1000
arith006 Subtraction with borrowing
arith682 Subtraction with multiple regrouping steps
arith637 Subtraction and regrouping with zeros
arith613 Word problem with addition or subtraction of whole numbers
arith655 Introduction to properties of addition
arith126 Multiplication as repeated addition
arith008 One-digit multiplication
arith679 Multiplication by 10, 100, and 1000
arith003 Multiplication without carry
arith004 Multiplication with carry
arith632 Multiplication with trailing zeros: Problem type 1
arith615 Introduction to multiplication of large numbers
arith638 Multiplication with trailing zeros: Problem type 2
arith014 Multiplication of large numbers
arith641 Multiples: Problem type 1
arith642 Multiples: Problem type 2
arith656 Introduction to properties of multiplication
arith075 Division facts
arith614 Word problem with multiplication or division of whole numbers
arith130 Word problem with multiplication and addition or subtraction of whole numbers
arith243 Division of whole numbers given in fractional form
arith711 Division involving zero
arith052 Division without carry
arith005 Division with carry
arith680 Division with trailing zeros: Problem type 1
arith649 Division with trailing zeros: Problem type 2
arith616 Quotient and remainder: Problem type 1
arith644 Word problem on quotient and remainder
arith617 Quotient and remainder: Problem type 2
arith631 Quotient and remainder: Problem type 3
arith650 Division involving quotients with intermediate zeros
arith023 Word problem with division of whole numbers and rounding
arith651 Introduction to inequalities
arith077 Ordering large numbers
arith078 Rounding to tens or hundreds
arith123 Rounding to hundreds or thousands
arith061 Rounding to thousands, ten thousands, or hundred thousands
arith101 Estimating a sum of whole numbers
arith102 Estimating a difference of whole numbers
arith604 Estimating a product or quotient of whole numbers
arith692 Writing expressions using exponents
arith233 Introduction to exponents
arith683 Power of 10: Positive exponent
arith645 Introduction to parentheses
arith681 Introduction to order of operations
arith048 Order of operations with whole numbers
arith051 Order of operations with whole numbers and grouping symbols
arith693 Order of operations with whole numbers and exponents: Basic

arith713 Order of operations with whole numbers and exponents: Advanced
arith657 Understanding the distributive property
alge284 Evaluating an algebraic expression: Whole number addition or subtraction
alge683 Evaluating an algebraic expression: Whole number multiplication or division
alge285 Evaluating an algebraic expression: Whole numbers with two operations
alge832 Evaluating an algebraic expression: Whole number operations and exponents
alge009 Additive property of equality with whole numbers
alge008 Multiplicative property of equality with whole numbers
alge803 Using two steps to solve an equation with whole numbers
arith646 Even and odd numbers
arith647 Divisibility rules for 2, 5, and 10
arith648 Divisibility rules for 3 and 9
arith056 Factors
arith034 Prime numbers
arith035 Prime factorization
arith033 Greatest common factor of 2 numbers
arith070 Least common multiple of 2 numbers
arith804 Least common multiple of 3 numbers
arith240 Word problem with common multiples
alge925 Finding the next terms of an arithmetic sequence with whole numbers
alge933 Finding the next terms of a geometric sequence with whole numbers
alge732 Finding patterns in shapes

Fractions

arith623 Introduction to fractions
arith665 Understanding equivalent fractions
arith212 Equivalent fractions
arith666 Introduction to simplifying a fraction
arith067 Simplifying a fraction
arith687 Fractional position on a number line
arith667 Plotting fractions on a number line
arith044 Ordering fractions with the same denominator
arith091 Ordering fractions with the same numerator
arith092 Using a common denominator to order fractions
arith079 Product of a unit fraction and a whole number
arith086 Product of a fraction and a whole number: Problem type 1
arith119 Introduction to fraction multiplication
arith053 Fraction multiplication
arith812 Product of a fraction and a whole number: Problem type 2
arith813 Multiplication of 3 fractions
arith818 Word problem involving fractions and multiplication
arith095 Multi-step word problem involving fractions and multiplication
arith088 The reciprocal of a number
arith694 Division involving a whole number and a fraction
arith022 Fraction division
arith819 Word problem involving fractions and division
arith618 Addition or subtraction of fractions with the same denominator
arith802 Addition or subtraction of fractions with the same denominator and simplification
arith801 Finding the LCD of two fractions
arith109 Addition or subtraction of unit fractions
arith664 Introduction to addition or subtraction of fractions with different denominators
arith230 Addition or subtraction of fractions with different denominators
arith803 Addition and subtraction of 3 fractions with different denominators
arith805 Word problem involving addition or subtraction of fractions with different denominators
arith100 Fractional part of a circle
arith662 Writing a mixed number and an improper fraction for a shaded region
arith015 Writing an improper fraction as a mixed number
arith619 Writing a mixed number as an improper fraction
arith215 Addition or subtraction of mixed numbers with the same denominator

arith084 Addition of mixed numbers with the same denominator and carry
 arith216 Subtraction of mixed numbers with the same denominator and borrowing
 arith806 Addition or subtraction of mixed numbers with different denominators and no carry or borrow
 arith808 Addition of mixed numbers with different denominators and carry
 arith809 Subtraction of mixed numbers with different denominators and borrowing
 arith807 Addition and subtraction of 3 mixed numbers with different denominators
 arith810 Word problem involving addition or subtraction of mixed numbers with different denominators
 arith815 Mixed number multiplication
 arith816 Multiplication of a mixed number and a whole number
 arith817 Division with a mixed number and a whole number
 arith068 Mixed number division
 arith820 Word problem involving multiplication or division with mixed numbers
 arith821 Exponents and fractions
 arith859 Order of operations with fractions: Problem type 1
 arith860 Order of operations with fractions: Problem type 2
 arith861 Order of operations with fractions: Problem type 3

Decimals, Proportions, Percents

arith127 Writing a decimal and a fraction for a shaded region
 arith110 Decimal place value: Tenths and hundredths
 arith220 Decimal place value: Hundreds to ten thousandths
 arith714 Writing a decimal number less than 1 given its name
 arith715 Writing a decimal number greater than 1 given its name
 arith716 Writing a decimal number given its name: Advanced
 arith829 Reading decimal position on a number line: Tenths
 arith830 Reading decimal position on a number line: Hundredths
 arith831 Understanding decimal position on a number line using zoom: Hundredths
 arith832 Understanding decimal position on a number line using zoom: Thousandths
 arith129 Introduction to ordering decimals
 arith608 Ordering decimals
 arith221 Rounding decimals
 arith717 Converting a decimal to a proper fraction without simplifying: Basic
 arith719 Converting a decimal to a proper fraction without simplifying: Advanced
 arith718 Converting a decimal to a proper fraction in simplest form: Basic
 arith087 Converting a decimal to a proper fraction in simplest form: Advanced
 arith721 Converting a decimal to a mixed number and an improper fraction without simplifying
 arith722 Converting a decimal to a mixed number and an improper fraction in simplest form: Basic
 arith724 Converting a decimal to a mixed number and an improper fraction in simplest form: Advanced
 arith624 Addition of aligned decimals
 arith013 Decimal addition with 3 numbers
 arith734 Subtraction of aligned decimals
 arith735 Decimal subtraction: Basic
 arith736 Decimal subtraction: Advanced
 arith737 Decimal addition and subtraction with 3 or more numbers
 arith131 Estimating a decimal sum or difference
 arith132 Word problem with addition or subtraction of 2 decimals
 arith133 Word problem with addition of 3 or 4 decimals and whole numbers
 arith134 Word problem with subtraction of a whole number and a decimal: Regrouping with zeros
 arith739 Introduction to decimal multiplication
 arith017 Multiplication of a decimal by a whole number
 arith055 Decimal multiplication: Problem type 1
 arith046 Decimal multiplication: Problem type 2
 arith082 Multiplication of a decimal by a power of ten
 arith738 Multiplication of a decimal by a power of 0.1
 arith740 Multiplication of decimals that have a product less than 0.1
 arith752 Estimating a product of decimals
 arith135 Word problem with multiplication of a decimal and a whole number
 arith137 Word problem with multiplication of two decimals
 arith224 Word problem with decimal addition and multiplication

arith744 Whole number division with decimal answers
arith081 Division of a decimal by a whole number
arith743 Division of a decimal by a 1-digit decimal
arith019 Division of a decimal by a 2-digit decimal
arith083 Division of a decimal by a power of ten
arith742 Division of a decimal by a power of 0.1
arith745 Decimal division with rounding
arith136 Word problem with division of a decimal and a whole number
arith138 Word problem with division of two decimals
arith227 Word problem with decimal subtraction and division
alge823 Solving a one-step word problem using the formula $d = rt$
arith725 Converting a fraction with a denominator of 10 or 100 to a decimal
arith726 Converting a fraction with a denominator of 100 or 1000 to a decimal
arith727 Converting a fraction to a terminating decimal: Basic
arith728 Converting a fraction to a terminating decimal: Advanced
arith730 Converting a fraction to a repeating decimal: Basic
arith731 Converting a fraction to a repeating decimal: Advanced
arith733 Using a calculator to convert a fraction to a rounded decimal
arith111 Converting a mixed number to a terminating decimal: Basic
arith112 Converting a mixed number to a terminating decimal: Advanced
arith732 Converting a fraction or mixed number to a rounded decimal
arith609 Ordering fractions and decimals
arith753 Squaring decimal bases: Products greater than 0.1
arith741 Exponents and decimals: Products less than 0.1
arith720 Order of operations with decimals: Problem type 1
arith746 Order of operations with decimals: Problem type 2
arith747 Order of operations with decimals: Problem type 3
arith748 Addition or subtraction with a decimal and a mixed number
arith749 Multiplication with a decimal and a fraction
arith823 Writing ratios using different notations
arith663 Writing ratios for real-world situations
arith824 Simplifying a ratio of whole numbers: Problem type 1
arith825 Simplifying a ratio of decimals
arith827 Finding a unit price
arith228 Word problem on unit rates associated with ratios of whole numbers: Decimal answers
arith828 Computing unit prices to find the better buy
alge272 Solving a proportion of the form $x/a = b/c$
arith064 Solving a word problem on proportions using a unit rate
arith610 Word problem on proportions: Problem type 1
arith611 Word problem on proportions: Problem type 2
alge063 Word problem on mixed number proportions
arith045 Word problem with powers of ten
arith836 Converting a fraction with a denominator of 100 to a percentage
arith837 Converting a percentage to a fraction with a denominator of 100
arith674 Finding the percentage of a grid that is shaded
arith723 Introduction to converting a percentage to a decimal
arith833 Introduction to converting a decimal to a percentage
arith834 Converting between percentages and decimals
arith841 Converting a mixed number percentage to a decimal
arith835 Converting between percentages and decimals in a real-world situation
arith090 Converting a percentage to a fraction in simplest form
arith839 Converting a decimal percentage to a fraction
arith838 Converting a fraction to a percentage: Denominator of 4, 5, or 10
arith002 Converting a fraction to a percentage: Denominator of 20, 25, or 50
arith843 Using a calculator to convert a fraction to a rounded percentage
arith842 Converting a fraction to a percentage in a real-world situation
arith840 Finding a percentage of a whole number
arith030 Finding a percentage of a whole number without a calculator: Basic
arith844 Finding a percentage of a whole number without a calculator: Advanced
arith862 Applying the percent equation: Problem type 1
arith863 Applying the percent equation: Problem type 2
arith845 Finding a percentage of a total amount: Real-world situations

arith846 Finding a percentage of a total amount without a calculator: Sales tax, commission, discount
 arith857 Estimating a tip without a calculator
 arith069 Writing a ratio as a percentage without a calculator
 mstat049 Computing a percentage from a table of values
 arith850 Finding the rate of a tax or commission
 arith849 Finding the total amount given the percentage of a partial amount
 arith852 Finding the multiplier to give a final amount after a percentage increase or decrease
 arith851 Finding the final amount given the original amount and a percentage increase or decrease
 arith847 Finding the sale price given the original price and percent discount
 arith074 Finding the sale price without a calculator given the original price and percent discount
 arith848 Finding the total cost including tax or markup
 arith855 Finding the original amount given the result of a percentage increase or decrease
 arith031 Finding the original price given the sale price and percent discount
 arith858 Finding the percentage increase or decrease: Basic
 arith225 Finding the percentage increase or decrease: Advanced
 arith232 Finding simple interest without a calculator
 arith853 Introduction to compound interest

Geometry, Measurement, Data Analysis

geom339 Perimeter of a polygon
 geom300 Perimeter of a square or a rectangle
 geom618 Perimeter of a polygon involving mixed numbers and fractions
 geom078 Sides of polygons having the same perimeter
 geom221 Finding the missing length in a figure
 geom353 Perimeter of a piecewise rectangular figure
 geom358 Identifying parallel and perpendicular lines
 geom349 Naming segments, rays, and lines
 geom151 Measuring an angle with the protractor
 geom152 Drawing an angle with the protractor
 geom303 Acute, obtuse, and right angles
 geom039 Finding supplementary and complementary angles
 geom305 Identifying supplementary and vertical angles
 geom304 Identifying corresponding and alternate angles
 geom306 Acute, obtuse, and right triangles
 geom307 Classifying scalene, isosceles, and equilateral triangles by side lengths or angles
 geom001 Finding an angle measure of a triangle given two angles
 geom908 Finding an angle measure for a triangle with an extended side
 geom812 Finding an angle measure given extended triangles
 geom813 Finding an angle measure given a triangle and parallel lines
 geom361 Naming polygons
 mstat042 Interpreting a Venn diagram of 2 sets
 geom867 Identifying parallelograms, rectangles, and squares
 geom310 Properties of quadrilaterals
 geom532 Classifying parallelograms
 geom019 Area of a square or a rectangle
 geom866 Perimeter and area on a grid
 geom620 Area of a rectangle involving fractions
 geom619 Area of a rectangle involving mixed numbers and fractions
 geom350 Distinguishing between the area and perimeter of a rectangle
 geom351 Areas of rectangles with the same perimeter
 geom217 Finding the side length of a rectangle given its perimeter or area
 geom340 Area of a piecewise rectangular figure
 geom142 Word problem involving the area between two rectangles
 geom801 Area of a triangle
 geom344 Area involving rectangles and triangles
 geom022 Area of a parallelogram
 geom023 Area of a trapezoid
 geom347 Introduction to a circle: Diameter, radius, and chord
 geom016 Circumference of a circle

geom301 Perimeter involving rectangles and circles
geom802 Circumference and area of a circle
geom302 Area involving rectangles and circles
geom036 Word problem involving the area between two concentric circles
geom214 Area involving inscribed figures
geom868 Classifying solids
geom348 Vertices, edges, and faces of a solid
geom830 Counting the cubes in a solid made of cubes
geom354 Volume of a rectangular prism made of unit cubes
geom311 Volume of a rectangular prism
geom505 Volume of a piecewise rectangular prism
geom090 Volume of a triangular prism
geom033 Volume of a pyramid
geom035 Volume of a cylinder
geom092 Word problem involving the rate of filling or emptying a cylinder
geom622 Volume of a cone
geom841 Volume of a sphere
geom219 Nets of solids
geom816 Side views of a solid made of cubes
geom031 Surface area of a cube or a rectangular prism
geom345 Surface area of a piecewise rectangular prism made of unit cubes
geom091 Surface area of a triangular prism
geom621 Surface area of a cylinder
geom842 Surface area of a sphere
arith016 Square root of a perfect square
arith763 Using a calculator to approximate a square root
arith602 Estimating a square root
alge407 Introduction to the Pythagorean Theorem
geom044 Pythagorean Theorem
alge408 Word problem involving the Pythagorean Theorem
geom359 Identifying congruent shapes on a grid
geom520 Identifying and naming congruent triangles
geom360 Identifying similar or congruent shapes on a grid
geom037 Similar polygons
geom038 Similar right triangles
geom337 Indirect measurement
mstat059 Choosing U.S. Customary measurement units
unit005 U.S. Customary unit conversion with whole number values
mstat035 Conversions involving measurements in feet and inches
mstat036 Adding measurements in feet and inches
unit006 U.S. Customary unit conversion with whole number values: Two-step conversion
unit007 U.S. Customary unit conversion with mixed number values: One-step conversion
unit008 U.S. Customary unit conversion with mixed number values: Two-step conversion
unit009 U.S. Customary area unit conversion with whole number values
mstat060 Choosing metric measurement units
unit001 Metric distance conversion with whole number values
unit002 Metric mass or capacity conversion with whole number values
unit003 Metric distance conversion with decimal values
unit004 Metric conversion with decimal values: Two-step problem
unit010 Metric area unit conversion with decimal values
unit012 Time unit conversion with whole number values
time006 Adding time
time007 Elapsed time
arith063 Word problem with clocks
mstat065 Converting between temperatures in Fahrenheit and Celsius
arith826 Simplifying a ratio of whole numbers: Problem type 2
unit034 Converting between metric and U.S. Customary unit systems
unit035 Converting between compound units: Basic
unit036 Converting between compound units: Advanced
mstat056 Interpreting a tally table
mstat037 Constructing a line plot
mstat005 Constructing a bar graph for non-numerical data

mstat004 Constructing a histogram for numerical data
 mstat024 Interpreting a bar graph
 mstat044 Interpreting a double bar graph
 mstat057 Interpreting a pictograph table
 mstat007 Interpreting a line graph
 mstat031 Interpreting a stem-and-leaf plot
 stat804 Interpreting a circle graph or pie chart
 arith856 Finding a percentage of a total amount in a circle graph
 stat801 Computations from a circle graph
 geom814 Angle measure in a circle graph
 stat020 Calculating relative frequencies in a contingency table
 stat805 Making a reasonable inference based on proportion statistics
 mstat025 Finding if a question can be answered by the data
 mstat003 Mode of a data set
 mstat055 Finding the mode and range of a data set
 arith103 Average of two numbers
 mstat001 Mean of a data set
 mstat028 Mean and median of a data set
 mstat029 How changing a value affects the mean and median
 mstat053 Choosing the best measure to describe data
 stat802 Rejecting unreasonable claims based on average statistics
 mstat066 Weighted mean
 mstat027 Using back-to-back stem-and-leaf plots to compare data sets
 mstat072 Five-number summary and interquartile range
 mstat006 Constructing a box-and-whisker plot
 mstat073 Using box-and-whisker plots to compare data sets
 stat009 Percentiles
 mstat043 Interpreting a Venn diagram of 3 sets
 mstat041 Interpreting a tree diagram
 mstat040 Introduction to the counting principle
 mstat015 Counting principle
 pcalc082 Factorial expressions
 mstat017 Computing permutations and combinations
 mstat008 Word problem involving permutations
 mstat009 Word problem involving combinations
 stat790 Permutations, combinations, and the multiplication principle for counting
 mstat026 Introduction to the probability of an event
 mstat010 Probability of an event
 mstat039 Understanding likelihood
 mstat048 Odds of an event
 stat106 Outcomes and event probability
 stat112 Probabilities involving two dice
 mstat011 Area as probability
 mstat046 Experimental and theoretical probability
 mstat047 Introduction to expectation
 mstat012 Probability of independent events
 mstat013 Probability of dependent events
 mstat032 Probability of the union of two events

Real Numbers

alge286 Plotting integers on a number line
 arith605 Plotting rational numbers on a number line
 mstat038 Reading the temperature from a thermometer
 arith699 Writing a signed number for a real-world situation
 arith691 Ordering integers
 arith712 Ordering real numbers
 arith071 Absolute value of a number
 arith200 Integer addition: Problem type 1
 arith108 Integer addition: Problem type 2

arith688 Integer subtraction: Problem type 1
 arith689 Integer subtraction: Problem type 2
 arith690 Integer subtraction: Problem type 3
 arith754 Addition and subtraction with 3 integers
 arith755 Addition and subtraction with 4 or 5 integers
 arith701 Word problem with addition or subtraction of integers
 arith231 Integer multiplication and division
 arith800 Multiplication of 3 or 4 integers
 alge001 Identifying numbers as integers or non-integers
 alge002 Identifying numbers as rational or irrational
 arith116 Signed fraction addition or subtraction: Basic
 arith864 Signed fraction subtraction involving double negation
 arith106 Signed fraction addition or subtraction: Advanced
 arith811 Addition and subtraction of 3 fractions involving signs
 arith822 Signed fraction multiplication: Basic
 arith105 Signed fraction multiplication: Advanced
 arith814 Signed fraction division
 arith117 Signed decimal addition and subtraction
 arith234 Signed decimal addition and subtraction with 3 numbers
 arith750 Signed decimal multiplication
 arith751 Signed decimal division
 arith104 Operations with absolute value: Problem type 2
 geom525 Computing distances between decimals on the number line
 unit052 Finding the absolute error and percent error of a measurement
 arith702 Exponents and integers: Problem type 1
 arith703 Exponents and integers: Problem type 2
 arith704 Exponents and signed fractions
 arith118 Order of operations with integers
 arith600 Order of operations with integers and exponents
 alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge004 Evaluating a quadratic expression: Integers
 alge808 Evaluating a linear expression: Signed fraction multiplication with addition or subtraction
 alge302 Evaluating a linear expression: Signed decimal addition and subtraction
 alge303 Evaluating a linear expression: Signed decimal multiplication with addition or subtraction
 alge700 Combining like terms: Whole number coefficients
 alge607 Combining like terms: Integer coefficients
 alge187 Properties of addition
 alge310 Multiplying a constant and a linear monomial
 alge606 Distributive property: Whole number coefficients
 alge604 Distributive property: Integer coefficients
 alge188 Properties of real numbers
 alge608 Using distribution and combining like terms to simplify: Univariate
 alge609 Using distribution with double negation and combining like terms to simplify: Multivariate
 alge293 Combining like terms in a quadratic expression

Linear Equations and Inequalities

alge801 Additive property of equality with fractions and mixed numbers
 alge800 Additive property of equality with decimals
 alge010 Additive property of equality with integers
 alge836 Additive property of equality with signed fractions
 alge820 Multiplicative property of equality with fractions
 alge825 Multiplicative property of equality with decimals
 alge797 Multiplicative property of equality with integers
 alge012 Multiplicative property of equality with signed fractions
 alge834 Identifying solutions to a linear equation in one variable: Two-step equations
 alge266 Additive property of equality with a negative coefficient
 alge006 Solving a two-step equation with integers
 alge200 Solving an equation to find the value of an expression
 alge920 Introduction to solving an equation with parentheses

alge837 Solving a multi-step equation given in fractional form
 alge986 Identifying properties used to solve a linear equation
 alge824 Solving a two-step equation with signed decimals
 alge838 Introduction to solving an equation with variables on the same side
 alge862 Solving a linear equation with several occurrences of the variable: Variables on the same side
 alge863 Solving a linear equation with several occurrences of the variable: Variables on both sides
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
 alge420 Solving a linear equation with several occurrences of the variable: Fractional forms with monomial numerators
 alge208 Solving a two-step equation with signed fractions
 alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
 alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
 alge742 Solving equations with zero, one, or infinitely many solutions
 alge840 Solving a proportion of the form $(x+a)\div b = c\div d$
 alge511 Solving for a variable in terms of other variables using addition or subtraction: Basic
 alge512 Solving for a variable in terms of other variables using addition or subtraction: Advanced
 alge513 Solving for a variable in terms of other variables using multiplication or division: Basic
 alge514 Solving for a variable in terms of other variables using multiplication or division: Advanced
 alge517 Solving for a variable in terms of other variables using addition or subtraction with division
 alge518 Solving for a variable inside parentheses in terms of other variables
 alge507 Solving for a variable in terms of other variables in a linear equation with fractions
 alge733 Writing a one-step expression for a real-world situation
 alge831 Translating a phrase into a one-step expression
 alge291 Translating a phrase into a two-step expression
 alge016 Translating a sentence into a one-step equation
 alge841 Translating a sentence into a multi-step equation
 alge802 Solving a fraction word problem using a linear equation of the form $Ax = B$
 alge014 Solving a word problem with two unknowns using a linear equation
 alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
 alge730 Writing a multi-step equation for a real-world situation
 alge219 Solving a decimal word problem using a linear equation with the variable on both sides
 alge704 Solving a fraction word problem using a linear equation with the variable on both sides
 alge792 Solving a word problem with three unknowns using a linear equation
 alge842 Solving a word problem involving consecutive integers
 alge794 Solving a value mixture problem using a linear equation
 alge218 Solving a word problem involving rates and time conversion
 alge796 Solving a distance, rate, time problem using a linear equation
 arith854 Computing a percent mixture
 alge795 Solving a percent mixture problem using a linear equation
 geom817 Finding a side length given the perimeter and side lengths with variables
 geom143 Finding the perimeter or area of a rectangle given one of these values
 geom218 Finding the radius or the diameter of a circle given its circumference
 geom838 Circumference ratios
 geom530 Solving equations involving vertical angles
 geom531 Solving equations involving angles and a pair of parallel lines
 geom623 Finding angle measures of a triangle given angles with variables
 geom502 Finding angle measures of a right or isosceles triangle given angles with variables
 stat803 Finding the value for a new score that will yield a given mean
 alge015 Translating a sentence by using an inequality symbol
 alge845 Translating a sentence into a one-step inequality
 alge846 Translating a sentence into a multi-step inequality
 alge748 Writing an inequality for a real-world situation
 alge017 Graphing a linear inequality on the number line
 alge822 Writing an inequality given a graph on the number line
 alge186 Translating a sentence into a compound inequality

alge166 Graphing a compound inequality on the number line
 alge847 Writing a compound inequality given a graph on the number line
 set001 Set builder notation
 set004 Set builder and interval notation
 set002 Union and intersection of finite sets
 set005 Union and intersection of intervals
 alge844 Identifying solutions to a two-step linear inequality in one variable
 alge848 Additive property of inequality with whole numbers
 alge849 Additive property of inequality with integers
 alge852 Additive property of inequality with signed fractions
 alge853 Additive property of inequality with signed decimals
 alge854 Multiplicative property of inequality with integers
 alge964 Multiplicative property of inequality with signed fractions
 alge855 Solving a two-step linear inequality: Problem type 1
 alge856 Solving a two-step linear inequality: Problem type 2
 alge857 Solving a two-step linear inequality with a fractional coefficient
 alge977 Solving a linear inequality with multiple occurrences of the variable: Problem type 1
 alge858 Solving a linear inequality with multiple occurrences of the variable: Problem type 2
 alge859 Solving a linear inequality with multiple occurrences of the variable: Problem type 3
 alge860 Solving inequalities with no solution or all real numbers as solutions
 alge746 Solving a compound linear inequality: Graph solution, basic
 alge747 Solving a compound linear inequality: Interval notation
 alge749 Solving a decimal word problem using a two-step linear inequality
 alge750 Solving a decimal word problem using a linear inequality with the variable on both sides
 alge603 Introduction to solving an absolute value equation
 alge864 Solving an absolute value equation: Problem type 1
 alge865 Solving an absolute value equation: Problem type 2
 alge866 Solving an absolute value equation: Problem type 3
 alge867 Solving an absolute value equation: Problem type 4
 alge167 Solving an absolute value equation of the form $-ax+b = -cx+d$
 alge868 Solving an absolute value inequality: Problem type 1
 alge943 Writing an absolute value inequality given a graph on the number line
 alge869 Solving an absolute value inequality: Problem type 2
 alge870 Solving an absolute value inequality: Problem type 3
 alge871 Solving an absolute value inequality: Problem type 4
 alge872 Solving an absolute value inequality: Problem type 5

Lines, Functions, Systems

alge064 Reading a point in the coordinate plane
 alge067 Plotting a point in the coordinate plane
 alge850 Table for a linear equation
 alge873 Identifying solutions to a linear equation in two variables
 alge066 Finding a solution to a linear equation in two variables
 alge877 Graphing a linear equation of the form $y = mx$
 alge878 Graphing a line given its equation in slope-intercept form: Integer slope
 alge879 Graphing a line given its equation in slope-intercept form: Fractional slope
 alge880 Graphing a line given its equation in standard form
 alge198 Graphing a vertical or horizontal line
 alge884 Finding x - and y -intercepts given the graph of a line on a grid
 alge924 Finding x - and y -intercepts of a line given the equation: Basic
 alge210 Finding x - and y -intercepts of a line given the equation: Advanced
 alge197 Graphing a line given its x - and y -intercepts
 alge881 Graphing a line by first finding its x - and y -intercepts
 alge875 Classifying slopes given graphs of lines
 alge886 Finding slope given the graph of a line on a grid
 alge887 Finding slope given two points on the line
 alge885 Finding the slope of horizontal and vertical lines
 alge888 Finding the coordinate that yields a given slope
 alge259 Graphing a line given its slope and y -intercept

alge196 Graphing a line through a given point with a given slope
 alge876 Identifying linear equations: Advanced
 alge874 Identifying linear functions given ordered pairs
 alge891 Rewriting a linear equation in the form $Ax + By = C$
 alge889 Finding the slope and y-intercept of a line given its equation in the form $y = mx + b$
 alge890 Finding the slope and y-intercept of a line given its equation in the form $Ax + By = C$
 alge882 Graphing a line by first finding its slope and y-intercept
 alge258 Writing an equation of a line given its slope and y-intercept
 alge892 Writing an equation and graphing a line given its slope and y-intercept
 alge893 Writing an equation in slope-intercept form given the slope and a point
 alge883 Graphing a line given its equation in point-slope form
 alge894 Writing an equation in point-slope form given the slope and a point
 alge070 Writing an equation of a line given the y-intercept and another point
 alge072 Writing the equation of the line through two given points
 alge073 Writing the equations of vertical and horizontal lines through a given point
 geom806 Finding slopes of lines parallel and perpendicular to a line given in slope-intercept form
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 alge895 Identifying parallel and perpendicular lines from equations
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 alge897 Writing and evaluating a function that models a real-world situation: Advanced
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 fun005 Writing a function rule given a table of ordered pairs: One-step rules
 fun006 Writing a function rule given a table of ordered pairs: Two-step rules
 alge992 Combining functions to write a new function that models a real-world situation
 alge987 Comparing properties of linear functions given in different forms
 alge989 Interpreting the parameters of a linear function that models a real-world situation
 alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
 alge806 Application problem with a linear function: Finding a coordinate given two points
 mstat052 Identifying independent and dependent variables from equations or real-world situations
 alge991 Solving a linear equation by graphing
 mstat030 Sketching the line of best fit
 mstat023 Scatter plots and correlation
 mstat068 Predictions from the line of best fit
 mstat067 Approximating the equation of a line of best fit and making predictions
 mstat069 Computing residuals
 mstat070 Interpreting residual plots
 mstat071 Linear relationship and the correlation coefficient
 mstat074 Identifying correlation and causation
 stat021 Population standard deviation
 fun032 Identifying functions from relations
 fun010 Vertical line test
 fun016 Domain and range from ordered pairs
 fun001 Table for a linear function
 pcalc760 Evaluating functions: Linear and quadratic or cubic
 fun030 Evaluating a piecewise-defined function
 fun033 Variable expressions as inputs of functions: Problem type 1
 pcalc924 Determining whether an equation defines a function: Basic
 alge294 Finding outputs of a one-step function that models a real-world situation: Function notation
 alge295 Finding outputs of a two-step function with decimals that models a real-world situation: Function notation
 alge296 Finding inputs and outputs of a two-step function that models a real-world situation: Function notation
 alge990 Domain and range of a linear function that models a real-world situation
 fun007 Domain and range from the graph of a discrete relation
 fun024 Domain and range from the graph of a continuous function
 fun025 Domain and range from the graph of a piecewise function
 fun026 Finding an output of a function from its graph
 pcalc761 Finding inputs and outputs of a function from its graph
 pcalc750 Finding intercepts of a nonlinear function given its graph
 alge999 Finding where a function is increasing, decreasing, or constant given the graph
 pcalc751 Finding where a function is increasing, decreasing, or constant given the graph: Interval notation
 pcalc752 Finding local maxima and minima of a function given the graph
 mstat018 Choosing a graph to fit a narrative: Basic

mstat051 Choosing a graph to fit a narrative: Advanced
 alge896 Graphing an integer function and finding its range for a given domain
 alge570 Graphing a function of the form $f(x) = ax + b$: Integer slope
 alge571 Graphing a function of the form $f(x) = ax + b$: Fractional slope
 alge913 Graphing an absolute value equation of the form $y = A - |x - h| + k$
 alge954 Graphing a parabola of the form $y = ax^2$
 alge955 Graphing a parabola of the form $y = ax^2 + c$
 alge572 Graphing a function of the form $f(x) = ax^2$
 alge573 Graphing a function of the form $f(x) = ax^2 + c$
 alge262 Graphing a cubic function of the form $y = ax^3$
 fun031 Graphing a piecewise-defined function: Problem type 1
 alge997 Finding the average rate of change of a function given its equation
 alge998 Finding the average rate of change of a function given its graph
 alge914 Identifying solutions to a system of linear equations
 alge075 Classifying systems of linear equations from graphs
 alge725 Graphically solving a system of linear equations
 alge751 Solving a system of linear equations using substitution
 alge915 Solving a system of linear equations using elimination with addition
 alge076 Solving a system of linear equations using elimination with multiplication and addition
 alge916 Solving a system of linear equations with fractional coefficients
 alge917 Solving a system of linear equations with decimal coefficients
 alge752 Solving a 2×2 system of linear equations that is inconsistent or consistent dependent
 alge077 Creating an inconsistent system of linear equations
 alge988 Identifying the operations used to create equivalent systems of equations
 alge753 Solving a 3×3 system of linear equations: Problem type 1
 alge263 Interpreting the graphs of two functions
 alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations
 alge919 Solving a word problem using a system of linear equations of the form $Ax + By = C$
 alge918 Solving a word problem using a system of linear equations of the form $y = mx + b$
 alge184 Solving a value mixture problem using a system of linear equations
 alge192 Solving a percent mixture problem using a system of linear equations
 alge224 Solving a distance, rate, time problem using a system of linear equations
 alge172 Solving a tax rate or interest rate problem using a system of linear equations
 alge793 Solving a word problem using a 3×3 system of linear equations: Problem type 1
 alge912 Identifying solutions to a linear inequality in two variables
 alge225 Graphing a linear inequality in the plane: Vertical or horizontal line
 alge720 Graphing a linear inequality in the plane: Slope-intercept form
 alge018 Graphing a linear inequality in the plane: Standard form
 alge079 Graphing a system of two linear inequalities: Basic
 alge921 Graphing a system of two linear inequalities: Advanced
 alge922 Graphing a system of three linear inequalities
 alge729 Writing a multi-step inequality for a real-world situation
 pcalc093 Solving a word problem using a system of linear inequalities: Problem type 1
 pcalc095 Linear programming
 pcalc094 Solving a word problem using linear programming
 pcalc037 Scalar multiplication of a matrix
 pcalc038 Addition or subtraction of matrices
 pcalc740 Linear combination of matrices
 pcalc042 Finding the determinant of a 2×2 matrix
 pcalc043 Finding the determinant of a 3×3 matrix
 pcalc045 Using Cramer's rule to solve a 2×2 system of linear equations
 pcalc047 Using Cramer's rule to solve a 3×3 system of linear equations
 pcalc712 Gauss-Jordan elimination with a 2×2 matrix
 pcalc046 Solving a system of linear equations given its augmented matrix

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alge821 Understanding the product rule of exponents
 alge024 Introduction to the product rule of exponents
 alge311 Product rule with positive exponents: Univariate

alge030 Product rule with positive exponents: Multivariate
arith029 Ordering numbers with positive exponents
alge826 Understanding the power rules of exponents
alge306 Introduction to the power of a power rule of exponents
alge305 Introduction to the power of a product rule of exponents
alge307 Power rules with positive exponents: Multivariate products
alge308 Power rules with positive exponents: Multivariate quotients
alge756 Power and product rules with positive exponents
alge451 Simplifying a ratio of multivariate monomials: Basic
alge827 Introduction to the quotient rule of exponents
alge452 Simplifying a ratio of univariate monomials
alge026 Quotient of expressions involving exponents
alge453 Simplifying a ratio of multivariate monomials: Advanced
alge927 Power and quotient rules with positive exponents
alge790 Evaluating expressions with exponents of zero
arith684 Power of 10: Negative exponent
arith729 Evaluating an expression with a negative exponent: Whole number base
arith042 Evaluating an expression with a negative exponent: Positive fraction base
arith043 Evaluating an expression with a negative exponent: Negative integer base
arith024 Ordering numbers with negative exponents
alge791 Rewriting an algebraic expression without a negative exponent
alge961 Introduction to the product rule with negative exponents
alge028 Product rule with negative exponents
alge755 Quotient rule with negative exponents: Problem type 1
alge926 Quotient rule with negative exponents: Problem type 2
alge025 Power of a power rule with negative exponents
alge799 Power rules with negative exponents
alge928 Power and quotient rules with negative exponents: Problem type 1
alge929 Power and quotient rules with negative exponents: Problem type 2
alge757 Power, product, and quotient rules with negative exponents
arith036 Scientific notation with positive exponent
arith037 Scientific notation with negative exponent
scinot012 Converting between scientific notation and standard form in a real-world situation
scinot008 Multiplying numbers written in scientific notation: Basic
scinot009 Multiplying numbers written in scientific notation: Advanced
scinot010 Dividing numbers written in scientific notation: Basic
scinot011 Dividing numbers written in scientific notation: Advanced
alge758 Degree and leading coefficient of a univariate polynomial
alge031 Degree of a multivariate polynomial
alge798 Simplifying a sum or difference of two univariate polynomials
alge029 Simplifying a sum or difference of three univariate polynomials
alge932 Simplifying a sum or difference of multivariate polynomials
alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
alge972 Multiplying a univariate polynomial by a monomial with a negative coefficient
alge835 Multiplying a multivariate polynomial by a monomial
alge033 Multiplying binomials with leading coefficients of 1
alge983 Multiplying binomials with leading coefficients greater than 1
alge765 Multiplying binomials in two variables
alge764 Multiplying conjugate binomials: Univariate
alge081 Multiplying conjugate binomials: Multivariate
alge032 Squaring a binomial: Univariate
alge068 Squaring a binomial: Multivariate
alge973 Multiplying binomials with negative coefficients
alge935 Multiplication involving binomials and trinomials in one variable
alge180 Multiplication involving binomials and trinomials in two variables
alge759 Dividing a polynomial by a monomial: Univariate
alge760 Dividing a polynomial by a monomial: Multivariate
alge761 Polynomial long division: Problem type 1
alge762 Polynomial long division: Problem type 2
alge763 Polynomial long division: Problem type 3
pcalc117 Synthetic division
pcalc786 Using the remainder theorem to evaluate a polynomial

alge985 Closure properties of integers and polynomials
 alge605 Factoring a linear binomial
 alge736 Introduction to the GCF of two monomials
 alge930 Greatest common factor of three univariate monomials
 alge037 Greatest common factor of two multivariate monomials
 alge738 Factoring out a monomial from a polynomial: Univariate
 alge739 Factoring out a monomial from a polynomial: Multivariate
 alge949 Factoring out a binomial from a polynomial: GCF factoring, basic
 alge923 Factoring a univariate polynomial by grouping: Problem type 1
 alge950 Factoring a univariate polynomial by grouping: Problem type 2
 alge951 Factoring a multivariate polynomial by grouping: Problem type 1
 alge952 Factoring a multivariate polynomial by grouping: Problem type 2
 alge039 Factoring a quadratic with leading coefficient 1
 alge942 Factoring a quadratic in two variables with leading coefficient 1
 alge936 Factoring out a constant before factoring a quadratic
 alge939 Factoring a quadratic with leading coefficient greater than 1: Problem type 1
 alge940 Factoring a quadratic with leading coefficient greater than 1: Problem type 2
 alge941 Factoring a quadratic with leading coefficient greater than 1: Problem type 3
 alge978 Factoring a quadratic by the ac-method
 alge265 Factoring a quadratic in two variables with leading coefficient greater than 1
 alge937 Factoring a quadratic with a negative leading coefficient
 alge944 Factoring a perfect square trinomial with leading coefficient 1
 alge945 Factoring a perfect square trinomial with leading coefficient greater than 1
 alge946 Factoring a perfect square trinomial in two variables
 alge290 Factoring a difference of squares in one variable: Basic
 alge947 Factoring a difference of squares in one variable: Advanced
 alge839 Factoring a difference of squares in two variables
 alge948 Factoring a polynomial involving a GCF and a difference of squares: Univariate
 alge833 Factoring a polynomial involving a GCF and a difference of squares: Multivariate
 alge041 Factoring a product of a quadratic trinomial and a monomial
 alge042 Factoring with repeated use of the difference of squares formula
 alge044 Factoring a sum or difference of two cubes
 alge681 Solving an equation written in factored form
 alge956 Finding the roots of a quadratic equation of the form $ax^2 + bx = 0$
 alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
 alge211 Solving a quadratic equation needing simplification
 alge703 Solving a word problem using a quadratic equation with rational roots
 alge713 Using the Pythagorean Theorem and a quadratic equation to find side lengths of a right triangle
 alge046 Roots of a product of polynomials
 alge163 Writing a quadratic equation given the roots and the leading coefficient

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alge049 Restriction on a variable in a denominator: Linear
 alge467 Restriction on a variable in a denominator: Quadratic
 alge468 Evaluating a rational function: Problem type 1
 alge469 Evaluating a rational function: Problem type 2
 alge715 Domain of a rational function: Excluded values
 alge454 Simplifying a ratio of factored polynomials: Linear factors
 alge455 Simplifying a ratio of factored polynomials: Factors with exponents
 alge456 Simplifying a ratio of polynomials using GCF factoring
 alge457 Simplifying a ratio of linear polynomials: 1, -1, and no simplification
 alge458 Simplifying a ratio of polynomials by factoring a quadratic with leading coefficient 1
 alge710 Simplifying a ratio of polynomials: Problem type 1
 alge682 Simplifying a ratio of polynomials: Problem type 2
 alge459 Simplifying a ratio of polynomials: Problem type 3
 alge034 Simplifying a ratio of multivariate polynomials
 alge053 Multiplying rational expressions involving multivariate monomials
 alge460 Multiplying rational expressions made up of linear expressions

alge620 Multiplying rational expressions involving quadratics with leading coefficients of 1
 alge461 Multiplying rational expressions involving quadratics with leading coefficients greater than 1
 alge462 Multiplying rational expressions involving multivariate quadratics
 alge054 Dividing rational expressions involving multivariate monomials
 alge463 Dividing rational expressions involving linear expressions
 alge766 Dividing rational expressions involving quadratics with leading coefficients of 1
 alge464 Dividing rational expressions involving quadratics with leading coefficients greater than 1
 alge465 Dividing rational expressions involving multivariate quadratics
 alge466 Multiplication and division of 3 rational expressions
 alge737 Introduction to the LCM of two monomials
 alge055 Least common multiple of two monomials
 alge427 Finding the LCD of rational expressions with linear denominators: Relatively prime
 alge428 Finding the LCD of rational expressions with linear denominators: Common factors
 alge429 Finding the LCD of rational expressions with quadratic denominators
 alge430 Writing equivalent rational expressions with monomial denominators
 alge431 Writing equivalent rational expressions with polynomial denominators
 alge304 Writing equivalent rational expressions involving opposite factors
 alge432 Introduction to adding fractions with variables and common denominators
 alge433 Adding rational expressions with common denominators and monomial numerators
 alge056 Adding rational expressions with common denominators and binomial numerators
 alge434 Adding rational expressions with common denominators and GCF factoring
 alge435 Adding rational expressions with common denominators and quadratic factoring
 alge436 Adding rational expressions with different denominators and a single occurrence of a variable
 alge437 Adding rational expressions with denominators ax and bx : Basic
 alge438 Adding rational expressions with denominators ax and bx : Advanced
 alge439 Adding rational expressions with denominators axn and bxm
 alge440 Adding rational expressions with multivariate monomial denominators: Basic
 alge226 Adding rational expressions with multivariate monomial denominators: Advanced
 alge441 Adding rational expressions with linear denominators without common factors: Basic
 alge442 Adding rational expressions with linear denominators without common factors: Advanced
 alge443 Adding rational expressions with linear denominators with common factors: Basic
 alge444 Adding rational expressions with linear denominators with common factors: Advanced
 alge445 Adding rational expressions with denominators $ax-b$ and $b-ax$
 alge661 Adding rational expressions involving different quadratic denominators
 alge446 Adding 3 rational expressions with different quadratic denominators
 arith695 Complex fraction without variables: Problem type 1
 arith696 Complex fraction without variables: Problem type 2
 alge470 Complex fraction involving univariate monomials
 alge058 Complex fraction involving multivariate monomials
 alge471 Complex fraction: GCF factoring
 alge472 Complex fraction: Quadratic factoring
 alge473 Complex fraction made of sums involving rational expressions: Problem type 1
 alge474 Complex fraction made of sums involving rational expressions: Problem type 2
 alge475 Complex fraction made of sums involving rational expressions: Problem type 3
 alge476 Complex fraction made of sums involving rational expressions: Problem type 4
 alge477 Complex fraction made of sums involving rational expressions: Problem type 5
 alge478 Complex fraction made of sums involving rational expressions: Problem type 6
 alge479 Complex fraction made of sums involving rational expressions: Multivariate
 alge480 Complex fraction with negative exponents: Problem type 1
 alge481 Complex fraction with negative exponents: Problem type 2
 alge162 Complex fraction that contains a complex fraction
 alge271 Solving a proportion of the form $a/(x+b) = c/x$
 alge060 Solving a rational equation that simplifies to linear: Denominator x
 alge205 Solving a rational equation that simplifies to linear: Denominator $x+a$
 alge769 Solving a rational equation that simplifies to linear: Denominators a , x , or ax
 alge421 Solving a rational equation that simplifies to linear: Denominators ax and bx
 alge422 Solving a rational equation that simplifies to linear: Like binomial denominators
 alge206 Solving a rational equation that simplifies to linear: Unlike binomial denominators
 alge423 Solving a rational equation that simplifies to linear: Factorable quadratic denominator
 alge424 Solving a rational equation that simplifies to quadratic: Proportional form, basic
 alge425 Solving a rational equation that simplifies to quadratic: Denominator x
 alge212 Solving a rational equation that simplifies to quadratic: Binomial denominators, constant numerators

alge062 Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators
 alge426 Solving a rational equation that simplifies to quadratic: Factorable quadratic denominator
 alge047 Solving a rational equation that simplifies to quadratic: Proportional form, advanced
 alge508 Solving for a variable in terms of other variables in a rational equation: Problem type 1
 alge509 Solving for a variable in terms of other variables in a rational equation: Problem type 2
 alge510 Solving for a variable in terms of other variables in a rational equation: Problem type 3
 arith612 Word problem involving multiple rates
 alge770 Solving a work problem using a rational equation
 alge450 Solving a distance, rate, time problem using a rational equation
 geom133 Ratio of volumes
 alge059 Ordering fractions with variables
 alge982 Identifying direct variation equations
 alge938 Identifying direct variation from ordered pairs and writing equations
 alge904 Writing a direct variation equation
 alge175 Word problem on direct variation
 alge828 Interpreting direct variation from a graph
 alge905 Writing an inverse variation equation
 alge903 Identifying direct and inverse variation equations
 alge902 Identifying direct and inverse variation from ordered pairs and writing equations
 alge176 Word problem on inverse variation
 alge220 Word problem on inverse proportions
 pcalc681 Writing an equation that models variation
 alge772 Word problem on combined variation
 pcalc917 Finding the asymptotes of a rational function: Constant over linear
 pcalc918 Finding the asymptotes of a rational function: Linear over linear
 alge515 Graphing a rational function: Constant over linear
 alge516 Graphing a rational function: Linear over linear

Radicals

alge413 Finding all square roots of a number
 arith601 Square root of a rational perfect square
 arith760 Square roots of perfect squares with signs
 arith761 Square roots of integers raised to even exponents
 alge415 Introduction to simplifying a radical expression with an even exponent
 alge264 Square root of a perfect square monomial
 alge537 Using absolute value to simplify square roots of perfect square monomials
 arith094 Cube root of an integer
 alge549 Finding n th roots of perfect n th powers with signs
 arith768 Finding the n th root of a perfect n th power fraction
 alge550 Finding the n th root of a perfect n th power monomial
 alge538 Using absolute value to simplify higher radical expressions
 alge539 Table for a square root function
 alge546 Evaluating a cube root function
 alge540 Domain of a square root function: Basic
 pcalc763 Domain of a square root function: Advanced
 alge547 Domains of higher root functions
 alge543 Graphing a square root function: Problem type 1
 alge544 Graphing a square root function: Problem type 2
 alge545 Graphing a square root function: Problem type 3
 alge548 Graphing a cube root function
 alge812 Converting between radical form and exponent form
 alge560 Rational exponents: Unit fraction exponents and whole number bases
 alge561 Rational exponents: Unit fraction exponents and bases involving signs
 alge250 Rational exponents: Non-unit fraction exponent with a whole number base
 alge251 Rational exponents: Negative exponents and fractional bases
 alge558 Rational exponents: Product rule
 alge559 Rational exponents: Quotient rule
 alge773 Rational exponents: Products and quotients with negative exponents
 alge562 Rational exponents: Power of a power rule

alge249 Rational exponents: Powers of powers with negative exponents
 arith093 Simplifying the square root of a whole number less than 100
 arith762 Simplifying the square root of a whole number greater than 100
 alge080 Simplifying a radical expression with an even exponent
 alge520 Introduction to simplifying a radical expression with an odd exponent
 alge521 Simplifying a radical expression with an odd exponent
 alge275 Simplifying a radical expression with two variables
 alge273 Simplifying a higher root of a whole number
 alge551 Introduction to simplifying a higher radical expression
 alge552 Simplifying a higher radical expression: Univariate
 alge811 Simplifying a higher radical expression: Multivariate
 arith767 Introduction to square root addition or subtraction
 arith032 Square root addition or subtraction
 alge533 Square root addition or subtraction with three terms
 alge531 Introduction to simplifying a sum or difference of radical expressions: Univariate
 alge532 Simplifying a sum or difference of radical expressions: Univariate
 alge084 Simplifying a sum or difference of radical expressions: Multivariate
 alge554 Simplifying a sum or difference of higher roots
 alge555 Simplifying a sum or difference of higher radical expressions
 arith764 Introduction to square root multiplication
 arith765 Square root multiplication: Basic
 arith039 Square root multiplication: Advanced
 alge522 Introduction to simplifying a product of radical expressions: Univariate
 alge523 Simplifying a product of radical expressions: Univariate
 alge640 Simplifying a product of radical expressions: Multivariate
 alge082 Simplifying a product of radical expressions: Multivariate, fractional expressions
 alge556 Introduction to simplifying a product of higher roots
 alge557 Simplifying a product of higher radical expressions
 alge525 Introduction to simplifying a product involving square roots using the distributive property
 alge526 Simplifying a product involving square roots using the distributive property: Basic
 alge276 Simplifying a product involving square roots using the distributive property: Advanced
 alge774 Special products of radical expressions: Conjugates and squaring
 alge984 Classifying sums and products as rational or irrational
 arith766 Simplifying a quotient of square roots
 alge530 Simplifying a quotient involving a sum or difference with a square root
 alge527 Rationalizing a denominator: Quotient involving square roots
 alge528 Rationalizing a denominator: Square root of a fraction
 alge529 Rationalizing a denominator: Quotient involving a monomial
 alge534 Rationalizing a denominator using conjugates: Integer numerator
 alge535 Rationalizing a denominator using conjugates: Square root in numerator
 alge536 Rationalizing a denominator using conjugates: Variable in denominator
 alge564 Rationalizing a denominator: Quotient involving a higher radical
 alge775 Rationalizing a denominator: Quotient involving higher radicals and monomials
 alge563 Simplifying products or quotients of higher radicals with different indices: Univariate
 alge776 Simplifying products or quotients of higher radicals with different indices: Multivariate
 alge400 Introduction to solving a radical equation
 alge089 Solving a radical equation that simplifies to a linear equation: One radical, basic
 alge402 Solving a radical equation that simplifies to a linear equation: One radical, advanced
 alge090 Solving a radical equation that simplifies to a linear equation: Two radicals
 alge405 Solving a radical equation with two radicals that simplifies to $\sqrt{x} = a$
 alge403 Solving a radical equation that simplifies to a quadratic equation: One radical, basic
 alge404 Solving a radical equation that simplifies to a quadratic equation: One radical, advanced
 alge411 Solving a radical equation with a quadratic expression under the radical
 alge182 Solving a radical equation that simplifies to a quadratic equation: Two radicals
 alge412 Algebraic symbol manipulation with radicals
 alge542 Word problem involving radical equations: Basic
 alge409 Word problem involving radical equations: Advanced
 alge410 Solving an equation with a root index greater than 2: Problem type 1
 alge417 Solving an equation with a root index greater than 2: Problem type 2
 alge093 Solving an equation using the odd-root property: Problem type 1
 alge228 Solving an equation using the odd-root property: Problem type 2
 alge416 Solving an equation with exponent $1/a$: Problem type 1

alge418 Solving an equation with exponent $1/a$: Problem type 2
 alge778 Using i to rewrite square roots of negative numbers
 alge779 Simplifying a product and quotient involving square roots of negative numbers
 pcalc048 Adding or subtracting complex numbers
 pcalc049 Multiplying complex numbers
 pcalc050 Dividing complex numbers
 pcalc053 Simplifying a power of i

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alge962 Solving an equation of the form $x^2 = a$ using the square root property
 alge092 Solving a quadratic equation using the square root property: Exact answers, basic
 alge227 Solving a quadratic equation using the square root property: Exact answers, advanced
 alge094 Completing the square
 alge780 Solving a quadratic equation by completing the square: Exact answers
 alge095 Applying the quadratic formula: Exact answers
 alge963 Applying the quadratic formula: Decimal answers
 pcalc051 Solving a quadratic equation with complex roots
 alge214 Discriminant of a quadratic equation
 alge193 Discriminant of a quadratic equation with parameter
 alge781 Solving an equation that can be written in quadratic form: Problem type 1
 alge782 Solving an equation that can be written in quadratic form: Problem type 2
 alge230 Solving an equation with positive rational exponent
 alge231 Solving an equation with negative rational exponent
 alge524 Solving a word problem using a quadratic equation with irrational roots
 alge974 Finding the vertex, x -intercepts, and axis of symmetry from the graph of a parabola
 alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
 alge569 Graphing a parabola of the form $y = x^2 + bx + c$
 pcalc746 Graphing a parabola of the form $y = ax^2 + bx + c$: Integer coefficients
 pcalc747 Graphing a parabola of the form $y = ax^2 + bx + c$: Rational coefficients
 alge277 Finding the x -intercept(s) and the vertex of a parabola
 pcalc793 Using a graphing calculator to find the x -intercept(s) and vertex of a quadratic function
 pcalc774 Rewriting a quadratic function to find the vertex of its graph
 pcalc775 Finding the maximum or minimum of a quadratic function
 alge785 Word problem involving the maximum or minimum of a quadratic function
 alge975 Domain and range from the graph of a parabola
 pcalc762 Range of a quadratic function
 pcalc680 Writing the equation of a quadratic function given its graph
 alge957 Solving a quadratic equation by graphing
 alge996 Comparing properties of quadratic functions given in different forms
 alge702 Classifying the graph of a function
 alge723 How the leading coefficient affects the shape of a parabola
 alge784 Solving a quadratic inequality written in factored form
 alge771 Solving a quadratic inequality
 pcalc676 Solving a polynomial inequality
 alge783 Solving a rational inequality: Problem type 1
 pcalc677 Solving a rational inequality: Problem type 2
 alge953 Translating the graph of a parabola: One step
 alge898 Translating the graph of an absolute value function: One step
 alge899 Translating the graph of an absolute value function: Two steps
 alge900 Graphing an absolute value equation in the plane: Basic
 alge168 Graphing an absolute value equation in the plane: Advanced
 alge901 How the leading coefficient affects the graph of an absolute value function
 alge185 Writing an equation for a function after a vertical translation
 fun020 Writing an equation for a function after a vertical and horizontal translation
 fun019 Sum, difference, and product of two functions
 alge786 Quotient of two functions: Basic
 pcalc756 Combining functions: Advanced
 fun022 Composition of two functions: Basic
 pcalc776 Expressing a function as a composition of two functions

fun021 Composition of two functions: Domain and range
 alge129 Composition of two functions: Advanced
 pcalc757 Determining whether an equation defines a function: Advanced
 fun011 Horizontal line test
 pcalc777 Determining whether two functions are inverses of each other
 fun012 Inverse functions: Linear, discrete
 alge130 Inverse functions: Rational
 pcalc778 Inverse functions: Quadratic, cubic, radical

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alge971 Table for an exponential function
 alge969 Graphing an exponential function: $f(x) = ax$
 alge970 Graphing an exponential function: $f(x) = a(b)^x$
 alge712 Graphing an exponential function and its asymptote: $f(x) = a(b)^x$
 pcalc922 Translating the graph of an exponential function
 pcalc797 The graph, domain, and range of an exponential function
 pcalc103 Graphing an exponential function and its asymptote: $f(x) = a(e)^{x-b} + c$
 alge830 Evaluating an exponential function that models a real-world situation
 pcalc919 Evaluating an exponential function with base e that models a real-world situation
 alge177 Finding a final amount in a word problem on exponential growth or decay
 alge741 Finding the final amount in a word problem on compound interest
 alge966 Finding the initial amount and rate of change given an exponential function
 alge968 Writing an equation that models exponential growth or decay
 alge967 Writing an exponential function rule given a table of ordered pairs
 alge993 Comparing linear, polynomial, and exponential functions
 alge108 Converting between logarithmic and exponential equations
 pcalc799 Converting between natural logarithmic and exponential equations
 alge232 Evaluating a logarithmic expression
 alge233 Solving an equation of the form $\log_b a = c$
 pcalc923 Translating the graph of a logarithmic function
 alge788 Graphing a logarithmic function: Basic
 pcalc800 The graph, domain, and range of a logarithmic function
 pcalc104 Graphing a logarithmic function: Advanced
 pcalc708 Basic properties of logarithms
 pcalc779 Expanding a logarithmic expression: Problem type 1
 pcalc780 Expanding a logarithmic expression: Problem type 2
 alge787 Writing an expression as a single logarithm
 pcalc612 Change of base for logarithms: Problem type 1
 pcalc613 Change of base for logarithms: Problem type 2
 pcalc803 Solving a multi-step equation involving a single logarithm
 pcalc804 Solving a multi-step equation involving natural logarithms
 alge113 Solving an equation involving logarithms on both sides: Problem type 1
 pcalc805 Solving an equation involving logarithms on both sides: Problem type 2
 alge301 Solving an exponential equation by finding common bases: Linear exponents
 alge482 Solving an exponential equation by finding common bases: Linear and quadratic exponents
 pcalc920 Solving an exponential equation by using logarithms: Decimal answers, basic
 pcalc921 Solving an exponential equation by using natural logarithms: Decimal answers
 alge111 Solving an exponential equation by using logarithms: Exact answers in logarithmic form
 pcalc806 Using a graphing calculator to solve an exponential or logarithmic equation
 alge178 Finding the time to reach a limit in a word problem on exponential growth or decay
 pcalc614 Finding the initial or final amount in a word problem on exponential growth or decay
 pcalc615 Finding the rate or time in a word problem on continuous exponential growth or decay
 pcalc067 Graphing a parabola of the form $ay^2 + by + cx + d = 0$ or $ax^2 + bx + cy + d = 0$
 pcalc068 Writing an equation of a parabola given the vertex and the focus
 pcalc069 Finding the focus of a parabola of the form $ay^2 + by + cx + d = 0$ or $ax^2 + bx + cy + d = 0$
 alge191 Midpoint of a line segment in the plane
 alge414 Finding an endpoint of a line segment given the other endpoint and the midpoint
 alge132 Distance between two points in the plane: Exact answers
 pcalc605 Graphing a circle given its equation in standard form

pcalc128 Graphing a circle given its equation in general form: Basic
 pcalc129 Graphing a circle given its equation in general form: Advanced
 pcalc065 Writing an equation of a circle given its center and a point on the circle
 pcalc066 Writing an equation of a circle given the endpoints of a diameter
 pcalc734 Graphing an ellipse given its equation in standard form
 pcalc070 Graphing an ellipse centered at the origin: $Ax^2 + By^2 = C$
 pcalc071 Graphing an ellipse given its equation in general form
 pcalc735 Graphing a hyperbola given its equation in standard form
 pcalc075 Graphing a hyperbola centered at the origin: $Ax^2 - By^2 - C = 0$
 pcalc076 Graphing a hyperbola given its equation in general form
 pcalc736 Classifying conics given their equations
 alge994 Graphically solving a system of linear and quadratic equations
 alge995 Solving a system of linear and quadratic equations
 pcalc796 Using a graphing calculator to solve a system of equations
 pcalc098 Solving a system of nonlinear equations: Problem type 1
 pcalc748 Graphing a quadratic inequality: Problem type 1
 pcalc749 Graphing a quadratic inequality: Problem type 2
 pcalc096 Graphing a system of nonlinear inequalities: Problem type 1
 pcalc097 Graphing a system of nonlinear inequalities: Problem type 2
 alge644 Finding the first terms of an arithmetic sequence using an explicit rule
 alge645 Finding the first terms of a geometric sequence using an explicit rule
 pcalc080 Finding the first terms of a sequence using an explicit rule with multiple occurrences of n
 alge906 Finding the next terms of an arithmetic sequence with integers
 alge908 Finding the first terms of a sequence using a recursive rule
 alge979 Identifying arithmetic sequences and finding the common difference
 alge931 Finding a specified term of an arithmetic sequence given the first terms
 pcalc085 Finding a specified term of an arithmetic sequence given the common difference and first term
 pcalc715 Finding a specified term of an arithmetic sequence given two terms of the sequence
 alge909 Writing an explicit rule for an arithmetic sequence
 alge910 Writing a recursive rule for an arithmetic sequence
 pcalc718 Sum of the first n terms of an arithmetic sequence
 alge907 Finding the next terms of a geometric sequence with signed numbers
 alge981 Identifying arithmetic and geometric sequences
 alge980 Identifying geometric sequences and finding the common ratio
 alge934 Finding a specified term of a geometric sequence given the first terms
 pcalc086 Finding a specified term of a geometric sequence given the common ratio and first term
 pcalc717 Finding a specified term of a geometric sequence given two terms of the sequence
 pcalc713 Arithmetic and geometric sequences: Identifying and writing an explicit rule
 alge911 Writing recursive rules for arithmetic and geometric sequences
 pcalc719 Sum of the first n terms of a geometric sequence
 pcalc720 Sum of an infinite geometric series
 alge965 Identifying linear, quadratic, and exponential functions given ordered pairs
 pcalc087 Binomial formula

B.11 College Algebra

Algebra and Geometry Review

arith687 Fractional position on a number line
 arith605 Plotting rational numbers on a number line
 arith691 Ordering integers
 arith602 Estimating a square root
 arith712 Ordering real numbers
 alge001 Identifying numbers as integers or non-integers
 alge002 Identifying numbers as rational or irrational
 arith116 Signed fraction addition or subtraction: Basic
 arith864 Signed fraction subtraction involving double negation
 arith106 Signed fraction addition or subtraction: Advanced

arith811 Addition and subtraction of 3 fractions involving signs
arith822 Signed fraction multiplication: Basic
arith105 Signed fraction multiplication: Advanced
arith814 Signed fraction division
arith104 Operations with absolute value: Problem type 2
alge694 Computing the distance between two integers on a number line
arith702 Exponents and integers: Problem type 1
arith703 Exponents and integers: Problem type 2
arith704 Exponents and signed fractions
arith118 Order of operations with integers
arith600 Order of operations with integers and exponents
alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
alge004 Evaluating a quadratic expression: Integers
alge808 Evaluating a linear expression: Signed fraction multiplication with addition or subtraction
mstat065 Converting between temperatures in Fahrenheit and Celsius
alge187 Properties of addition
alge188 Properties of real numbers
alge604 Distributive property: Integer coefficients
alge608 Using distribution and combining like terms to simplify: Univariate
alge667 Identifying properties used to simplify an algebraic expression
alge609 Using distribution with double negation and combining like terms to simplify: Multivariate
alge821 Understanding the product rule of exponents
alge024 Introduction to the product rule of exponents
alge311 Product rule with positive exponents: Univariate
alge030 Product rule with positive exponents: Multivariate
arith029 Ordering numbers with positive exponents
alge826 Understanding the power rules of exponents
alge306 Introduction to the power of a power rule of exponents
alge305 Introduction to the power of a product rule of exponents
alge307 Power rules with positive exponents: Multivariate products
alge308 Power rules with positive exponents: Multivariate quotients
alge756 Power and product rules with positive exponents
alge451 Simplifying a ratio of multivariate monomials: Basic
alge827 Introduction to the quotient rule of exponents
alge452 Simplifying a ratio of univariate monomials
alge026 Quotient of expressions involving exponents
alge453 Simplifying a ratio of multivariate monomials: Advanced
alge927 Power and quotient rules with positive exponents
alge790 Evaluating expressions with exponents of zero
arith729 Evaluating an expression with a negative exponent: Whole number base
arith042 Evaluating an expression with a negative exponent: Positive fraction base
arith043 Evaluating an expression with a negative exponent: Negative integer base
arith024 Ordering numbers with negative exponents
alge791 Rewriting an algebraic expression without a negative exponent
alge961 Introduction to the product rule with negative exponents
alge028 Product rule with negative exponents
alge755 Quotient rule with negative exponents: Problem type 1
alge926 Quotient rule with negative exponents: Problem type 2
alge025 Power of a power rule with negative exponents
alge799 Power rules with negative exponents
alge928 Power and quotient rules with negative exponents: Problem type 1
alge929 Power and quotient rules with negative exponents: Problem type 2
alge757 Power, product, and quotient rules with negative exponents
arith036 Scientific notation with positive exponent
arith037 Scientific notation with negative exponent
scinot012 Converting between scientific notation and standard form in a real-world situation
scinot008 Multiplying numbers written in scientific notation: Basic
scinot009 Multiplying numbers written in scientific notation: Advanced
scinot019 Multiplying numbers written in decimal form or scientific notation in a real-world situation
scinot010 Dividing numbers written in scientific notation: Basic
scinot011 Dividing numbers written in scientific notation: Advanced
scinot013 Finding the scale factor between numbers given in scientific notation in a real-world situation

alge758 Degree and leading coefficient of a univariate polynomial
alge031 Degree of a multivariate polynomial
alge798 Simplifying a sum or difference of two univariate polynomials
alge029 Simplifying a sum or difference of three univariate polynomials
alge932 Simplifying a sum or difference of multivariate polynomials
alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
alge972 Multiplying a univariate polynomial by a monomial with a negative coefficient
alge835 Multiplying a multivariate polynomial by a monomial
alge033 Multiplying binomials with leading coefficients of 1
alge983 Multiplying binomials with leading coefficients greater than 1
alge765 Multiplying binomials in two variables
alge764 Multiplying conjugate binomials: Univariate
alge081 Multiplying conjugate binomials: Multivariate
alge032 Squaring a binomial: Univariate
alge068 Squaring a binomial: Multivariate
alge973 Multiplying binomials with negative coefficients
alge935 Multiplication involving binomials and trinomials in one variable
alge180 Multiplication involving binomials and trinomials in two variables
arith034 Prime numbers
arith035 Prime factorization
arith033 Greatest common factor of 2 numbers
alge605 Factoring a linear binomial
alge736 Introduction to the GCF of two monomials
alge930 Greatest common factor of three univariate monomials
alge037 Greatest common factor of two multivariate monomials
alge738 Factoring out a monomial from a polynomial: Univariate
alge739 Factoring out a monomial from a polynomial: Multivariate
alge949 Factoring out a binomial from a polynomial: GCF factoring, basic
alge923 Factoring a univariate polynomial by grouping: Problem type 1
alge950 Factoring a univariate polynomial by grouping: Problem type 2
alge951 Factoring a multivariate polynomial by grouping: Problem type 1
alge952 Factoring a multivariate polynomial by grouping: Problem type 2
alge039 Factoring a quadratic with leading coefficient 1
alge942 Factoring a quadratic in two variables with leading coefficient 1
alge936 Factoring out a constant before factoring a quadratic
alge939 Factoring a quadratic with leading coefficient greater than 1: Problem type 1
alge940 Factoring a quadratic with leading coefficient greater than 1: Problem type 2
alge941 Factoring a quadratic with leading coefficient greater than 1: Problem type 3
alge978 Factoring a quadratic by the ac-method
alge265 Factoring a quadratic in two variables with leading coefficient greater than 1
alge937 Factoring a quadratic with a negative leading coefficient
alge944 Factoring a perfect square trinomial with leading coefficient 1
alge945 Factoring a perfect square trinomial with leading coefficient greater than 1
alge946 Factoring a perfect square trinomial in two variables
alge290 Factoring a difference of squares in one variable: Basic
alge947 Factoring a difference of squares in one variable: Advanced
alge839 Factoring a difference of squares in two variables
alge948 Factoring a polynomial involving a GCF and a difference of squares: Univariate
alge833 Factoring a polynomial involving a GCF and a difference of squares: Multivariate
alge041 Factoring a product of a quadratic trinomial and a monomial
alge042 Factoring with repeated use of the difference of squares formula
alge044 Factoring a sum or difference of two cubes
pcalc577 Factoring out binomials from a polynomial: GCF factoring, advanced
pcalc578 Using substitution to factor polynomials
alge049 Restriction on a variable in a denominator: Linear
alge454 Simplifying a ratio of factored polynomials: Linear factors
alge455 Simplifying a ratio of factored polynomials: Factors with exponents
alge456 Simplifying a ratio of polynomials using GCF factoring
alge457 Simplifying a ratio of linear polynomials: 1, -1, and no simplification
alge458 Simplifying a ratio of polynomials by factoring a quadratic with leading coefficient 1
alge710 Simplifying a ratio of polynomials: Problem type 1
alge682 Simplifying a ratio of polynomials: Problem type 2

alge459 Simplifying a ratio of polynomials: Problem type 3
 alge034 Simplifying a ratio of multivariate polynomials
 alge053 Multiplying rational expressions involving multivariate monomials
 alge460 Multiplying rational expressions made up of linear expressions
 alge620 Multiplying rational expressions involving quadratics with leading coefficients of 1
 alge461 Multiplying rational expressions involving quadratics with leading coefficients greater than 1
 alge462 Multiplying rational expressions involving multivariate quadratics
 alge054 Dividing rational expressions involving multivariate monomials
 alge463 Dividing rational expressions involving linear expressions
 alge766 Dividing rational expressions involving quadratics with leading coefficients of 1
 alge464 Dividing rational expressions involving quadratics with leading coefficients greater than 1
 alge465 Dividing rational expressions involving multivariate quadratics
 alge466 Multiplication and division of 3 rational expressions
 arith070 Least common multiple of 2 numbers
 arith804 Least common multiple of 3 numbers
 alge737 Introduction to the LCM of two monomials
 alge055 Least common multiple of two monomials
 alge427 Finding the LCD of rational expressions with linear denominators: Relatively prime
 alge428 Finding the LCD of rational expressions with linear denominators: Common factors
 alge429 Finding the LCD of rational expressions with quadratic denominators
 alge430 Writing equivalent rational expressions with monomial denominators
 alge431 Writing equivalent rational expressions with polynomial denominators
 alge304 Writing equivalent rational expressions involving opposite factors
 alge432 Introduction to adding fractions with variables and common denominators
 alge433 Adding rational expressions with common denominators and monomial numerators
 alge056 Adding rational expressions with common denominators and binomial numerators
 alge434 Adding rational expressions with common denominators and GCF factoring
 alge435 Adding rational expressions with common denominators and quadratic factoring
 alge436 Adding rational expressions with different denominators and a single occurrence of a variable
 alge437 Adding rational expressions with denominators ax and bx : Basic
 alge438 Adding rational expressions with denominators ax and bx : Advanced
 alge439 Adding rational expressions with denominators axn and bxm
 alge440 Adding rational expressions with multivariate monomial denominators: Basic
 alge226 Adding rational expressions with multivariate monomial denominators: Advanced
 alge441 Adding rational expressions with linear denominators without common factors: Basic
 alge442 Adding rational expressions with linear denominators without common factors: Advanced
 alge443 Adding rational expressions with linear denominators with common factors: Basic
 alge444 Adding rational expressions with linear denominators with common factors: Advanced
 alge445 Adding rational expressions with denominators $ax-b$ and $b-ax$
 alge661 Adding rational expressions involving different quadratic denominators
 alge446 Adding 3 rational expressions with different quadratic denominators
 arith695 Complex fraction without variables: Problem type 1
 arith696 Complex fraction without variables: Problem type 2
 alge470 Complex fraction involving univariate monomials
 alge058 Complex fraction involving multivariate monomials
 alge471 Complex fraction: GCF factoring
 alge472 Complex fraction: Quadratic factoring
 alge473 Complex fraction made of sums involving rational expressions: Problem type 1
 alge474 Complex fraction made of sums involving rational expressions: Problem type 2
 alge475 Complex fraction made of sums involving rational expressions: Problem type 3
 alge476 Complex fraction made of sums involving rational expressions: Problem type 4
 alge477 Complex fraction made of sums involving rational expressions: Problem type 5
 alge478 Complex fraction made of sums involving rational expressions: Problem type 6
 alge479 Complex fraction made of sums involving rational expressions: Multivariate
 alge480 Complex fraction with negative exponents: Problem type 1
 alge481 Complex fraction with negative exponents: Problem type 2
 alge162 Complex fraction that contains a complex fraction
 alge413 Finding all square roots of a number
 arith601 Square root of a rational perfect square
 arith760 Square roots of perfect squares with signs
 arith761 Square roots of integers raised to even exponents
 alge415 Introduction to simplifying a radical expression with an even exponent

alge264 Square root of a perfect square monomial
alge603 Introduction to solving an absolute value equation
alge537 Using absolute value to simplify square roots of perfect square monomials
arith094 Cube root of an integer
alge549 Finding n th roots of perfect n th powers with signs
arith768 Finding the n th root of a perfect n th power fraction
alge550 Finding the n th root of a perfect n th power monomial
alge538 Using absolute value to simplify higher radical expressions
alge812 Converting between radical form and exponent form
alge560 Rational exponents: Unit fraction exponents and whole number bases
alge561 Rational exponents: Unit fraction exponents and bases involving signs
alge250 Rational exponents: Non-unit fraction exponent with a whole number base
alge251 Rational exponents: Negative exponents and fractional bases
alge558 Rational exponents: Product rule
alge559 Rational exponents: Quotient rule
alge773 Rational exponents: Products and quotients with negative exponents
alge562 Rational exponents: Power of a power rule
alge249 Rational exponents: Powers of powers with negative exponents
arith093 Simplifying the square root of a whole number less than 100
arith762 Simplifying the square root of a whole number greater than 100
alge080 Simplifying a radical expression with an even exponent
alge520 Introduction to simplifying a radical expression with an odd exponent
alge521 Simplifying a radical expression with an odd exponent
alge275 Simplifying a radical expression with two variables
alge273 Simplifying a higher root of a whole number
alge551 Introduction to simplifying a higher radical expression
alge552 Simplifying a higher radical expression: Univariate
alge811 Simplifying a higher radical expression: Multivariate
arith767 Introduction to square root addition or subtraction
arith032 Square root addition or subtraction
alge533 Square root addition or subtraction with three terms
alge531 Introduction to simplifying a sum or difference of radical expressions: Univariate
alge532 Simplifying a sum or difference of radical expressions: Univariate
alge084 Simplifying a sum or difference of radical expressions: Multivariate
alge554 Simplifying a sum or difference of higher roots
alge555 Simplifying a sum or difference of higher radical expressions
arith764 Introduction to square root multiplication
arith765 Square root multiplication: Basic
arith039 Square root multiplication: Advanced
alge522 Introduction to simplifying a product of radical expressions: Univariate
alge523 Simplifying a product of radical expressions: Univariate
alge640 Simplifying a product of radical expressions: Multivariate
alge082 Simplifying a product of radical expressions: Multivariate, fractional expressions
alge556 Introduction to simplifying a product of higher roots
alge557 Simplifying a product of higher radical expressions
alge525 Introduction to simplifying a product involving square roots using the distributive property
alge526 Simplifying a product involving square roots using the distributive property: Basic
alge276 Simplifying a product involving square roots using the distributive property: Advanced
alge774 Special products of radical expressions: Conjugates and squaring
alge984 Classifying sums and products as rational or irrational
arith766 Simplifying a quotient of square roots
alge530 Simplifying a quotient involving a sum or difference with a square root
alge527 Rationalizing a denominator: Quotient involving square roots
alge528 Rationalizing a denominator: Square root of a fraction
alge529 Rationalizing a denominator: Quotient involving a monomial
alge534 Rationalizing a denominator using conjugates: Integer numerator
alge535 Rationalizing a denominator using conjugates: Square root in numerator
alge536 Rationalizing a denominator using conjugates: Variable in denominator
alge564 Rationalizing a denominator: Quotient involving a higher radical
alge775 Rationalizing a denominator: Quotient involving higher radicals and monomials
alge563 Simplifying products or quotients of higher radicals with different indices: Univariate
alge776 Simplifying products or quotients of higher radicals with different indices: Multivariate

geom340 Area of a piecewise rectangular figure
 geom142 Word problem involving the area between two rectangles
 geom801 Area of a triangle
 geom022 Area of a parallelogram
 geom023 Area of a trapezoid
 geom016 Circumference of a circle
 geom301 Perimeter involving rectangles and circles
 geom802 Circumference and area of a circle
 geom477 Circumference and area of a circle: Exact answers in terms of pi
 geom302 Area involving rectangles and circles
 geom036 Word problem involving the area between two concentric circles
 geom214 Area involving inscribed figures
 geom311 Volume of a rectangular prism
 geom090 Volume of a triangular prism
 geom033 Volume of a pyramid
 geom035 Volume of a cylinder
 geom092 Word problem involving the rate of filling or emptying a cylinder
 geom622 Volume of a cone
 geom086 Volume of a cone: Exact answers in terms of pi
 geom841 Volume of a sphere
 geom031 Surface area of a cube or a rectangular prism
 geom091 Surface area of a triangular prism
 geom621 Surface area of a cylinder
 geom034 Surface area of a cylinder: Exact answers in terms of pi
 geom842 Surface area of a sphere
 alge407 Introduction to the Pythagorean Theorem
 geom044 Pythagorean Theorem
 alge408 Word problem involving the Pythagorean Theorem

Equations and Inequalities

alge836 Additive property of equality with signed fractions
 alge012 Multiplicative property of equality with signed fractions
 alge837 Solving a multi-step equation given in fractional form
 alge986 Identifying properties used to solve a linear equation
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
 alge420 Solving a linear equation with several occurrences of the variable: Fractional forms with monomial numerators
 alge208 Solving a two-step equation with signed fractions
 alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
 alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
 alge742 Solving equations with zero, one, or infinitely many solutions
 alge840 Solving a proportion of the form $(x+a)\div b = c\div d$
 alge511 Solving for a variable in terms of other variables using addition or subtraction: Basic
 alge512 Solving for a variable in terms of other variables using addition or subtraction: Advanced
 alge513 Solving for a variable in terms of other variables using multiplication or division: Basic
 alge514 Solving for a variable in terms of other variables using multiplication or division: Advanced
 alge517 Solving for a variable in terms of other variables using addition or subtraction with division
 alge518 Solving for a variable inside parentheses in terms of other variables
 alge507 Solving for a variable in terms of other variables in a linear equation with fractions
 alge016 Translating a sentence into a one-step equation
 alge841 Translating a sentence into a multi-step equation
 alge014 Solving a word problem with two unknowns using a linear equation

alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
alge219 Solving a decimal word problem using a linear equation with the variable on both sides
alge704 Solving a fraction word problem using a linear equation with the variable on both sides
alge792 Solving a word problem with three unknowns using a linear equation
alge842 Solving a word problem involving consecutive integers
alge730 Writing a multi-step equation for a real-world situation
alge794 Solving a value mixture problem using a linear equation
alge823 Solving a one-step word problem using the formula $d = rt$
alge796 Solving a distance, rate, time problem using a linear equation
geom817 Finding a side length given the perimeter and side lengths with variables
geom143 Finding the perimeter or area of a rectangle given one of these values
geom838 Circumference ratios
geom530 Solving equations involving vertical angles
geom628 Finding angle measures of a triangle given angles with variables
stat803 Finding the value for a new score that will yield a given mean
arith852 Finding the multiplier to give a final amount after a percentage increase or decrease
arith847 Finding the sale price given the original price and percent discount
arith848 Finding the total cost including tax or markup
arith031 Finding the original price given the sale price and percent discount
arith854 Computing a percent mixture
alge795 Solving a percent mixture problem using a linear equation
arith232 Finding simple interest without a calculator
arith514 Converting a repeating decimal to a fraction
alge864 Solving an absolute value equation: Problem type 1
alge865 Solving an absolute value equation: Problem type 2
alge866 Solving an absolute value equation: Problem type 3
alge867 Solving an absolute value equation: Problem type 4
alge167 Solving an absolute value equation of the form $-ax + b = -cx + d$
alge845 Translating a sentence into a one-step inequality
alge846 Translating a sentence into a multi-step inequality
alge748 Writing an inequality for a real-world situation
alge017 Graphing a linear inequality on the number line
alge822 Writing an inequality given a graph on the number line
alge186 Translating a sentence into a compound inequality
alge166 Graphing a compound inequality on the number line
alge847 Writing a compound inequality given a graph on the number line
set001 Set builder notation
set004 Set builder and interval notation
set002 Union and intersection of finite sets
set005 Union and intersection of intervals
alge844 Identifying solutions to a two-step linear inequality in one variable
alge852 Additive property of inequality with signed fractions
alge964 Multiplicative property of inequality with signed fractions
alge855 Solving a two-step linear inequality: Problem type 1
alge856 Solving a two-step linear inequality: Problem type 2
alge857 Solving a two-step linear inequality with a fractional coefficient
alge977 Solving a linear inequality with multiple occurrences of the variable: Problem type 1
alge858 Solving a linear inequality with multiple occurrences of the variable: Problem type 2
alge859 Solving a linear inequality with multiple occurrences of the variable: Problem type 3
alge860 Solving inequalities with no solution or all real numbers as solutions
alge746 Solving a compound linear inequality: Graph solution, basic
alge747 Solving a compound linear inequality: Interval notation
alge749 Solving a decimal word problem using a two-step linear inequality
alge750 Solving a decimal word problem using a linear inequality with the variable on both sides
alge868 Solving an absolute value inequality: Problem type 1
alge943 Writing an absolute value inequality given a graph on the number line
alge869 Solving an absolute value inequality: Problem type 2
alge870 Solving an absolute value inequality: Problem type 3
alge871 Solving an absolute value inequality: Problem type 4
alge872 Solving an absolute value inequality: Problem type 5
alge271 Solving a proportion of the form $a/(x+b) = c/x$
alge060 Solving a rational equation that simplifies to linear: Denominator x

alge205 Solving a rational equation that simplifies to linear: Denominator $x+a$
 alge769 Solving a rational equation that simplifies to linear: Denominators a , x , or ax
 alge421 Solving a rational equation that simplifies to linear: Denominators ax and bx
 alge422 Solving a rational equation that simplifies to linear: Like binomial denominators
 alge206 Solving a rational equation that simplifies to linear: Unlike binomial denominators
 alge508 Solving for a variable in terms of other variables in a rational equation: Problem type 1
 alge509 Solving for a variable in terms of other variables in a rational equation: Problem type 2
 alge510 Solving for a variable in terms of other variables in a rational equation: Problem type 3
 arith610 Word problem on proportions: Problem type 1
 arith611 Word problem on proportions: Problem type 2
 geom037 Similar polygons
 geom038 Similar right triangles
 geom337 Indirect measurement
 geom133 Ratio of volumes
 arith612 Word problem involving multiple rates
 alge770 Solving a work problem using a rational equation
 alge450 Solving a distance, rate, time problem using a rational equation
 alge059 Ordering fractions with variables
 alge778 Using i to rewrite square roots of negative numbers
 alge779 Simplifying a product and quotient involving square roots of negative numbers
 pcalc048 Adding or subtracting complex numbers
 pcalc049 Multiplying complex numbers
 pcalc050 Dividing complex numbers
 pcalc053 Simplifying a power of i
 alge681 Solving an equation written in factored form
 alge956 Finding the roots of a quadratic equation of the form $ax^2 + bx = 0$
 alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
 alge211 Solving a quadratic equation needing simplification
 alge046 Roots of a product of polynomials
 alge163 Writing a quadratic equation given the roots and the leading coefficient
 alge703 Solving a word problem using a quadratic equation with rational roots
 alge713 Using the Pythagorean Theorem and a quadratic equation to find side lengths of a right triangle
 alge962 Solving an equation of the form $x^2 = a$ using the square root property
 alge092 Solving a quadratic equation using the square root property: Exact answers, basic
 alge227 Solving a quadratic equation using the square root property: Exact answers, advanced
 alge094 Completing the square
 alge780 Solving a quadratic equation by completing the square: Exact answers
 alge095 Applying the quadratic formula: Exact answers
 alge963 Applying the quadratic formula: Decimal answers
 pcalc051 Solving a quadratic equation with complex roots
 alge214 Discriminant of a quadratic equation
 alge193 Discriminant of a quadratic equation with parameter
 alge524 Solving a word problem using a quadratic equation with irrational roots
 alge093 Solving an equation using the odd-root property: Problem type 1
 alge228 Solving an equation using the odd-root property: Problem type 2
 alge467 Restriction on a variable in a denominator: Quadratic
 alge423 Solving a rational equation that simplifies to linear: Factorable quadratic denominator
 alge424 Solving a rational equation that simplifies to quadratic: Proportional form, basic
 alge425 Solving a rational equation that simplifies to quadratic: Denominator x
 alge212 Solving a rational equation that simplifies to quadratic: Binomial denominators, constant numerators
 alge062 Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators
 alge426 Solving a rational equation that simplifies to quadratic: Factorable quadratic denominator
 alge047 Solving a rational equation that simplifies to quadratic: Proportional form, advanced
 alge400 Introduction to solving a radical equation
 alge089 Solving a radical equation that simplifies to a linear equation: One radical, basic
 alge402 Solving a radical equation that simplifies to a linear equation: One radical, advanced
 alge090 Solving a radical equation that simplifies to a linear equation: Two radicals
 alge403 Solving a radical equation that simplifies to a quadratic equation: One radical, basic
 alge404 Solving a radical equation that simplifies to a quadratic equation: One radical, advanced
 alge411 Solving a radical equation with a quadratic expression under the radical
 alge405 Solving a radical equation with two radicals that simplifies to $\sqrt{x} = a$

alge182 Solving a radical equation that simplifies to a quadratic equation: Two radicals
 alge412 Algebraic symbol manipulation with radicals
 alge542 Word problem involving radical equations: Basic
 alge409 Word problem involving radical equations: Advanced
 alge410 Solving an equation with a root index greater than 2: Problem type 1
 alge417 Solving an equation with a root index greater than 2: Problem type 2
 alge416 Solving an equation with exponent $1/a$: Problem type 1
 alge418 Solving an equation with exponent $1/a$: Problem type 2
 alge230 Solving an equation with positive rational exponent
 alge231 Solving an equation with negative rational exponent
 alge781 Solving an equation that can be written in quadratic form: Problem type 1
 alge782 Solving an equation that can be written in quadratic form: Problem type 2

Graphs and Functions

alge064 Reading a point in the coordinate plane
 alge067 Plotting a point in the coordinate plane
 arith405 Naming the quadrant or axis of a point given its coordinates
 arith406 Naming the quadrant or axis of a point given the signs of its coordinates
 geom437 Finding the area of a triangle or parallelogram in the coordinate plane
 alge850 Table for a linear equation
 alge132 Distance between two points in the plane: Exact answers
 alge324 Distance between two points in the plane: Decimal answers
 geom323 Identifying scalene, isosceles, and equilateral triangles given coordinates of their vertices
 alge191 Midpoint of a line segment in the plane
 alge414 Finding an endpoint of a line segment given the other endpoint and the midpoint
 alge873 Identifying solutions to a linear equation in two variables
 alge066 Finding a solution to a linear equation in two variables
 alge877 Graphing a linear equation of the form $y = mx$
 alge878 Graphing a line given its equation in slope-intercept form: Integer slope
 alge879 Graphing a line given its equation in slope-intercept form: Fractional slope
 alge880 Graphing a line given its equation in standard form
 alge198 Graphing a vertical or horizontal line
 alge884 Finding x - and y -intercepts given the graph of a line on a grid
 alge924 Finding x - and y -intercepts of a line given the equation: Basic
 alge210 Finding x - and y -intercepts of a line given the equation: Advanced
 alge197 Graphing a line given its x - and y -intercepts
 alge881 Graphing a line by first finding its x - and y -intercepts
 pcalc750 Finding intercepts of a nonlinear function given its graph
 pcalc678 Finding x - and y -intercepts of the graph of a nonlinear equation
 alge913 Graphing an absolute value equation of the form $y = A - |x - C|$
 alge954 Graphing a parabola of the form $y = ax^2$
 alge955 Graphing a parabola of the form $y = ax^2 + c$
 alge262 Graphing a cubic function of the form $y = ax^3$
 pcalc416 Determining if graphs have symmetry with respect to the x -axis, y -axis, or origin
 pcalc679 Testing an equation for symmetry about the axes and origin
 alge875 Classifying slopes given graphs of lines
 alge886 Finding slope given the graph of a line on a grid
 alge887 Finding slope given two points on the line
 alge885 Finding the slope of horizontal and vertical lines
 alge888 Finding the coordinate that yields a given slope
 alge259 Graphing a line given its slope and y -intercept
 alge196 Graphing a line through a given point with a given slope
 alge876 Identifying linear equations: Advanced
 alge874 Identifying linear functions given ordered pairs
 alge891 Rewriting a linear equation in the form $Ax + By = C$
 alge889 Finding the slope and y -intercept of a line given its equation in the form $y = mx + b$
 alge890 Finding the slope and y -intercept of a line given its equation in the form $Ax + By = C$
 alge882 Graphing a line by first finding its slope and y -intercept
 alge258 Writing an equation of a line given its slope and y -intercept

alge892 Writing an equation and graphing a line given its slope and y-intercept
 alge314 Finding the slope, y-intercept, and equation for a linear function given a table of values
 alge893 Writing an equation in slope-intercept form given the slope and a point
 alge318 Finding the slope and a point on a line given its equation in point-slope form
 alge883 Graphing a line given its equation in point-slope form
 alge894 Writing an equation in point-slope form given the slope and a point
 alge313 Writing an equation in standard form given the slope and a point
 alge070 Writing an equation of a line given the y-intercept and another point
 alge072 Writing the equation of the line through two given points
 alge073 Writing the equations of vertical and horizontal lines through a given point
 alge322 Comparing linear functions to the parent function $y=x$
 geom806 Finding slopes of lines parallel and perpendicular to a line given in slope-intercept form
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 alge895 Identifying parallel and perpendicular lines from equations
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 geom462 Identifying parallel and perpendicular lines from coordinates
 geom322 Identifying coordinates that give right triangles
 alge897 Writing and evaluating a function that models a real-world situation: Advanced
 alge654 Graphing ordered pairs and writing an equation from a table of values in context
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 alge817 Finding the initial amount and rate of change given a table for a linear function
 alge818 Finding the initial amount and rate of change given a graph of a linear function
 alge992 Combining functions to write a new function that models a real-world situation
 alge987 Comparing properties of linear functions given in different forms
 alge989 Interpreting the parameters of a linear function that models a real-world situation
 alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
 alge806 Application problem with a linear function: Finding a coordinate given two points
 alge991 Solving a linear equation by graphing
 mstat094 Constructing a scatter plot
 mstat030 Sketching the line of best fit
 mstat023 Scatter plots and correlation
 mstat068 Predictions from the line of best fit
 mstat067 Approximating the equation of a line of best fit and making predictions
 mstat069 Computing residuals
 mstat070 Interpreting residual plots
 mstat093 Classifying linear and nonlinear relationships from scatter plots
 mstat071 Linear relationship and the correlation coefficient
 mstat096 Identifying outliers and clustering in scatter plots
 mstat095 Finding outliers in a data set
 geom496 Identifying the center and radius to graph a circle given its equation in standard form
 geom497 Identifying the center and radius to graph a circle given its equation in general form: Basic
 geom668 Identifying the center and radius to graph a circle given its equation in general form: Advanced
 geom499 Writing the equation of a circle centered at the origin given its radius or a point on the circle
 geom495 Writing an equation of a circle and identifying points that lie on the circle
 geom498 Writing an equation of a circle given its center and radius or diameter
 geom493 Deriving the equation of a circle using the Pythagorean Theorem
 pcalc065 Writing an equation of a circle given its center and a point on the circle
 pcalc066 Writing an equation of a circle given the endpoints of a diameter
 fun032 Identifying functions from relations
 fun010 Vertical line test
 fun001 Table for a linear function
 pcalc760 Evaluating functions: Linear and quadratic or cubic
 alge468 Evaluating a rational function: Problem type 1
 alge469 Evaluating a rational function: Problem type 2
 alge539 Table for a square root function
 alge546 Evaluating a cube root function
 pcalc682 Evaluating functions: Absolute value, rational, radical
 fun030 Evaluating a piecewise-defined function
 fun033 Variable expressions as inputs of functions: Problem type 1
 pcalc571 Variable expressions as inputs of functions: Problem type 2
 pcalc411 Variable expressions as inputs of functions: Problem type 3
 fun016 Domain and range from ordered pairs

alge715 Domain of a rational function: Excluded values
pcalc412 Domain of a rational function: Interval notation
alge540 Domain of a square root function: Basic
pcalc763 Domain of a square root function: Advanced
alge547 Domains of higher root functions
pcalc754 Finding the domain of a fractional function involving radicals
pcalc924 Determining whether an equation defines a function: Basic
pcalc757 Determining whether an equation defines a function: Advanced
alge294 Finding outputs of a one-step function that models a real-world situation: Function notation
alge295 Finding outputs of a two-step function with decimals that models a real-world situation: Function notation
alge296 Finding inputs and outputs of a two-step function that models a real-world situation: Function notation
alge990 Domain and range of a linear function that models a real-world situation
pcalc471 Rewriting a multivariate function as a univariate function given a relationship between its variables
pcalc753 Finding a difference quotient for a linear or quadratic function
pcalc414 Finding a difference quotient for a rational function
fun026 Finding an output of a function from its graph
pcalc761 Finding inputs and outputs of a function from its graph
fun007 Domain and range from the graph of a discrete relation
alge312 Finding domain and range from a linear graph in context
fun024 Domain and range from the graph of a continuous function
fun025 Domain and range from the graph of a piecewise function
alge999 Finding where a function is increasing, decreasing, or constant given the graph
pcalc751 Finding where a function is increasing, decreasing, or constant given the graph: Interval notation
pcalc752 Finding local maxima and minima of a function given the graph
pcalc439 Finding the absolute maximum and minimum of a function given the graph
pcalc417 Finding values and intervals where the graph of a function is zero, positive, or negative
mstat018 Choosing a graph to fit a narrative: Basic
mstat051 Choosing a graph to fit a narrative: Advanced
alge896 Graphing an integer function and finding its range for a given domain
alge570 Graphing a function of the form $f(x) = ax + b$: Integer slope
alge571 Graphing a function of the form $f(x) = ax + b$: Fractional slope
alge900 Graphing an absolute value equation in the plane: Basic
alge168 Graphing an absolute value equation in the plane: Advanced
alge572 Graphing a function of the form $f(x) = ax^2$
alge573 Graphing a function of the form $f(x) = ax^2 + c$
alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
alge543 Graphing a square root function: Problem type 1
alge544 Graphing a square root function: Problem type 2
alge545 Graphing a square root function: Problem type 3
alge548 Graphing a cube root function
pcalc443 Matching parent graphs with their equations
fun031 Graphing a piecewise-defined function: Problem type 1
pcalc444 Graphing a piecewise-defined function: Problem type 2
pcalc568 Graphing a piecewise-defined function: Problem type 3
pcalc114 Even and odd functions: Problem type 1
pcalc440 Even and odd functions: Problem type 2
pcalc768 Finding the average rate of change of a function
alge998 Finding the average rate of change of a function given its graph
pcalc442 Word problem involving average rate of change
pcalc441 Writing the equation of a secant line
pcalc467 Translating the graph of a parabola: One step
pcalc465 Translating the graph of a parabola: Two steps
alge723 How the leading coefficient affects the shape of a parabola
pcalc468 Translating the graph of an absolute value function: One step
alge899 Translating the graph of an absolute value function: Two steps
alge901 How the leading coefficient affects the graph of an absolute value function
alge185 Writing an equation for a function after a vertical translation
pcalc469 Translating the graph of a function: One step
pcalc770 Translating the graph of a function: Two steps
pcalc569 Transforming the graph of a function by reflecting over an axis
pcalc470 Transforming the graph of a function by shrinking or stretching

pcalc570 Transforming the graph of a function using more than one transformation
 pcalc466 Transforming the graph of a quadratic, cubic, square root, or absolute value function
 fun020 Writing an equation for a function after a vertical and horizontal translation
 fun019 Sum, difference, and product of two functions
 alge786 Quotient of two functions: Basic
 pcalc413 Quotient of two functions: Advanced
 pcalc756 Combining functions: Advanced
 alge716 Introduction to the composition of two functions
 fun022 Composition of two functions: Basic
 pcalc484 Composition of a function with itself
 pcalc776 Expressing a function as a composition of two functions
 fun021 Composition of two functions: Domain and range
 alge129 Composition of two functions: Advanced
 pcalc483 Composition of two rational functions
 pcalc485 Word problem involving composition of two functions
 fun011 Horizontal line test
 pcalc777 Determining whether two functions are inverses of each other
 fun012 Inverse functions: Linear, discrete
 pcalc573 Inverse functions: Quadratic, square root
 pcalc572 Inverse functions: Cubic, cube root
 alge130 Inverse functions: Rational
 pcalc486 Graphing the inverse of a function given its graph
 pcalc487 Finding, evaluating, and interpreting an inverse function for a given linear relationship

Polynomial and Rational Functions

alge974 Finding the vertex, x-intercepts, and axis of symmetry from the graph of a parabola
 alge569 Graphing a parabola of the form $y = x^2 + bx + c$
 pcalc574 Graphing a parabola of the form $y = a(x-h)^2 + k$
 pcalc746 Graphing a parabola of the form $y = ax^2 + bx + c$: Integer coefficients
 pcalc747 Graphing a parabola of the form $y = ax^2 + bx + c$: Rational coefficients
 alge323 Finding the zeros of a quadratic function given its equation
 pcalc714 Using a graphing calculator to find the zeros of a quadratic function
 alge320 Writing a quadratic function given its zeros
 alge277 Finding the x-intercept(s) and the vertex of a parabola
 pcalc793 Using a graphing calculator to find the x-intercept(s) and vertex of a quadratic function
 alge319 Rewriting a quadratic function in standard form
 pcalc550 Rewriting a quadratic function to find its vertex and sketch its graph
 pcalc775 Finding the maximum or minimum of a quadratic function
 alge785 Word problem involving the maximum or minimum of a quadratic function
 pcalc551 Word problem involving optimizing area by using a quadratic function
 pcalc415 Domain and range from the graph of a quadratic function
 pcalc762 Range of a quadratic function
 pcalc680 Writing the equation of a quadratic function given its graph
 alge957 Solving a quadratic equation by graphing
 alge996 Comparing properties of quadratic functions given in different forms
 alge702 Classifying the graph of a function
 mstat102 Choosing a quadratic model and using it to make a prediction
 pcalc546 Identifying polynomial functions
 pcalc764 Finding zeros of a polynomial function written in factored form
 pcalc547 Finding zeros and their multiplicities given a polynomial function written in factored form
 pcalc766 Finding a polynomial of a given degree with given zeros: Real zeros
 pcalc765 Finding x- and y-intercepts given a polynomial function
 pcalc782 Determining the end behavior of the graph of a polynomial function
 pcalc548 Determining end behavior and intercepts to graph a polynomial function
 pcalc783 Matching graphs with polynomial functions
 pcalc738 Inferring properties of a polynomial function from its graph
 pcalc794 Using a graphing calculator to find local extrema of a polynomial function
 pcalc115 Using a graphing calculator to solve a word problem involving a local extremum of a polynomial function

alge759 Dividing a polynomial by a monomial: Univariate
alge760 Dividing a polynomial by a monomial: Multivariate
alge761 Polynomial long division: Problem type 1
alge762 Polynomial long division: Problem type 2
alge763 Polynomial long division: Problem type 3
pcalc117 Synthetic division
pcalc786 Using the remainder theorem to evaluate a polynomial
pcalc787 The Factor Theorem
pcalc118 Remainder theorem: Advanced
alge985 Closure properties of integers and polynomials
pcalc741 Using a given zero to write a polynomial as a product of linear factors: Real zeros
pcalc758 Finding all possible rational zeros using the rational zeros theorem: Problem type 1
pcalc759 Finding all possible rational zeros using the rational zeros theorem: Problem type 2
pcalc788 Descartes' Rule of Signs
pcalc743 Using the rational zeros theorem to find all zeros of a polynomial: Rational zeros
pcalc744 Using the rational zeros theorem to find all zeros of a polynomial: Irrational zeros
pcalc795 Using a graphing calculator to find zeros of a polynomial function
pcalc704 Using a graphing calculator to solve a word problem involving a polynomial of degree 3
pcalc785 Multiplying expressions involving complex conjugates
pcalc767 Finding a polynomial of a given degree with given zeros: Complex zeros
pcalc742 Using a given zero to write a polynomial as a product of linear factors: Complex zeros
pcalc745 Using the rational zeros theorem to find all zeros of a polynomial: Complex zeros
pcalc703 Using the conjugate zeros theorem to find all zeros of a polynomial
pcalc705 Linear factors theorem and conjugate zeros theorem
pcalc552 Finding the intercepts, asymptotes, domain, and range from the graph of a rational function
pcalc917 Finding the asymptotes of a rational function: Constant over linear
pcalc918 Finding the asymptotes of a rational function: Linear over linear
pcalc790 Finding horizontal and vertical asymptotes of a rational function: Quadratic numerator or denominator
pcalc562 Finding the asymptotes of a rational function: Quadratic over linear
alge515 Graphing a rational function: Constant over linear
alge516 Graphing a rational function: Linear over linear
pcalc553 Transforming the graph of a rational function
pcalc109 Graphing a rational function: Quadratic over linear
pcalc792 Graphing rational functions with holes
pcalc791 Matching graphs with rational functions: Two vertical asymptotes
pcalc557 Graphing a rational function with more than one vertical asymptote
pcalc706 Writing the equation of a rational function given its graph
pcalc556 Using a graphing calculator to solve a word problem involving a local extremum of a rational function
alge784 Solving a quadratic inequality written in factored form
alge771 Solving a quadratic inequality
pcalc558 Solving a polynomial inequality: Problem type 1
pcalc560 Solving a polynomial inequality: Problem type 2
pcalc561 Solving a polynomial inequality: Problem type 3
pcalc559 Solving a polynomial inequality: Problem type 4
alge783 Solving a rational inequality: Problem type 1
pcalc677 Solving a rational inequality: Problem type 2
alge982 Identifying direct variation equations
alge938 Identifying direct variation from ordered pairs and writing equations
alge904 Writing a direct variation equation
alge175 Word problem on direct variation
alge828 Interpreting direct variation from a graph
alge905 Writing an inverse variation equation
alge903 Identifying direct and inverse variation equations
alge902 Identifying direct and inverse variation from ordered pairs and writing equations
alge176 Word problem on inverse variation
alge220 Word problem on inverse proportions
pcalc681 Writing an equation that models variation
alge772 Word problem on combined variation

alge971 Table for an exponential function
 pcalc488 Graphing an exponential function: $f(x)=bx$
 pcalc489 Graphing an exponential function: $f(x) = a(b)x$
 pcalc567 Graphing an exponential function: $f(x)=b-x$ or $f(x)=-bax$
 pcalc922 Translating the graph of an exponential function
 alge321 Finding domain and range from the graph of an exponential function
 pcalc797 The graph, domain, and range of an exponential function
 pcalc490 Transforming the graph of a natural exponential function
 pcalc103 Graphing an exponential function and its asymptote: $f(x) = a(e)x-b + c$
 pcalc491 Using a calculator to evaluate exponential expressions
 alge830 Evaluating an exponential function that models a real-world situation
 pcalc555 Using a calculator to evaluate exponential expressions involving base e
 pcalc919 Evaluating an exponential function with base e that models a real-world situation
 arith853 Introduction to compound interest
 arith910 Calculating and comparing simple interest and compound interest
 alge177 Finding a final amount in a word problem on exponential growth or decay
 alge741 Finding the final amount in a word problem on compound interest
 alge966 Finding the initial amount and rate of change given an exponential function
 alge968 Writing an equation that models exponential growth or decay
 alge967 Writing an exponential function rule given a table of ordered pairs
 mstat103 Choosing an exponential model and using it to make a prediction
 alge993 Comparing linear, polynomial, and exponential functions
 pcalc492 Using a calculator to evaluate natural and common logarithmic expressions
 pcalc493 Converting between logarithmic and exponential equations
 pcalc494 Converting between natural logarithmic and exponential equations
 pcalc495 Evaluating logarithmic expressions
 alge233 Solving an equation of the form $\log_b a = c$
 pcalc923 Translating the graph of a logarithmic function
 alge788 Graphing a logarithmic function: Basic
 pcalc800 The graph, domain, and range of a logarithmic function
 pcalc801 Domain of a logarithmic function: Advanced
 pcalc104 Graphing a logarithmic function: Advanced
 pcalc708 Basic properties of logarithms
 pcalc511 Using properties of logarithms to evaluate expressions
 pcalc779 Expanding a logarithmic expression: Problem type 1
 pcalc521 Expanding a logarithmic expression: Problem type 2
 pcalc522 Expanding a logarithmic expression: Problem type 3
 alge787 Writing an expression as a single logarithm
 pcalc612 Change of base for logarithms: Problem type 1
 pcalc613 Change of base for logarithms: Problem type 2
 pcalc513 Solving a multi-step equation involving a single logarithm: Problem type 1
 pcalc510 Solving a multi-step equation involving a single logarithm: Problem type 2
 pcalc804 Solving a multi-step equation involving natural logarithms
 alge113 Solving an equation involving logarithms on both sides: Problem type 1
 pcalc805 Solving an equation involving logarithms on both sides: Problem type 2
 alge301 Solving an exponential equation by finding common bases: Linear exponents
 alge482 Solving an exponential equation by finding common bases: Linear and quadratic exponents
 pcalc920 Solving an exponential equation by using logarithms: Decimal answers, basic
 pcalc921 Solving an exponential equation by using natural logarithms: Decimal answers
 pcalc523 Solving an exponential equation by using logarithms: Decimal answers, advanced
 alge111 Solving an exponential equation by using logarithms: Exact answers in logarithmic form
 pcalc802 Solving an exponential equation by using substitution and quadratic factoring
 alge178 Finding the time to reach a limit in a word problem on exponential growth or decay
 pcalc524 Finding the time in a word problem on compound interest
 pcalc508 Finding the time given an exponential function with base e that models a real-world situation
 pcalc525 Finding the final amount in a word problem on continuous compound interest
 pcalc527 Finding the initial amount in a word problem on continuous compound interest
 pcalc526 Finding the final amount in a word problem on continuous exponential growth or decay
 pcalc615 Finding the rate or time in a word problem on continuous exponential growth or decay
 pcalc528 Finding half-life or doubling time
 pcalc529 Writing and evaluating a function modeling continuous exponential growth or decay given doubling time or half-life

pcalc530 Writing and evaluating a function modeling continuous exponential growth or decay given two outputs

Systems of Equations and Matrices

alge914 Identifying solutions to a system of linear equations
 alge075 Classifying systems of linear equations from graphs
 alge725 Graphically solving a system of linear equations
 pcalc820 Using a graphing calculator to solve a system of linear equations: Basic
 pcalc821 Using a graphing calculator to solve a system of linear equations: Advanced
 alge317 Writing a system of linear equations given its graph
 alge751 Solving a system of linear equations using substitution
 alge915 Solving a system of linear equations using elimination with addition
 alge076 Solving a system of linear equations using elimination with multiplication and addition
 alge916 Solving a system of linear equations with fractional coefficients
 alge917 Solving a system of linear equations with decimal coefficients
 alge752 Solving a 2x2 system of linear equations that is inconsistent or consistent dependent
 alge077 Creating an inconsistent system of linear equations
 alge988 Identifying the operations used to create equivalent systems of equations
 pcalc099 Consistency and independence of a system of linear equations
 alge263 Interpreting the graphs of two functions
 alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations
 alge919 Solving a word problem using a system of linear equations of the form $Ax + By = C$
 alge918 Solving a word problem using a system of linear equations of the form $y = mx + b$
 alge184 Solving a value mixture problem using a system of linear equations
 alge192 Solving a percent mixture problem using a system of linear equations
 alge224 Solving a distance, rate, time problem using a system of linear equations
 alge172 Solving a tax rate or interest rate problem using a system of linear equations
 pcalc496 Introduction to solving a 3x3 system of linear equations
 alge753 Solving a 3x3 system of linear equations: Problem type 1
 pcalc497 Solving a 3x3 system of linear equations: Problem type 2
 pcalc498 Solving a 3x3 system of linear equations that is inconsistent or consistent dependent
 alge793 Solving a word problem using a 3x3 system of linear equations: Problem type 1
 pcalc549 Solving a word problem using a 3x3 system of linear equations: Problem type 2
 pcalc037 Scalar multiplication of a matrix
 pcalc038 Addition or subtraction of matrices
 pcalc740 Linear combination of matrices
 pcalc507 Squaring and multiplying 2x2 matrices
 pcalc039 Multiplication of matrices: Basic
 pcalc710 Multiplication of matrices: Advanced
 pcalc503 Word problem involving multiplication of matrices
 pcalc504 Finding the inverse of a 2x2 matrix
 pcalc505 Finding the inverse of a 3x3 matrix
 pcalc042 Finding the determinant of a 2x2 matrix
 pcalc043 Finding the determinant of a 3x3 matrix
 pcalc564 Completing Gauss-Jordan elimination with a 2x2 matrix
 pcalc712 Gauss-Jordan elimination with a 2x2 matrix
 pcalc500 Writing solutions to 3x3 systems of linear equations from augmented matrices
 pcalc499 Completing Gauss-Jordan elimination with a 3x3 matrix
 pcalc046 Solving a system of linear equations given its augmented matrix
 pcalc502 Finding the inverse of a matrix to solve a 2x2 system of linear equations
 pcalc711 Using the inverse of a matrix to solve a 3x3 system of linear equations
 pcalc045 Using Cramer's rule to solve a 2x2 system of linear equations
 pcalc047 Using Cramer's rule to solve a 3x3 system of linear equations
 pcalc531 Introduction to partial fraction decomposition with distinct linear factors
 pcalc812 Partial fraction decomposition with distinct linear factors
 pcalc813 Partial fraction decomposition with repeated linear factors
 pcalc814 Partial fraction decomposition with an irreducible quadratic factor
 pcalc533 Partial fraction decomposition with repeated, irreducible quadratic factors
 alge994 Graphically solving a system of linear and quadratic equations
 pcalc716 Using a graphing calculator to solve a system of linear and quadratic equations: Basic

pcalc796 Using a graphing calculator to solve a system of equations
 pcalc806 Using a graphing calculator to solve an exponential or logarithmic equation
 alge995 Solving a system of linear and quadratic equations
 pcalc098 Solving a system of nonlinear equations: Problem type 1
 pcalc534 Solving a system of nonlinear equations: Problem type 2
 pcalc535 Solving a word problem involving geometry using a system of nonlinear equations
 alge912 Identifying solutions to a linear inequality in two variables
 alge225 Graphing a linear inequality in the plane: Vertical or horizontal line
 alge720 Graphing a linear inequality in the plane: Slope-intercept form
 alge018 Graphing a linear inequality in the plane: Standard form
 alge315 Writing an inequality given its graph in the plane: Horizontal or vertical boundary line
 alge316 Writing an inequality given its graph in the plane: Slanted boundary line
 pcalc748 Graphing a quadratic inequality: Problem type 1
 pcalc749 Graphing a quadratic inequality: Problem type 2
 pcalc536 Graphing an inequality involving a circle
 alge079 Graphing a system of two linear inequalities: Basic
 alge921 Graphing a system of two linear inequalities: Advanced
 alge922 Graphing a system of three linear inequalities
 pcalc096 Graphing a system of nonlinear inequalities: Problem type 1
 alge729 Writing a multi-step inequality for a real-world situation
 pcalc093 Solving a word problem using a system of linear inequalities: Problem type 1
 pcalc537 Solving a word problem using a system of linear inequalities: Problem type 2
 pcalc095 Linear programming
 pcalc094 Solving a word problem using linear programming

Conic Sections

pcalc566 Graphing a parabola of the form $y^2 = ax$ or $x^2 = ay$
 pcalc575 Graphing a parabola of the form $x = a(y - k)^2 + h$ or $y = a(x - h)^2 + k$
 pcalc067 Graphing a parabola of the form $ay^2 + by + cx + d = 0$ or $ax^2 + bx + cy + d = 0$
 pcalc068 Writing an equation of a parabola given the vertex and the focus
 pcalc475 Writing an equation of a parabola given the focus and the directrix
 geom494 Deriving the equation of a parabola given its focus and directrix
 pcalc476 Finding the vertex, focus, directrix, and axis of symmetry of a parabola
 pcalc069 Finding the focus of a parabola of the form $ay^2 + by + cx + d = 0$ or $ax^2 + bx + cy + d = 0$
 pcalc477 Writing an equation of a parabola given its graph
 pcalc478 Word problem involving a parabola
 pcalc734 Graphing an ellipse given its equation in standard form
 pcalc070 Graphing an ellipse centered at the origin: $Ax^2 + By^2 = C$
 pcalc071 Graphing an ellipse given its equation in general form
 pcalc479 Finding the center, vertices, and foci of an ellipse
 pcalc072 Finding the foci of an ellipse given its equation in general form
 pcalc074 Writing an equation of an ellipse given the center, an endpoint of an axis, and the length of the other axis
 pcalc073 Writing an equation of an ellipse given the foci and the major axis length
 pcalc097 Graphing a system of nonlinear inequalities: Problem type 2
 pcalc480 Word problem involving an ellipse
 pcalc735 Graphing a hyperbola given its equation in standard form
 pcalc075 Graphing a hyperbola centered at the origin: $Ax^2 - By^2 - C = 0$
 pcalc076 Graphing a hyperbola given its equation in general form
 pcalc481 Finding the center, vertices, foci, and asymptotes of a hyperbola
 pcalc077 Finding the foci of a hyperbola given its equation in general form
 pcalc078 Writing an equation of a hyperbola given the foci and the vertices
 pcalc482 Writing an equation of a hyperbola given the foci and the asymptotes: Basic
 pcalc079 Writing an equation of a hyperbola given the foci and the asymptotes: Advanced
 pcalc736 Classifying conics given their equations

Sequences, Series, and Probability

alge644 Finding the first terms of an arithmetic sequence using an explicit rule
alge645 Finding the first terms of a geometric sequence using an explicit rule
pcalc080 Finding the first terms of a sequence using an explicit rule with multiple occurrences of n
alge906 Finding the next terms of an arithmetic sequence with integers
alge908 Finding the first terms of a sequence using a recursive rule
alge979 Identifying arithmetic sequences and finding the common difference
alge931 Finding a specified term of an arithmetic sequence given the first terms
pcalc085 Finding a specified term of an arithmetic sequence given the common difference and first term
pcalc715 Finding a specified term of an arithmetic sequence given two terms of the sequence
alge909 Writing an explicit rule for an arithmetic sequence
alge910 Writing a recursive rule for an arithmetic sequence
pcalc718 Sum of the first n terms of an arithmetic sequence
alge907 Finding the next terms of a geometric sequence with signed numbers
alge981 Identifying arithmetic and geometric sequences
alge980 Identifying geometric sequences and finding the common ratio
alge934 Finding a specified term of a geometric sequence given the first terms
pcalc086 Finding a specified term of a geometric sequence given the common ratio and first term
pcalc717 Finding a specified term of a geometric sequence given two terms of the sequence
pcalc713 Arithmetic and geometric sequences: Identifying and writing an explicit rule
alge911 Writing recursive rules for arithmetic and geometric sequences
pcalc719 Sum of the first n terms of a geometric sequence
pcalc720 Sum of an infinite geometric series
alge965 Identifying linear, quadratic, and exponential functions given ordered pairs
pcalc082 Factorial expressions
mstat041 Interpreting a tree diagram
mstat040 Introduction to the counting principle
mstat015 Counting principle
mstat017 Computing permutations and combinations
pcalc809 Introduction to permutations and combinations
pcalc810 Permutations and combinations: Problem type 1
pcalc089 Permutations and combinations: Problem type 2
pcalc090 Permutations and combinations: Problem type 3
pcalc087 Binomial formula
mstat099 Determining a sample space and outcomes for a simple event
mstat100 Determining a sample space and outcomes for a compound event
mstat010 Probability of an event
mstat046 Experimental and theoretical probability
stat106 Outcomes and event probability
mstat116 Probabilities of a permutation and a combination
mstat011 Area as probability
stat850 Probability of independent events
stat851 Probability of dependent events
stat117 Probabilities of draws with replacement
stat118 Probabilities of draws without replacement
mstat042 Interpreting a Venn diagram of 2 sets
mstat043 Interpreting a Venn diagram of 3 sets
stat119 Venn diagrams: Two events
stat101 Venn diagrams: Word problems
stat112 Probabilities involving two dice
mstat115 Determining outcomes for compound events and complements of events
mstat109 Using a Venn diagram to understand the addition rule for probability
mstat108 Outcomes and event probability: Addition rule
stat114 Probability of intersection or union: Word problems
mstat104 Identifying independent events given values of probabilities
stat115 Independent events: Basic
stat120 Probability of union: Basic
mstat110 Using a Venn diagram to understand the multiplication rule for probability
mstat107 Outcomes and event probability: Conditional probability
mstat105 Computing conditional probability using a two-way frequency table
mstat106 Computing conditional probability to make an inference using a two-way frequency table
stat116 Conditional probability: Basic
stat109 Intersection and conditional probability

stat174 Binomial problems: Basic
 stat155 Binomial problems: Advanced
 mstat114 Using a random number table to make a fair decision

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Real Numbers

arith687 Fractional position on a number line
 arith605 Plotting rational numbers on a number line
 arith691 Ordering integers
 arith602 Estimating a square root
 arith712 Ordering real numbers
 alge001 Identifying numbers as integers or non-integers
 alge002 Identifying numbers as rational or irrational
 arith070 Least common multiple of 2 numbers
 arith804 Least common multiple of 3 numbers
 arith116 Signed fraction addition or subtraction: Basic
 arith864 Signed fraction subtraction involving double negation
 arith106 Signed fraction addition or subtraction: Advanced
 arith811 Addition and subtraction of 3 fractions involving signs
 arith822 Signed fraction multiplication: Basic
 arith105 Signed fraction multiplication: Advanced
 arith814 Signed fraction division
 arith104 Operations with absolute value: Problem type 2
 geom525 Computing distances between decimals on the number line
 arith702 Exponents and integers: Problem type 1
 arith703 Exponents and integers: Problem type 2
 arith704 Exponents and signed fractions
 arith118 Order of operations with integers
 arith600 Order of operations with integers and exponents
 alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge004 Evaluating a quadratic expression: Integers
 alge808 Evaluating a linear expression: Signed fraction multiplication with addition or subtraction
 mstat065 Converting between temperatures in Fahrenheit and Celsius
 alge187 Properties of addition
 alge188 Properties of real numbers
 alge604 Distributive property: Integer coefficients
 alge608 Using distribution and combining like terms to simplify: Univariate
 alge609 Using distribution with double negation and combining like terms to simplify: Multivariate
 geom340 Area of a piecewise rectangular figure
 geom142 Word problem involving the area between two rectangles
 geom801 Area of a triangle
 geom022 Area of a parallelogram
 geom023 Area of a trapezoid
 geom016 Circumference of a circle
 geom301 Perimeter involving rectangles and circles
 geom802 Circumference and area of a circle
 geom302 Area involving rectangles and circles
 geom036 Word problem involving the area between two concentric circles
 geom214 Area involving inscribed figures
 geom311 Volume of a rectangular prism
 geom090 Volume of a triangular prism
 geom033 Volume of a pyramid
 geom035 Volume of a cylinder
 geom092 Word problem involving the rate of filling or emptying a cylinder
 geom622 Volume of a cone
 geom841 Volume of a sphere

geom031 Surface area of a cube or a rectangular prism
 geom091 Surface area of a triangular prism
 geom621 Surface area of a cylinder
 geom842 Surface area of a sphere

Linear Equations and Inequalities

alge836 Additive property of equality with signed fractions
 alge012 Multiplicative property of equality with signed fractions
 alge837 Solving a multi-step equation given in fractional form
 alge986 Identifying properties used to solve a linear equation
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
 alge420 Solving a linear equation with several occurrences of the variable: Fractional forms with monomial numerators
 alge208 Solving a two-step equation with signed fractions
 alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
 alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
 alge742 Solving equations with zero, one, or infinitely many solutions
 alge840 Solving a proportion of the form $(x+a)\div b = c\div d$
 alge511 Solving for a variable in terms of other variables using addition or subtraction: Basic
 alge512 Solving for a variable in terms of other variables using addition or subtraction: Advanced
 alge513 Solving for a variable in terms of other variables using multiplication or division: Basic
 alge514 Solving for a variable in terms of other variables using multiplication or division: Advanced
 alge517 Solving for a variable in terms of other variables using addition or subtraction with division
 alge518 Solving for a variable inside parentheses in terms of other variables
 alge507 Solving for a variable in terms of other variables in a linear equation with fractions
 alge016 Translating a sentence into a one-step equation
 alge841 Translating a sentence into a multi-step equation
 alge014 Solving a word problem with two unknowns using a linear equation
 alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
 alge219 Solving a decimal word problem using a linear equation with the variable on both sides
 alge704 Solving a fraction word problem using a linear equation with the variable on both sides
 alge792 Solving a word problem with three unknowns using a linear equation
 alge842 Solving a word problem involving consecutive integers
 alge730 Writing a multi-step equation for a real-world situation
 alge794 Solving a value mixture problem using a linear equation
 alge823 Solving a one-step word problem using the formula $d = rt$
 alge796 Solving a distance, rate, time problem using a linear equation
 geom817 Finding a side length given the perimeter and side lengths with variables
 geom143 Finding the perimeter or area of a rectangle given one of these values
 geom838 Circumference ratios
 geom530 Solving equations involving vertical angles
 geom623 Finding angle measures of a triangle given angles with variables
 stat803 Finding the value for a new score that will yield a given mean
 arith852 Finding the multiplier to give a final amount after a percentage increase or decrease
 arith847 Finding the sale price given the original price and percent discount
 arith848 Finding the total cost including tax or markup
 arith031 Finding the original price given the sale price and percent discount
 arith854 Computing a percent mixture
 alge795 Solving a percent mixture problem using a linear equation
 arith232 Finding simple interest without a calculator
 alge845 Translating a sentence into a one-step inequality
 alge846 Translating a sentence into a multi-step inequality

alge748 Writing an inequality for a real-world situation
 alge017 Graphing a linear inequality on the number line
 alge822 Writing an inequality given a graph on the number line
 alge186 Translating a sentence into a compound inequality
 alge166 Graphing a compound inequality on the number line
 alge847 Writing a compound inequality given a graph on the number line
 set001 Set builder notation
 set004 Set builder and interval notation
 set002 Union and intersection of finite sets
 set005 Union and intersection of intervals
 alge844 Identifying solutions to a two-step linear inequality in one variable
 alge852 Additive property of inequality with signed fractions
 alge964 Multiplicative property of inequality with signed fractions
 alge855 Solving a two-step linear inequality: Problem type 1
 alge856 Solving a two-step linear inequality: Problem type 2
 alge857 Solving a two-step linear inequality with a fractional coefficient
 alge977 Solving a linear inequality with multiple occurrences of the variable: Problem type 1
 alge858 Solving a linear inequality with multiple occurrences of the variable: Problem type 2
 alge859 Solving a linear inequality with multiple occurrences of the variable: Problem type 3
 alge860 Solving inequalities with no solution or all real numbers as solutions
 alge746 Solving a compound linear inequality: Graph solution, basic
 alge747 Solving a compound linear inequality: Interval notation
 alge749 Solving a decimal word problem using a two-step linear inequality
 alge750 Solving a decimal word problem using a linear inequality with the variable on both sides
 alge603 Introduction to solving an absolute value equation
 alge864 Solving an absolute value equation: Problem type 1
 alge865 Solving an absolute value equation: Problem type 2
 alge866 Solving an absolute value equation: Problem type 3
 alge867 Solving an absolute value equation: Problem type 4
 alge167 Solving an absolute value equation of the form $-ax+b = -cx+d$
 alge868 Solving an absolute value inequality: Problem type 1
 alge943 Writing an absolute value inequality given a graph on the number line
 alge869 Solving an absolute value inequality: Problem type 2
 alge870 Solving an absolute value inequality: Problem type 3
 alge871 Solving an absolute value inequality: Problem type 4
 alge872 Solving an absolute value inequality: Problem type 5

Lines and Functions

alge064 Reading a point in the coordinate plane
 alge067 Plotting a point in the coordinate plane
 alge850 Table for a linear equation
 alge873 Identifying solutions to a linear equation in two variables
 alge066 Finding a solution to a linear equation in two variables
 alge877 Graphing a linear equation of the form $y = mx$
 alge878 Graphing a line given its equation in slope-intercept form: Integer slope
 alge879 Graphing a line given its equation in slope-intercept form: Fractional slope
 alge880 Graphing a line given its equation in standard form
 alge198 Graphing a vertical or horizontal line
 alge884 Finding x - and y -intercepts given the graph of a line on a grid
 alge924 Finding x - and y -intercepts of a line given the equation: Basic
 alge210 Finding x - and y -intercepts of a line given the equation: Advanced
 alge197 Graphing a line given its x - and y -intercepts
 alge881 Graphing a line by first finding its x - and y -intercepts
 alge875 Classifying slopes given graphs of lines
 alge886 Finding slope given the graph of a line on a grid
 alge887 Finding slope given two points on the line
 alge885 Finding the slope of horizontal and vertical lines
 alge888 Finding the coordinate that yields a given slope
 alge259 Graphing a line given its slope and y -intercept

alge196 Graphing a line through a given point with a given slope
 alge876 Identifying linear equations: Advanced
 alge874 Identifying linear functions given ordered pairs
 alge891 Rewriting a linear equation in the form $Ax + By = C$
 alge889 Finding the slope and y-intercept of a line given its equation in the form $y = mx + b$
 alge890 Finding the slope and y-intercept of a line given its equation in the form $Ax + By = C$
 alge882 Graphing a line by first finding its slope and y-intercept
 alge258 Writing an equation of a line given its slope and y-intercept
 alge892 Writing an equation and graphing a line given its slope and y-intercept
 alge893 Writing an equation in slope-intercept form given the slope and a point
 alge883 Graphing a line given its equation in point-slope form
 alge894 Writing an equation in point-slope form given the slope and a point
 alge070 Writing an equation of a line given the y-intercept and another point
 alge072 Writing the equation of the line through two given points
 alge073 Writing the equations of vertical and horizontal lines through a given point
 geom806 Finding slopes of lines parallel and perpendicular to a line given in slope-intercept form
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 alge895 Identifying parallel and perpendicular lines from equations
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 alge897 Writing and evaluating a function that models a real-world situation: Advanced
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 alge992 Combining functions to write a new function that models a real-world situation
 alge987 Comparing properties of linear functions given in different forms
 alge989 Interpreting the parameters of a linear function that models a real-world situation
 alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
 alge806 Application problem with a linear function: Finding a coordinate given two points
 alge991 Solving a linear equation by graphing
 mstat030 Sketching the line of best fit
 mstat023 Scatter plots and correlation
 mstat068 Predictions from the line of best fit
 mstat067 Approximating the equation of a line of best fit and making predictions
 fun032 Identifying functions from relations
 fun010 Vertical line test
 fun016 Domain and range from ordered pairs
 fun001 Table for a linear function
 pcalc760 Evaluating functions: Linear and quadratic or cubic
 fun030 Evaluating a piecewise-defined function
 fun033 Variable expressions as inputs of functions: Problem type 1
 alge294 Finding outputs of a one-step function that models a real-world situation: Function notation
 alge295 Finding outputs of a two-step function with decimals that models a real-world situation: Function notation
 alge296 Finding inputs and outputs of a two-step function that models a real-world situation: Function notation
 alge990 Domain and range of a linear function that models a real-world situation
 fun026 Finding an output of a function from its graph
 pcalc761 Finding inputs and outputs of a function from its graph
 fun007 Domain and range from the graph of a discrete relation
 fun024 Domain and range from the graph of a continuous function
 fun025 Domain and range from the graph of a piecewise function
 pcalc750 Finding intercepts of a nonlinear function given its graph
 alge999 Finding where a function is increasing, decreasing, or constant given the graph
 pcalc751 Finding where a function is increasing, decreasing, or constant given the graph: Interval notation
 pcalc752 Finding local maxima and minima of a function given the graph
 mstat018 Choosing a graph to fit a narrative: Basic
 mstat051 Choosing a graph to fit a narrative: Advanced
 alge896 Graphing an integer function and finding its range for a given domain
 alge570 Graphing a function of the form $f(x) = ax + b$: Integer slope
 alge571 Graphing a function of the form $f(x) = ax + b$: Fractional slope
 alge913 Graphing an absolute value equation of the form $y = A - x -$
 alge954 Graphing a parabola of the form $y = ax^2$
 alge955 Graphing a parabola of the form $y = ax^2 + c$
 alge572 Graphing a function of the form $f(x) = ax^2$
 alge573 Graphing a function of the form $f(x) = ax^2 + c$

alge262 Graphing a cubic function of the form $y = ax^3$
 fun031 Graphing a piecewise-defined function: Problem type 1
 pcalc768 Finding the average rate of change of a function
 alge998 Finding the average rate of change of a function given its graph

Exponents and Polynomials

alge821 Understanding the product rule of exponents
 alge024 Introduction to the product rule of exponents
 alge311 Product rule with positive exponents: Univariate
 alge030 Product rule with positive exponents: Multivariate
 arith029 Ordering numbers with positive exponents
 alge826 Understanding the power rules of exponents
 alge306 Introduction to the power of a power rule of exponents
 alge305 Introduction to the power of a product rule of exponents
 alge307 Power rules with positive exponents: Multivariate products
 alge308 Power rules with positive exponents: Multivariate quotients
 alge756 Power and product rules with positive exponents
 alge451 Simplifying a ratio of multivariate monomials: Basic
 alge827 Introduction to the quotient rule of exponents
 alge452 Simplifying a ratio of univariate monomials
 alge026 Quotient of expressions involving exponents
 alge453 Simplifying a ratio of multivariate monomials: Advanced
 alge927 Power and quotient rules with positive exponents
 alge790 Evaluating expressions with exponents of zero
 arith729 Evaluating an expression with a negative exponent: Whole number base
 arith042 Evaluating an expression with a negative exponent: Positive fraction base
 arith043 Evaluating an expression with a negative exponent: Negative integer base
 arith024 Ordering numbers with negative exponents
 alge791 Rewriting an algebraic expression without a negative exponent
 alge961 Introduction to the product rule with negative exponents
 alge028 Product rule with negative exponents
 alge755 Quotient rule with negative exponents: Problem type 1
 alge926 Quotient rule with negative exponents: Problem type 2
 alge025 Power of a power rule with negative exponents
 alge799 Power rules with negative exponents
 alge928 Power and quotient rules with negative exponents: Problem type 1
 alge929 Power and quotient rules with negative exponents: Problem type 2
 alge757 Power, product, and quotient rules with negative exponents
 arith036 Scientific notation with positive exponent
 arith037 Scientific notation with negative exponent
 scinot012 Converting between scientific notation and standard form in a real-world situation
 scinot008 Multiplying numbers written in scientific notation: Basic
 scinot009 Multiplying numbers written in scientific notation: Advanced
 scinot010 Dividing numbers written in scientific notation: Basic
 scinot011 Dividing numbers written in scientific notation: Advanced
 alge758 Degree and leading coefficient of a univariate polynomial
 alge031 Degree of a multivariate polynomial
 alge798 Simplifying a sum or difference of two univariate polynomials
 alge029 Simplifying a sum or difference of three univariate polynomials
 alge932 Simplifying a sum or difference of multivariate polynomials
 alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
 alge972 Multiplying a univariate polynomial by a monomial with a negative coefficient
 alge835 Multiplying a multivariate polynomial by a monomial
 alge033 Multiplying binomials with leading coefficients of 1
 alge983 Multiplying binomials with leading coefficients greater than 1
 alge765 Multiplying binomials in two variables
 alge764 Multiplying conjugate binomials: Univariate
 alge081 Multiplying conjugate binomials: Multivariate
 alge032 Squaring a binomial: Univariate

alge068 Squaring a binomial: Multivariate
 alge973 Multiplying binomials with negative coefficients
 alge935 Multiplication involving binomials and trinomials in one variable
 alge180 Multiplication involving binomials and trinomials in two variables
 arith034 Prime numbers
 arith035 Prime factorization
 arith033 Greatest common factor of 2 numbers
 alge605 Factoring a linear binomial
 alge736 Introduction to the GCF of two monomials
 alge930 Greatest common factor of three univariate monomials
 alge037 Greatest common factor of two multivariate monomials
 alge738 Factoring out a monomial from a polynomial: Univariate
 alge739 Factoring out a monomial from a polynomial: Multivariate
 alge949 Factoring out a binomial from a polynomial: GCF factoring, basic
 alge923 Factoring a univariate polynomial by grouping: Problem type 1
 alge950 Factoring a univariate polynomial by grouping: Problem type 2
 alge951 Factoring a multivariate polynomial by grouping: Problem type 1
 alge952 Factoring a multivariate polynomial by grouping: Problem type 2
 alge039 Factoring a quadratic with leading coefficient 1
 alge942 Factoring a quadratic in two variables with leading coefficient 1
 alge936 Factoring out a constant before factoring a quadratic
 alge939 Factoring a quadratic with leading coefficient greater than 1: Problem type 1
 alge940 Factoring a quadratic with leading coefficient greater than 1: Problem type 2
 alge941 Factoring a quadratic with leading coefficient greater than 1: Problem type 3
 alge978 Factoring a quadratic by the ac-method
 alge265 Factoring a quadratic in two variables with leading coefficient greater than 1
 alge937 Factoring a quadratic with a negative leading coefficient
 alge944 Factoring a perfect square trinomial with leading coefficient 1
 alge945 Factoring a perfect square trinomial with leading coefficient greater than 1
 alge946 Factoring a perfect square trinomial in two variables
 alge290 Factoring a difference of squares in one variable: Basic
 alge947 Factoring a difference of squares in one variable: Advanced
 alge839 Factoring a difference of squares in two variables
 alge948 Factoring a polynomial involving a GCF and a difference of squares: Univariate
 alge833 Factoring a polynomial involving a GCF and a difference of squares: Multivariate
 alge041 Factoring a product of a quadratic trinomial and a monomial
 alge042 Factoring with repeated use of the difference of squares formula
 alge044 Factoring a sum or difference of two cubes
 pcalc675 Factoring out a binomial from a polynomial: GCF factoring or substitution
 alge681 Solving an equation written in factored form
 alge956 Finding the roots of a quadratic equation of the form $ax^2 + bx = 0$
 alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
 alge211 Solving a quadratic equation needing simplification
 alge046 Roots of a product of polynomials
 alge163 Writing a quadratic equation given the roots and the leading coefficient
 alge703 Solving a word problem using a quadratic equation with rational roots
 alge407 Introduction to the Pythagorean Theorem
 geom044 Pythagorean Theorem
 alge408 Word problem involving the Pythagorean Theorem
 alge713 Using the Pythagorean Theorem and a quadratic equation to find side lengths of a right triangle

Rational Expressions

alge049 Restriction on a variable in a denominator: Linear
 alge467 Restriction on a variable in a denominator: Quadratic
 alge468 Evaluating a rational function: Problem type 1
 alge469 Evaluating a rational function: Problem type 2
 alge715 Domain of a rational function: Excluded values
 alge454 Simplifying a ratio of factored polynomials: Linear factors

alge455 Simplifying a ratio of factored polynomials: Factors with exponents
alge456 Simplifying a ratio of polynomials using GCF factoring
alge457 Simplifying a ratio of linear polynomials: 1, -1, and no simplification
alge458 Simplifying a ratio of polynomials by factoring a quadratic with leading coefficient 1
alge710 Simplifying a ratio of polynomials: Problem type 1
alge682 Simplifying a ratio of polynomials: Problem type 2
alge459 Simplifying a ratio of polynomials: Problem type 3
alge034 Simplifying a ratio of multivariate polynomials
alge053 Multiplying rational expressions involving multivariate monomials
alge460 Multiplying rational expressions made up of linear expressions
alge620 Multiplying rational expressions involving quadratics with leading coefficients of 1
alge461 Multiplying rational expressions involving quadratics with leading coefficients greater than 1
alge462 Multiplying rational expressions involving multivariate quadratics
alge054 Dividing rational expressions involving multivariate monomials
alge463 Dividing rational expressions involving linear expressions
alge766 Dividing rational expressions involving quadratics with leading coefficients of 1
alge464 Dividing rational expressions involving quadratics with leading coefficients greater than 1
alge465 Dividing rational expressions involving multivariate quadratics
alge466 Multiplication and division of 3 rational expressions
alge737 Introduction to the LCM of two monomials
alge055 Least common multiple of two monomials
alge427 Finding the LCD of rational expressions with linear denominators: Relatively prime
alge428 Finding the LCD of rational expressions with linear denominators: Common factors
alge429 Finding the LCD of rational expressions with quadratic denominators
alge430 Writing equivalent rational expressions with monomial denominators
alge431 Writing equivalent rational expressions with polynomial denominators
alge304 Writing equivalent rational expressions involving opposite factors
alge432 Introduction to adding fractions with variables and common denominators
alge433 Adding rational expressions with common denominators and monomial numerators
alge056 Adding rational expressions with common denominators and binomial numerators
alge434 Adding rational expressions with common denominators and GCF factoring
alge435 Adding rational expressions with common denominators and quadratic factoring
alge436 Adding rational expressions with different denominators and a single occurrence of a variable
alge437 Adding rational expressions with denominators ax and bx : Basic
alge438 Adding rational expressions with denominators ax and bx : Advanced
alge439 Adding rational expressions with denominators axn and bxm
alge440 Adding rational expressions with multivariate monomial denominators: Basic
alge226 Adding rational expressions with multivariate monomial denominators: Advanced
alge441 Adding rational expressions with linear denominators without common factors: Basic
alge442 Adding rational expressions with linear denominators without common factors: Advanced
alge443 Adding rational expressions with linear denominators with common factors: Basic
alge444 Adding rational expressions with linear denominators with common factors: Advanced
alge445 Adding rational expressions with denominators $ax-b$ and $b-ax$
alge661 Adding rational expressions involving different quadratic denominators
alge446 Adding 3 rational expressions with different quadratic denominators
arith695 Complex fraction without variables: Problem type 1
arith696 Complex fraction without variables: Problem type 2
alge470 Complex fraction involving univariate monomials
alge058 Complex fraction involving multivariate monomials
alge471 Complex fraction: GCF factoring
alge472 Complex fraction: Quadratic factoring
alge473 Complex fraction made of sums involving rational expressions: Problem type 1
alge474 Complex fraction made of sums involving rational expressions: Problem type 2
alge475 Complex fraction made of sums involving rational expressions: Problem type 3
alge476 Complex fraction made of sums involving rational expressions: Problem type 4
alge477 Complex fraction made of sums involving rational expressions: Problem type 5
alge478 Complex fraction made of sums involving rational expressions: Problem type 6
alge479 Complex fraction made of sums involving rational expressions: Multivariate
alge480 Complex fraction with negative exponents: Problem type 1
alge481 Complex fraction with negative exponents: Problem type 2
alge162 Complex fraction that contains a complex fraction
alge271 Solving a proportion of the form $a/(x+b) = c/x$

alge060 Solving a rational equation that simplifies to linear: Denominator x
 alge205 Solving a rational equation that simplifies to linear: Denominator $x+a$
 alge769 Solving a rational equation that simplifies to linear: Denominators a , x , or ax
 alge421 Solving a rational equation that simplifies to linear: Denominators ax and bx
 alge422 Solving a rational equation that simplifies to linear: Like binomial denominators
 alge206 Solving a rational equation that simplifies to linear: Unlike binomial denominators
 alge423 Solving a rational equation that simplifies to linear: Factorable quadratic denominator
 alge424 Solving a rational equation that simplifies to quadratic: Proportional form, basic
 alge425 Solving a rational equation that simplifies to quadratic: Denominator x
 alge212 Solving a rational equation that simplifies to quadratic: Binomial denominators, constant numerators
 alge062 Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators
 alge426 Solving a rational equation that simplifies to quadratic: Factorable quadratic denominator
 alge047 Solving a rational equation that simplifies to quadratic: Proportional form, advanced
 alge508 Solving for a variable in terms of other variables in a rational equation: Problem type 1
 alge509 Solving for a variable in terms of other variables in a rational equation: Problem type 2
 alge510 Solving for a variable in terms of other variables in a rational equation: Problem type 3
 arith610 Word problem on proportions: Problem type 1
 arith611 Word problem on proportions: Problem type 2
 geom037 Similar polygons
 geom038 Similar right triangles
 geom337 Indirect measurement
 geom133 Ratio of volumes
 arith612 Word problem involving multiple rates
 alge770 Solving a work problem using a rational equation
 alge450 Solving a distance, rate, time problem using a rational equation
 alge059 Ordering fractions with variables
 alge982 Identifying direct variation equations
 alge938 Identifying direct variation from ordered pairs and writing equations
 alge904 Writing a direct variation equation
 alge175 Word problem on direct variation
 alge828 Interpreting direct variation from a graph
 alge905 Writing an inverse variation equation
 alge903 Identifying direct and inverse variation equations
 alge902 Identifying direct and inverse variation from ordered pairs and writing equations
 alge176 Word problem on inverse variation
 alge220 Word problem on inverse proportions
 pcalc681 Writing an equation that models variation
 alge772 Word problem on combined variation

Radicals

alge413 Finding all square roots of a number
 arith601 Square root of a rational perfect square
 arith760 Square roots of perfect squares with signs
 arith761 Square roots of integers raised to even exponents
 alge415 Introduction to simplifying a radical expression with an even exponent
 alge264 Square root of a perfect square monomial
 alge537 Using absolute value to simplify square roots of perfect square monomials
 arith094 Cube root of an integer
 alge549 Finding n th roots of perfect n th powers with signs
 arith768 Finding the n th root of a perfect n th power fraction
 alge550 Finding the n th root of a perfect n th power monomial
 alge538 Using absolute value to simplify higher radical expressions
 alge539 Table for a square root function
 alge546 Evaluating a cube root function
 alge540 Domain of a square root function: Basic
 pcalc763 Domain of a square root function: Advanced
 alge547 Domains of higher root functions
 alge543 Graphing a square root function: Problem type 1
 alge544 Graphing a square root function: Problem type 2

alge545 Graphing a square root function: Problem type 3
 alge548 Graphing a cube root function
 alge812 Converting between radical form and exponent form
 alge560 Rational exponents: Unit fraction exponents and whole number bases
 alge561 Rational exponents: Unit fraction exponents and bases involving signs
 alge250 Rational exponents: Non-unit fraction exponent with a whole number base
 alge251 Rational exponents: Negative exponents and fractional bases
 alge558 Rational exponents: Product rule
 alge559 Rational exponents: Quotient rule
 alge773 Rational exponents: Products and quotients with negative exponents
 alge562 Rational exponents: Power of a power rule
 alge249 Rational exponents: Powers of powers with negative exponents
 arith093 Simplifying the square root of a whole number less than 100
 arith762 Simplifying the square root of a whole number greater than 100
 alge080 Simplifying a radical expression with an even exponent
 alge520 Introduction to simplifying a radical expression with an odd exponent
 alge521 Simplifying a radical expression with an odd exponent
 alge275 Simplifying a radical expression with two variables
 alge273 Simplifying a higher root of a whole number
 alge551 Introduction to simplifying a higher radical expression
 alge552 Simplifying a higher radical expression: Univariate
 alge811 Simplifying a higher radical expression: Multivariate
 arith767 Introduction to square root addition or subtraction
 arith032 Square root addition or subtraction
 alge533 Square root addition or subtraction with three terms
 alge531 Introduction to simplifying a sum or difference of radical expressions: Univariate
 alge532 Simplifying a sum or difference of radical expressions: Univariate
 alge084 Simplifying a sum or difference of radical expressions: Multivariate
 alge554 Simplifying a sum or difference of higher roots
 alge555 Simplifying a sum or difference of higher radical expressions
 arith764 Introduction to square root multiplication
 arith765 Square root multiplication: Basic
 arith039 Square root multiplication: Advanced
 alge522 Introduction to simplifying a product of radical expressions: Univariate
 alge523 Simplifying a product of radical expressions: Univariate
 alge640 Simplifying a product of radical expressions: Multivariate
 alge082 Simplifying a product of radical expressions: Multivariate, fractional expressions
 alge556 Introduction to simplifying a product of higher roots
 alge557 Simplifying a product of higher radical expressions
 alge525 Introduction to simplifying a product involving square roots using the distributive property
 alge526 Simplifying a product involving square roots using the distributive property: Basic
 alge276 Simplifying a product involving square roots using the distributive property: Advanced
 alge774 Special products of radical expressions: Conjugates and squaring
 alge984 Classifying sums and products as rational or irrational
 arith766 Simplifying a quotient of square roots
 alge530 Simplifying a quotient involving a sum or difference with a square root
 alge527 Rationalizing a denominator: Quotient involving square roots
 alge528 Rationalizing a denominator: Square root of a fraction
 alge529 Rationalizing a denominator: Quotient involving a monomial
 alge534 Rationalizing a denominator using conjugates: Integer numerator
 alge535 Rationalizing a denominator using conjugates: Square root in numerator
 alge536 Rationalizing a denominator using conjugates: Variable in denominator
 alge564 Rationalizing a denominator: Quotient involving a higher radical
 alge775 Rationalizing a denominator: Quotient involving higher radicals and monomials
 alge563 Simplifying products or quotients of higher radicals with different indices: Univariate
 alge776 Simplifying products or quotients of higher radicals with different indices: Multivariate
 alge400 Introduction to solving a radical equation
 pcalc682 Evaluating functions: Absolute value, rational, radical
 pcalc754 Finding the domain of a fractional function involving radicals
 alge089 Solving a radical equation that simplifies to a linear equation: One radical, basic
 alge402 Solving a radical equation that simplifies to a linear equation: One radical, advanced
 alge090 Solving a radical equation that simplifies to a linear equation: Two radicals

alge403 Solving a radical equation that simplifies to a quadratic equation: One radical, basic
 alge404 Solving a radical equation that simplifies to a quadratic equation: One radical, advanced
 alge411 Solving a radical equation with a quadratic expression under the radical
 alge405 Solving a radical equation with two radicals that simplifies to $\sqrt{x} = a$
 alge182 Solving a radical equation that simplifies to a quadratic equation: Two radicals
 alge412 Algebraic symbol manipulation with radicals
 alge542 Word problem involving radical equations: Basic
 alge409 Word problem involving radical equations: Advanced
 alge410 Solving an equation with a root index greater than 2: Problem type 1
 alge417 Solving an equation with a root index greater than 2: Problem type 2
 alge416 Solving an equation with exponent $1/a$: Problem type 1
 alge418 Solving an equation with exponent $1/a$: Problem type 2
 alge778 Using i to rewrite square roots of negative numbers
 alge779 Simplifying a product and quotient involving square roots of negative numbers
 pcalc048 Adding or subtracting complex numbers
 pcalc049 Multiplying complex numbers
 pcalc050 Dividing complex numbers
 pcalc053 Simplifying a power of i

Quadratic Equations and Functions

alge962 Solving an equation of the form $x^2 = a$ using the square root property
 alge092 Solving a quadratic equation using the square root property: Exact answers, basic
 alge227 Solving a quadratic equation using the square root property: Exact answers, advanced
 alge094 Completing the square
 alge780 Solving a quadratic equation by completing the square: Exact answers
 alge095 Applying the quadratic formula: Exact answers
 alge963 Applying the quadratic formula: Decimal answers
 pcalc051 Solving a quadratic equation with complex roots
 alge214 Discriminant of a quadratic equation
 alge193 Discriminant of a quadratic equation with parameter
 alge524 Solving a word problem using a quadratic equation with irrational roots
 alge093 Solving an equation using the odd-root property: Problem type 1
 alge228 Solving an equation using the odd-root property: Problem type 2
 alge230 Solving an equation with positive rational exponent
 alge231 Solving an equation with negative rational exponent
 alge781 Solving an equation that can be written in quadratic form: Problem type 1
 alge782 Solving an equation that can be written in quadratic form: Problem type 2
 alge974 Finding the vertex, x -intercepts, and axis of symmetry from the graph of a parabola
 alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
 alge569 Graphing a parabola of the form $y = x^2 + bx + c$
 pcalc746 Graphing a parabola of the form $y = ax^2 + bx + c$: Integer coefficients
 pcalc747 Graphing a parabola of the form $y = ax^2 + bx + c$: Rational coefficients
 alge277 Finding the x -intercept(s) and the vertex of a parabola
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 pcalc774 Rewriting a quadratic function to find the vertex of its graph
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 alge975 Domain and range from the graph of a parabola
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 pcalc680 Writing the equation of a quadratic function given its graph
 alge957 Solving a quadratic equation by graphing
 alge996 Comparing properties of quadratic functions given in different forms
 alge702 Classifying the graph of a function
 pcalc679 Testing an equation for symmetry about the axes and origin
 pcalc114 Even and odd functions: Problem type 1
 alge953 Translating the graph of a parabola: One step
 alge723 How the leading coefficient affects the shape of a parabola
 alge898 Translating the graph of an absolute value function: One step
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alge900 Graphing an absolute value equation in the plane: Basic
 alge168 Graphing an absolute value equation in the plane: Advanced
 alge901 How the leading coefficient affects the graph of an absolute value function
 alge185 Writing an equation for a function after a vertical translation
 pcalc769 Translating the graph of a function: One step
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 pcalc771 Transforming the graph of a function by reflecting over an axis
 pcalc772 Transforming the graph of a function by shrinking or stretching
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 fun020 Writing an equation for a function after a vertical and horizontal translation
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 pcalc766 Finding a polynomial of a given degree with given zeros: Real zeros
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 pcalc782 Determining the end behavior of the graph of a polynomial function
 pcalc783 Matching graphs with polynomial functions
 pcalc738 Inferring properties of a polynomial function from its graph
 pcalc794 Using a graphing calculator to find local extrema of a polynomial function
 pcalc115 Using a graphing calculator to solve a word problem involving a local extremum of a polynomial function
 alge759 Dividing a polynomial by a monomial: Univariate
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 alge761 Polynomial long division: Problem type 1
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 pcalc117 Synthetic division
 alge985 Closure properties of integers and polynomials
 pcalc786 Using the remainder theorem to evaluate a polynomial
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 pcalc741 Using a given zero to write a polynomial as a product of linear factors: Real zeros
 pcalc758 Finding all possible rational zeros using the rational zeros theorem: Problem type 1
 pcalc759 Finding all possible rational zeros using the rational zeros theorem: Problem type 2
 pcalc788 Descartes' Rule of Signs
 pcalc743 Using the rational zeros theorem to find all zeros of a polynomial: Rational zeros
 pcalc744 Using the rational zeros theorem to find all zeros of a polynomial: Irrational zeros
 pcalc795 Using a graphing calculator to find zeros of a polynomial function
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 pcalc785 Multiplying expressions involving complex conjugates
 pcalc767 Finding a polynomial of a given degree with given zeros: Complex zeros
 pcalc742 Using a given zero to write a polynomial as a product of linear factors: Complex zeros
 pcalc745 Using the rational zeros theorem to find all zeros of a polynomial: Complex zeros

pcalc703 Using the conjugate zeros theorem to find all zeros of a polynomial
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 pcalc109 Graphing a rational function: Quadratic over linear
 pcalc792 Graphing rational functions with holes
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 alge771 Solving a quadratic inequality
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 alge712 Graphing an exponential function and its asymptote: $f(x) = a(b)x$
 pcalc922 Translating the graph of an exponential function
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 alge177 Finding a final amount in a word problem on exponential growth or decay
 alge741 Finding the final amount in a word problem on compound interest
 alge966 Finding the initial amount and rate of change given an exponential function
 alge968 Writing an equation that models exponential growth or decay
 alge967 Writing an exponential function rule given a table of ordered pairs
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 pcalc923 Translating the graph of a logarithmic function
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 alge787 Writing an expression as a single logarithm
 pcalc612 Change of base for logarithms: Problem type 1
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 alge113 Solving an equation involving logarithms on both sides: Problem type 1
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 pcalc920 Solving an exponential equation by using logarithms: Decimal answers, basic
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 pcalc068 Writing an equation of a parabola given the vertex and the focus
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 pcalc605 Graphing a circle given its equation in standard form
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 pcalc065 Writing an equation of a circle given its center and a point on the circle
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 pcalc070 Graphing an ellipse centered at the origin: $Ax^2 + By^2 = C$
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 pcalc074 Writing an equation of an ellipse given the center, an endpoint of an axis, and the length of the other axis
 pcalc073 Writing an equation of an ellipse given the foci and the major axis length
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 pcalc079 Writing an equation of a hyperbola given the foci and the asymptotes: Advanced
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 alge916 Solving a system of linear equations with fractional coefficients
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 alge919 Solving a word problem using a system of linear equations of the form $Ax + By = C$
 alge918 Solving a word problem using a system of linear equations of the form $y = mx + b$
 alge184 Solving a value mixture problem using a system of linear equations
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 alge224 Solving a distance, rate, time problem using a system of linear equations
 alge172 Solving a tax rate or interest rate problem using a system of linear equations
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pcalc740 Linear combination of matrices
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 pcalc812 Partial fraction decomposition with distinct linear factors
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 pcalc098 Solving a system of nonlinear equations: Problem type 1
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 alge908 Finding the first terms of a sequence using a recursive rule
 alge979 Identifying arithmetic sequences and finding the common difference
 alge931 Finding a specified term of an arithmetic sequence given the first terms
 pcalc085 Finding a specified term of an arithmetic sequence given the common difference and first term
 pcalc715 Finding a specified term of an arithmetic sequence given two terms of the sequence
 alge909 Writing an explicit rule for an arithmetic sequence
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 alge907 Finding the next terms of a geometric sequence with signed numbers
 alge981 Identifying arithmetic and geometric sequences
 alge980 Identifying geometric sequences and finding the common ratio
 alge934 Finding a specified term of a geometric sequence given the first terms
 pcalc086 Finding a specified term of a geometric sequence given the common ratio and first term
 pcalc717 Finding a specified term of a geometric sequence given two terms of the sequence
 pcalc713 Arithmetic and geometric sequences: Identifying and writing an explicit rule
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 stat850 Probability of independent events
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 arith822 Signed fraction multiplication: Basic
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 geom525 Computing distances between decimals on the number line
 arith702 Exponents and integers: Problem type 1
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alge608 Using distribution and combining like terms to simplify: Univariate
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alge305 Introduction to the power of a product rule of exponents
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alge932 Simplifying a sum or difference of multivariate polynomials
alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
alge972 Multiplying a univariate polynomial by a monomial with a negative coefficient
alge835 Multiplying a multivariate polynomial by a monomial
alge033 Multiplying binomials with leading coefficients of 1
alge983 Multiplying binomials with leading coefficients greater than 1
alge765 Multiplying binomials in two variables
alge764 Multiplying conjugate binomials: Univariate
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alge930 Greatest common factor of three univariate monomials
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alge942 Factoring a quadratic in two variables with leading coefficient 1
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alge939 Factoring a quadratic with leading coefficient greater than 1: Problem type 1
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alge041 Factoring a product of a quadratic trinomial and a monomial
alge042 Factoring with repeated use of the difference of squares formula
alge044 Factoring a sum or difference of two cubes
pcalc675 Factoring out a binomial from a polynomial: GCF factoring or substitution
alge049 Restriction on a variable in a denominator: Linear
alge454 Simplifying a ratio of factored polynomials: Linear factors
alge455 Simplifying a ratio of factored polynomials: Factors with exponents
alge456 Simplifying a ratio of polynomials using GCF factoring
alge457 Simplifying a ratio of linear polynomials: 1, -1, and no simplification
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alge460 Multiplying rational expressions made up of linear expressions
alge620 Multiplying rational expressions involving quadratics with leading coefficients of 1
alge461 Multiplying rational expressions involving quadratics with leading coefficients greater than 1
alge462 Multiplying rational expressions involving multivariate quadratics
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alge766 Dividing rational expressions involving quadratics with leading coefficients of 1
alge464 Dividing rational expressions involving quadratics with leading coefficients greater than 1
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alge055 Least common multiple of two monomials
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 alge661 Adding rational expressions involving different quadratic denominators
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 alge470 Complex fraction involving univariate monomials
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 alge558 Rational exponents: Product rule
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alge535 Rationalizing a denominator using conjugates: Square root in numerator
alge536 Rationalizing a denominator using conjugates: Variable in denominator
alge564 Rationalizing a denominator: Quotient involving a higher radical
alge775 Rationalizing a denominator: Quotient involving higher radicals and monomials
alge563 Simplifying products or quotients of higher radicals with different indices: Univariate
alge776 Simplifying products or quotients of higher radicals with different indices: Multivariate
geom340 Area of a piecewise rectangular figure
geom142 Word problem involving the area between two rectangles
geom801 Area of a triangle
geom022 Area of a parallelogram
geom023 Area of a trapezoid
geom016 Circumference of a circle
geom301 Perimeter involving rectangles and circles
geom802 Circumference and area of a circle
geom302 Area involving rectangles and circles
geom036 Word problem involving the area between two concentric circles
geom214 Area involving inscribed figures
geom311 Volume of a rectangular prism
geom090 Volume of a triangular prism
geom033 Volume of a pyramid
geom035 Volume of a cylinder
geom092 Word problem involving the rate of filling or emptying a cylinder

geom622 Volume of a cone
 geom841 Volume of a sphere
 geom031 Surface area of a cube or a rectangular prism
 geom091 Surface area of a triangular prism
 geom621 Surface area of a cylinder
 geom842 Surface area of a sphere
 alge407 Introduction to the Pythagorean Theorem
 geom044 Pythagorean Theorem
 alge408 Word problem involving the Pythagorean Theorem

Equations and Inequalities

alge836 Additive property of equality with signed fractions
 alge012 Multiplicative property of equality with signed fractions
 alge837 Solving a multi-step equation given in fractional form
 alge986 Identifying properties used to solve a linear equation
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
 alge420 Solving a linear equation with several occurrences of the variable: Fractional forms with monomial numerators
 alge208 Solving a two-step equation with signed fractions
 alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
 alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
 alge742 Solving equations with zero, one, or infinitely many solutions
 alge840 Solving a proportion of the form $(x+a)\div b = c\div d$
 alge511 Solving for a variable in terms of other variables using addition or subtraction: Basic
 alge512 Solving for a variable in terms of other variables using addition or subtraction: Advanced
 alge513 Solving for a variable in terms of other variables using multiplication or division: Basic
 alge514 Solving for a variable in terms of other variables using multiplication or division: Advanced
 alge517 Solving for a variable in terms of other variables using addition or subtraction with division
 alge518 Solving for a variable inside parentheses in terms of other variables
 alge507 Solving for a variable in terms of other variables in a linear equation with fractions
 alge016 Translating a sentence into a one-step equation
 alge841 Translating a sentence into a multi-step equation
 alge014 Solving a word problem with two unknowns using a linear equation
 alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
 alge219 Solving a decimal word problem using a linear equation with the variable on both sides
 alge704 Solving a fraction word problem using a linear equation with the variable on both sides
 alge792 Solving a word problem with three unknowns using a linear equation
 alge842 Solving a word problem involving consecutive integers
 alge730 Writing a multi-step equation for a real-world situation
 alge794 Solving a value mixture problem using a linear equation
 alge823 Solving a one-step word problem using the formula $d = rt$
 alge796 Solving a distance, rate, time problem using a linear equation
 geom817 Finding a side length given the perimeter and side lengths with variables
 geom143 Finding the perimeter or area of a rectangle given one of these values
 geom838 Circumference ratios
 geom530 Solving equations involving vertical angles
 geom623 Finding angle measures of a triangle given angles with variables
 stat803 Finding the value for a new score that will yield a given mean
 arith852 Finding the multiplier to give a final amount after a percentage increase or decrease
 arith847 Finding the sale price given the original price and percent discount
 arith848 Finding the total cost including tax or markup
 arith031 Finding the original price given the sale price and percent discount

arith854 Computing a percent mixture
 alge795 Solving a percent mixture problem using a linear equation
 arith232 Finding simple interest without a calculator
 alge864 Solving an absolute value equation: Problem type 1
 alge865 Solving an absolute value equation: Problem type 2
 alge866 Solving an absolute value equation: Problem type 3
 alge867 Solving an absolute value equation: Problem type 4
 alge167 Solving an absolute value equation of the form $-ax+b = -cx+d$
 alge845 Translating a sentence into a one-step inequality
 alge846 Translating a sentence into a multi-step inequality
 alge748 Writing an inequality for a real-world situation
 alge017 Graphing a linear inequality on the number line
 alge822 Writing an inequality given a graph on the number line
 alge186 Translating a sentence into a compound inequality
 alge166 Graphing a compound inequality on the number line
 alge847 Writing a compound inequality given a graph on the number line
 set001 Set builder notation
 set004 Set builder and interval notation
 set002 Union and intersection of finite sets
 set005 Union and intersection of intervals
 alge844 Identifying solutions to a two-step linear inequality in one variable
 alge852 Additive property of inequality with signed fractions
 alge964 Multiplicative property of inequality with signed fractions
 alge855 Solving a two-step linear inequality: Problem type 1
 alge856 Solving a two-step linear inequality: Problem type 2
 alge857 Solving a two-step linear inequality with a fractional coefficient
 alge977 Solving a linear inequality with multiple occurrences of the variable: Problem type 1
 alge858 Solving a linear inequality with multiple occurrences of the variable: Problem type 2
 alge859 Solving a linear inequality with multiple occurrences of the variable: Problem type 3
 alge860 Solving inequalities with no solution or all real numbers as solutions
 alge746 Solving a compound linear inequality: Graph solution, basic
 alge747 Solving a compound linear inequality: Interval notation
 alge749 Solving a decimal word problem using a two-step linear inequality
 alge750 Solving a decimal word problem using a linear inequality with the variable on both sides
 alge868 Solving an absolute value inequality: Problem type 1
 alge943 Writing an absolute value inequality given a graph on the number line
 alge869 Solving an absolute value inequality: Problem type 2
 alge870 Solving an absolute value inequality: Problem type 3
 alge871 Solving an absolute value inequality: Problem type 4
 alge872 Solving an absolute value inequality: Problem type 5
 alge271 Solving a proportion of the form $a/(x+b) = c/x$
 alge060 Solving a rational equation that simplifies to linear: Denominator x
 alge205 Solving a rational equation that simplifies to linear: Denominator $x+a$
 alge769 Solving a rational equation that simplifies to linear: Denominators a , x , or ax
 alge421 Solving a rational equation that simplifies to linear: Denominators ax and bx
 alge422 Solving a rational equation that simplifies to linear: Like binomial denominators
 alge206 Solving a rational equation that simplifies to linear: Unlike binomial denominators
 alge508 Solving for a variable in terms of other variables in a rational equation: Problem type 1
 alge509 Solving for a variable in terms of other variables in a rational equation: Problem type 2
 alge510 Solving for a variable in terms of other variables in a rational equation: Problem type 3
 arith610 Word problem on proportions: Problem type 1
 arith611 Word problem on proportions: Problem type 2
 geom037 Similar polygons
 geom038 Similar right triangles
 geom337 Indirect measurement
 geom133 Ratio of volumes
 arith612 Word problem involving multiple rates
 alge770 Solving a work problem using a rational equation
 alge450 Solving a distance, rate, time problem using a rational equation
 alge059 Ordering fractions with variables
 alge778 Using i to rewrite square roots of negative numbers
 alge779 Simplifying a product and quotient involving square roots of negative numbers

pcalc048 Adding or subtracting complex numbers
 pcalc049 Multiplying complex numbers
 pcalc050 Dividing complex numbers
 pcalc053 Simplifying a power of i
 alge681 Solving an equation written in factored form
 alge956 Finding the roots of a quadratic equation of the form $ax^2 + bx = 0$
 alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
 alge211 Solving a quadratic equation needing simplification
 alge046 Roots of a product of polynomials
 alge163 Writing a quadratic equation given the roots and the leading coefficient
 alge703 Solving a word problem using a quadratic equation with rational roots
 alge713 Using the Pythagorean Theorem and a quadratic equation to find side lengths of a right triangle
 alge962 Solving an equation of the form $x^2 = a$ using the square root property
 alge092 Solving a quadratic equation using the square root property: Exact answers, basic
 alge227 Solving a quadratic equation using the square root property: Exact answers, advanced
 alge094 Completing the square
 alge780 Solving a quadratic equation by completing the square: Exact answers
 alge095 Applying the quadratic formula: Exact answers
 alge963 Applying the quadratic formula: Decimal answers
 pcalc051 Solving a quadratic equation with complex roots
 alge214 Discriminant of a quadratic equation
 alge193 Discriminant of a quadratic equation with parameter
 alge524 Solving a word problem using a quadratic equation with irrational roots
 alge093 Solving an equation using the odd-root property: Problem type 1
 alge228 Solving an equation using the odd-root property: Problem type 2
 alge467 Restriction on a variable in a denominator: Quadratic
 alge423 Solving a rational equation that simplifies to linear: Factorable quadratic denominator
 alge424 Solving a rational equation that simplifies to quadratic: Proportional form, basic
 alge425 Solving a rational equation that simplifies to quadratic: Denominator x
 alge212 Solving a rational equation that simplifies to quadratic: Binomial denominators, constant numerators
 alge062 Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators
 alge426 Solving a rational equation that simplifies to quadratic: Factorable quadratic denominator
 alge047 Solving a rational equation that simplifies to quadratic: Proportional form, advanced
 alge400 Introduction to solving a radical equation
 alge089 Solving a radical equation that simplifies to a linear equation: One radical, basic
 alge402 Solving a radical equation that simplifies to a linear equation: One radical, advanced
 alge090 Solving a radical equation that simplifies to a linear equation: Two radicals
 alge403 Solving a radical equation that simplifies to a quadratic equation: One radical, basic
 alge404 Solving a radical equation that simplifies to a quadratic equation: One radical, advanced
 alge411 Solving a radical equation with a quadratic expression under the radical
 alge405 Solving a radical equation with two radicals that simplifies to $\sqrt{x} = a$
 alge182 Solving a radical equation that simplifies to a quadratic equation: Two radicals
 alge412 Algebraic symbol manipulation with radicals
 alge542 Word problem involving radical equations: Basic
 alge409 Word problem involving radical equations: Advanced
 alge410 Solving an equation with a root index greater than 2: Problem type 1
 alge417 Solving an equation with a root index greater than 2: Problem type 2
 alge416 Solving an equation with exponent $1/a$: Problem type 1
 alge418 Solving an equation with exponent $1/a$: Problem type 2
 alge230 Solving an equation with positive rational exponent
 alge231 Solving an equation with negative rational exponent
 alge781 Solving an equation that can be written in quadratic form: Problem type 1
 alge782 Solving an equation that can be written in quadratic form: Problem type 2

Graphs and Functions

alge064 Reading a point in the coordinate plane
 alge067 Plotting a point in the coordinate plane
 alge850 Table for a linear equation

alge873 Identifying solutions to a linear equation in two variables
 alge066 Finding a solution to a linear equation in two variables
 alge877 Graphing a linear equation of the form $y = mx$
 alge878 Graphing a line given its equation in slope-intercept form: Integer slope
 alge879 Graphing a line given its equation in slope-intercept form: Fractional slope
 alge880 Graphing a line given its equation in standard form
 alge198 Graphing a vertical or horizontal line
 alge884 Finding x - and y -intercepts given the graph of a line on a grid
 alge924 Finding x - and y -intercepts of a line given the equation: Basic
 alge210 Finding x - and y -intercepts of a line given the equation: Advanced
 alge197 Graphing a line given its x - and y -intercepts
 alge881 Graphing a line by first finding its x - and y -intercepts
 pcalc750 Finding intercepts of a nonlinear function given its graph
 pcalc678 Finding x - and y -intercepts of the graph of a nonlinear equation
 alge913 Graphing an absolute value equation of the form $y = A - |x - h| + k$
 alge954 Graphing a parabola of the form $y = ax^2$
 alge955 Graphing a parabola of the form $y = ax^2 + c$
 alge262 Graphing a cubic function of the form $y = ax^3$
 pcalc679 Testing an equation for symmetry about the axes and origin
 alge875 Classifying slopes given graphs of lines
 alge886 Finding slope given the graph of a line on a grid
 alge887 Finding slope given two points on the line
 alge885 Finding the slope of horizontal and vertical lines
 alge888 Finding the coordinate that yields a given slope
 alge259 Graphing a line given its slope and y -intercept
 alge196 Graphing a line through a given point with a given slope
 alge876 Identifying linear equations: Advanced
 alge874 Identifying linear functions given ordered pairs
 alge891 Rewriting a linear equation in the form $Ax + By = C$
 alge889 Finding the slope and y -intercept of a line given its equation in the form $y = mx + b$
 alge890 Finding the slope and y -intercept of a line given its equation in the form $Ax + By = C$
 alge882 Graphing a line by first finding its slope and y -intercept
 alge258 Writing an equation of a line given its slope and y -intercept
 alge892 Writing an equation and graphing a line given its slope and y -intercept
 alge893 Writing an equation in slope-intercept form given the slope and a point
 alge883 Graphing a line given its equation in point-slope form
 alge894 Writing an equation in point-slope form given the slope and a point
 alge070 Writing an equation of a line given the y -intercept and another point
 alge072 Writing the equation of the line through two given points
 alge073 Writing the equations of vertical and horizontal lines through a given point
 geom806 Finding slopes of lines parallel and perpendicular to a line given in slope-intercept form
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 alge895 Identifying parallel and perpendicular lines from equations
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 alge897 Writing and evaluating a function that models a real-world situation: Advanced
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 alge992 Combining functions to write a new function that models a real-world situation
 alge987 Comparing properties of linear functions given in different forms
 alge989 Interpreting the parameters of a linear function that models a real-world situation
 alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
 alge806 Application problem with a linear function: Finding a coordinate given two points
 alge991 Solving a linear equation by graphing
 mstat030 Sketching the line of best fit
 mstat023 Scatter plots and correlation
 mstat068 Predictions from the line of best fit
 mstat067 Approximating the equation of a line of best fit and making predictions
 alge914 Identifying solutions to a system of linear equations
 alge725 Graphically solving a system of linear equations
 alge751 Solving a system of linear equations using substitution
 alge915 Solving a system of linear equations using elimination with addition
 alge076 Solving a system of linear equations using elimination with multiplication and addition
 alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations

alge919 Solving a word problem using a system of linear equations of the form $Ax + By = C$
 alge918 Solving a word problem using a system of linear equations of the form $y = mx + b$
 alge184 Solving a value mixture problem using a system of linear equations
 alge132 Distance between two points in the plane: Exact answers
 alge191 Midpoint of a line segment in the plane
 alge414 Finding an endpoint of a line segment given the other endpoint and the midpoint
 pcalc605 Graphing a circle given its equation in standard form
 pcalc128 Graphing a circle given its equation in general form: Basic
 pcalc129 Graphing a circle given its equation in general form: Advanced
 pcalc065 Writing an equation of a circle given its center and a point on the circle
 pcalc066 Writing an equation of a circle given the endpoints of a diameter
 fun032 Identifying functions from relations
 fun010 Vertical line test
 fun001 Table for a linear function
 pcalc760 Evaluating functions: Linear and quadratic or cubic
 alge468 Evaluating a rational function: Problem type 1
 alge469 Evaluating a rational function: Problem type 2
 alge539 Table for a square root function
 alge546 Evaluating a cube root function
 pcalc682 Evaluating functions: Absolute value, rational, radical
 fun030 Evaluating a piecewise-defined function
 fun033 Variable expressions as inputs of functions: Problem type 1
 fun016 Domain and range from ordered pairs
 alge715 Domain of a rational function: Excluded values
 alge540 Domain of a square root function: Basic
 pcalc763 Domain of a square root function: Advanced
 alge547 Domains of higher root functions
 pcalc754 Finding the domain of a fractional function involving radicals
 pcalc924 Determining whether an equation defines a function: Basic
 pcalc757 Determining whether an equation defines a function: Advanced
 alge294 Finding outputs of a one-step function that models a real-world situation: Function notation
 alge295 Finding outputs of a two-step function with decimals that models a real-world situation: Function notation
 alge296 Finding inputs and outputs of a two-step function that models a real-world situation: Function notation
 alge990 Domain and range of a linear function that models a real-world situation
 pcalc753 Finding a difference quotient for a linear or quadratic function
 fun026 Finding an output of a function from its graph
 pcalc761 Finding inputs and outputs of a function from its graph
 fun007 Domain and range from the graph of a discrete relation
 fun024 Domain and range from the graph of a continuous function
 fun025 Domain and range from the graph of a piecewise function
 alge999 Finding where a function is increasing, decreasing, or constant given the graph
 pcalc751 Finding where a function is increasing, decreasing, or constant given the graph: Interval notation
 pcalc752 Finding local maxima and minima of a function given the graph
 mstat018 Choosing a graph to fit a narrative: Basic
 mstat051 Choosing a graph to fit a narrative: Advanced
 alge896 Graphing an integer function and finding its range for a given domain
 alge570 Graphing a function of the form $f(x) = ax + b$: Integer slope
 alge571 Graphing a function of the form $f(x) = ax + b$: Fractional slope
 alge900 Graphing an absolute value equation in the plane: Basic
 alge168 Graphing an absolute value equation in the plane: Advanced
 alge572 Graphing a function of the form $f(x) = ax^2$
 alge573 Graphing a function of the form $f(x) = ax^2 + c$
 alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
 alge543 Graphing a square root function: Problem type 1
 alge544 Graphing a square root function: Problem type 2
 alge545 Graphing a square root function: Problem type 3
 alge548 Graphing a cube root function
 fun031 Graphing a piecewise-defined function: Problem type 1
 pcalc768 Finding the average rate of change of a function
 alge998 Finding the average rate of change of a function given its graph
 pcalc114 Even and odd functions: Problem type 1

alge953 Translating the graph of a parabola: One step
 alge723 How the leading coefficient affects the shape of a parabola
 alge898 Translating the graph of an absolute value function: One step
 alge899 Translating the graph of an absolute value function: Two steps
 alge901 How the leading coefficient affects the graph of an absolute value function
 alge185 Writing an equation for a function after a vertical translation
 pcalc769 Translating the graph of a function: One step
 pcalc770 Translating the graph of a function: Two steps
 pcalc771 Transforming the graph of a function by reflecting over an axis
 pcalc772 Transforming the graph of a function by shrinking or stretching
 pcalc773 Transforming the graph of a function using more than one transformation
 fun020 Writing an equation for a function after a vertical and horizontal translation
 fun019 Sum, difference, and product of two functions
 alge786 Quotient of two functions: Basic
 pcalc756 Combining functions: Advanced
 fun022 Composition of two functions: Basic
 pcalc776 Expressing a function as a composition of two functions
 fun021 Composition of two functions: Domain and range
 alge129 Composition of two functions: Advanced
 fun011 Horizontal line test
 pcalc777 Determining whether two functions are inverses of each other
 fun012 Inverse functions: Linear, discrete
 alge130 Inverse functions: Rational
 pcalc778 Inverse functions: Quadratic, cubic, radical

Polynomial and Rational Functions

alge974 Finding the vertex, x-intercepts, and axis of symmetry from the graph of a parabola
 alge569 Graphing a parabola of the form $y = x^2 + bx + c$
 pcalc746 Graphing a parabola of the form $y = ax^2 + bx + c$: Integer coefficients
 pcalc747 Graphing a parabola of the form $y = ax^2 + bx + c$: Rational coefficients
 alge277 Finding the x-intercept(s) and the vertex of a parabola
 pcalc793 Using a graphing calculator to find the x-intercept(s) and vertex of a quadratic function
 pcalc774 Rewriting a quadratic function to find the vertex of its graph
 pcalc775 Finding the maximum or minimum of a quadratic function
 alge785 Word problem involving the maximum or minimum of a quadratic function
 alge975 Domain and range from the graph of a parabola
 pcalc762 Range of a quadratic function
 pcalc680 Writing the equation of a quadratic function given its graph
 alge957 Solving a quadratic equation by graphing
 alge996 Comparing properties of quadratic functions given in different forms
 alge702 Classifying the graph of a function
 pcalc764 Finding zeros of a polynomial function written in factored form
 pcalc766 Finding a polynomial of a given degree with given zeros: Real zeros
 pcalc765 Finding x- and y-intercepts given a polynomial function
 pcalc782 Determining the end behavior of the graph of a polynomial function
 pcalc783 Matching graphs with polynomial functions
 pcalc738 Inferring properties of a polynomial function from its graph
 pcalc794 Using a graphing calculator to find local extrema of a polynomial function
 pcalc115 Using a graphing calculator to solve a word problem involving a local extremum of a polynomial function
 alge759 Dividing a polynomial by a monomial: Univariate
 alge760 Dividing a polynomial by a monomial: Multivariate
 alge761 Polynomial long division: Problem type 1
 alge762 Polynomial long division: Problem type 2
 alge763 Polynomial long division: Problem type 3
 pcalc117 Synthetic division
 pcalc786 Using the remainder theorem to evaluate a polynomial
 pcalc787 The Factor Theorem
 pcalc118 Remainder theorem: Advanced

alge985 Closure properties of integers and polynomials
 pcalc741 Using a given zero to write a polynomial as a product of linear factors: Real zeros
 pcalc758 Finding all possible rational zeros using the rational zeros theorem: Problem type 1
 pcalc759 Finding all possible rational zeros using the rational zeros theorem: Problem type 2
 pcalc788 Descartes' Rule of Signs
 pcalc743 Using the rational zeros theorem to find all zeros of a polynomial: Rational zeros
 pcalc744 Using the rational zeros theorem to find all zeros of a polynomial: Irrational zeros
 pcalc795 Using a graphing calculator to find zeros of a polynomial function
 pcalc704 Using a graphing calculator to solve a word problem involving a polynomial of degree 3
 pcalc785 Multiplying expressions involving complex conjugates
 pcalc767 Finding a polynomial of a given degree with given zeros: Complex zeros
 pcalc742 Using a given zero to write a polynomial as a product of linear factors: Complex zeros
 pcalc745 Using the rational zeros theorem to find all zeros of a polynomial: Complex zeros
 pcalc703 Using the conjugate zeros theorem to find all zeros of a polynomial
 pcalc705 Linear factors theorem and conjugate zeros theorem
 pcalc917 Finding the asymptotes of a rational function: Constant over linear
 pcalc918 Finding the asymptotes of a rational function: Linear over linear
 pcalc790 Finding horizontal and vertical asymptotes of a rational function: Quadratic numerator or denominator
 alge515 Graphing a rational function: Constant over linear
 alge516 Graphing a rational function: Linear over linear
 pcalc109 Graphing a rational function: Quadratic over linear
 pcalc792 Graphing rational functions with holes
 pcalc791 Matching graphs with rational functions: Two vertical asymptotes
 pcalc706 Writing the equation of a rational function given its graph
 alge784 Solving a quadratic inequality written in factored form
 alge771 Solving a quadratic inequality
 pcalc676 Solving a polynomial inequality
 alge783 Solving a rational inequality: Problem type 1
 pcalc677 Solving a rational inequality: Problem type 2
 alge982 Identifying direct variation equations
 alge938 Identifying direct variation from ordered pairs and writing equations
 alge904 Writing a direct variation equation
 alge175 Word problem on direct variation
 alge828 Interpreting direct variation from a graph
 alge905 Writing an inverse variation equation
 alge903 Identifying direct and inverse variation equations
 alge902 Identifying direct and inverse variation from ordered pairs and writing equations
 alge176 Word problem on inverse variation
 alge220 Word problem on inverse proportions
 pcalc681 Writing an equation that models variation
 alge772 Word problem on combined variation

Exponential and Logarithmic Functions

alge971 Table for an exponential function
 alge969 Graphing an exponential function: $f(x) = ax$
 alge970 Graphing an exponential function: $f(x) = a(b)x$
 alge712 Graphing an exponential function and its asymptote: $f(x) = a(b)x$
 pcalc922 Translating the graph of an exponential function
 pcalc797 The graph, domain, and range of an exponential function
 pcalc103 Graphing an exponential function and its asymptote: $f(x) = a(e)x-b + c$
 alge830 Evaluating an exponential function that models a real-world situation
 pcalc919 Evaluating an exponential function with base e that models a real-world situation
 arith853 Introduction to compound interest
 alge177 Finding a final amount in a word problem on exponential growth or decay
 alge741 Finding the final amount in a word problem on compound interest
 alge966 Finding the initial amount and rate of change given an exponential function
 alge968 Writing an equation that models exponential growth or decay
 alge967 Writing an exponential function rule given a table of ordered pairs
 alge993 Comparing linear, polynomial, and exponential functions

alge108 Converting between logarithmic and exponential equations
 pcalc799 Converting between natural logarithmic and exponential equations
 alge232 Evaluating a logarithmic expression
 alge233 Solving an equation of the form $\log_b a = c$
 pcalc923 Translating the graph of a logarithmic function
 alge788 Graphing a logarithmic function: Basic
 pcalc800 The graph, domain, and range of a logarithmic function
 pcalc801 Domain of a logarithmic function: Advanced
 pcalc104 Graphing a logarithmic function: Advanced
 pcalc708 Basic properties of logarithms
 pcalc779 Expanding a logarithmic expression: Problem type 1
 pcalc780 Expanding a logarithmic expression: Problem type 2
 alge787 Writing an expression as a single logarithm
 pcalc612 Change of base for logarithms: Problem type 1
 pcalc613 Change of base for logarithms: Problem type 2
 pcalc803 Solving a multi-step equation involving a single logarithm
 pcalc804 Solving a multi-step equation involving natural logarithms
 alge113 Solving an equation involving logarithms on both sides: Problem type 1
 pcalc805 Solving an equation involving logarithms on both sides: Problem type 2
 alge301 Solving an exponential equation by finding common bases: Linear exponents
 alge482 Solving an exponential equation by finding common bases: Linear and quadratic exponents
 pcalc920 Solving an exponential equation by using logarithms: Decimal answers, basic
 pcalc921 Solving an exponential equation by using natural logarithms: Decimal answers
 alge111 Solving an exponential equation by using logarithms: Exact answers in logarithmic form
 pcalc802 Solving an exponential equation by using substitution and quadratic factoring
 pcalc806 Using a graphing calculator to solve an exponential or logarithmic equation
 alge178 Finding the time to reach a limit in a word problem on exponential growth or decay
 pcalc614 Finding the initial or final amount in a word problem on exponential growth or decay
 pcalc615 Finding the rate or time in a word problem on continuous exponential growth or decay

Trigonometric Functions

pcalc001 Converting degrees-minutes-seconds to decimal degrees
 pcalc661 Converting a decimal degree to degrees-minutes-seconds
 pcalc002 Converting between degree and radian measure: Problem type 1
 pcalc621 Converting between degree and radian measure: Problem type 2
 pcalc006 Sketching an angle in standard position
 pcalc622 Coterminal angles
 pcalc005 Arc length and central angle measure
 pcalc623 Area of a sector of a circle
 pcalc624 Angular and linear speed
 pcalc627 Finding coordinates on the unit circle for special angles
 pcalc625 Finding a point on the unit circle given one coordinate
 pcalc609 Sine, cosine, and tangent ratios: Numbers for side lengths
 pcalc600 Sine, cosine, and tangent ratios: Variables for side lengths
 pcalc629 Trigonometric functions and special angles: Problem type 1
 pcalc628 Finding trigonometric ratios from a point on the unit circle
 pcalc630 Trigonometric functions and special angles: Problem type 2
 pcalc631 Trigonometric functions and special angles: Problem type 3
 geom506 Special right triangles: Exact answers
 pcalc616 Using a calculator to approximate sine, cosine, and tangent values
 pcalc606 Using the Pythagorean Theorem to find a trigonometric ratio
 pcalc008 Finding trigonometric ratios given a right triangle
 pcalc607 Using a trigonometric ratio to find a side length in a right triangle
 pcalc610 Using trigonometry to find a length in a word problem with one right triangle
 pcalc608 Using a trigonometric ratio to find an angle measure in a right triangle
 pcalc611 Using trigonometry to find angles of elevation or depression in a word problem
 pcalc642 Solving a right triangle
 pcalc626 Reference angles: Problem type 1
 pcalc632 Reference angles: Problem type 2

pcalc671 Determining the location of a terminal point given the signs of trigonometric values
 pcalc011 Finding values of trigonometric functions given information about an angle: Problem type 1
 pcalc012 Finding values of trigonometric functions given information about an angle: Problem type 2
 pcalc013 Finding values of trigonometric functions given information about an angle: Problem type 3
 pcalc107 Sketching the graph of $y=a*\sin(x+c)$ or $y=a*\cos(x+c)$
 pcalc106 Sketching the graph of $y=a*\sin(bx)$ or $y=a*\cos(bx)$
 pcalc014 Sketching the graph of $y=a*\sin(bx+c)$ or $y=a*\cos(bx+c)$
 pcalc633 Amplitude and period of sine and cosine functions
 pcalc634 Amplitude, period, and phase shift of sine and cosine functions
 pcalc635 Writing the equation of a sine or cosine function given its graph: Problem type 1
 pcalc636 Writing the equation of a sine or cosine function given its graph: Problem type 2
 pcalc640 Word problem involving a sine or cosine function: Problem type 1
 pcalc641 Word problem involving a sine or cosine function: Problem type 2
 pcalc637 Matching graphs and equations for secant, cosecant, tangent, and cotangent functions
 pcalc017 Sketching the graph of a secant or cosecant function: Problem type 1
 pcalc638 Sketching the graph of a secant or cosecant function: Problem type 2
 pcalc105 Sketching the graph of a tangent or cotangent function: Problem type 1
 pcalc015 Sketching the graph of a tangent or cotangent function: Problem type 2
 pcalc016 Values of inverse trigonometric functions
 pcalc018 Composition of a trigonometric function with its inverse trigonometric function: Problem type 1
 pcalc019 Composition of a trigonometric function with the inverse of another trigonometric function: Problem type 2
 pcalc036 Composition of a trigonometric function with the inverse of another trigonometric function: Problem type 3
 pcalc643 Composition of a trigonometric function with the inverse of another trigonometric function: Problem type 4

Trigonometric Identities and Equations

pcalc648 Simplifying trigonometric expressions
 pcalc666 Using cofunction identities
 pcalc110 Verifying a trigonometric identity
 pcalc034 Proving trigonometric identities: Problem type 1
 pcalc404 Proving trigonometric identities: Problem type 2
 pcalc405 Proving trigonometric identities: Problem type 3
 pcalc406 Proving trigonometric identities using odd and even properties
 pcalc029 Sum and difference identities: Problem type 1
 pcalc663 Sum and difference identities: Problem type 2
 pcalc664 Sum and difference identities: Problem type 3
 pcalc403 Proving trigonometric identities using sum and difference properties
 pcalc030 Double-angle identities: Problem type 1
 pcalc667 Double-angle identities: Problem type 2
 pcalc662 Half-angle identities: Problem type 1
 pcalc665 Half-angle identities: Problem type 2
 pcalc124 Product-to-sum and sum-to-product identities: Problem type 1
 pcalc674 Product-to-sum and sum-to-product identities: Problem type 2
 pcalc402 Proving trigonometric identities using double-angle properties
 pcalc650 Finding solutions in an interval for a basic equation involving sine or cosine
 pcalc651 Finding solutions in an interval for a basic tangent, cotangent, secant, or cosecant equation
 pcalc660 Solving a basic trigonometric equation using a calculator
 pcalc020 Solving a basic trigonometric equation involving sine or cosine
 pcalc021 Solving a basic trigonometric equation involving tangent, cotangent, secant, or cosecant
 pcalc670 Finding solutions in an interval for a trigonometric equation in factored form
 pcalc652 Finding solutions in an interval for a trigonometric equation with a squared function: Problem type 1
 pcalc653 Finding solutions in an interval for a trigonometric equation with a squared function: Problem type 2
 pcalc654 Finding solutions in an interval for a trigonometric equation using Pythagorean identities: Problem type 1
 pcalc657 Finding solutions in an interval for an equation with sine and cosine using double-angle identities
 pcalc668 Solving a trigonometric equation modeling a real-world situation
 pcalc811 Using a graphing calculator to solve a trigonometric equation

pcalc127 Using a graphing calculator to solve a trigonometric inequality
 pcalc022 Solving a trigonometric equation involving a squared function: Problem type 1
 pcalc023 Solving a trigonometric equation involving a squared function: Problem type 2
 pcalc024 Solving a trigonometric equation involving more than one function
 pcalc025 Solving a trigonometric equation involving an angle multiplied by a constant
 pcalc655 Finding solutions in an interval for a trigonometric equation with an angle multiplied by a constant
 pcalc656 Finding solutions in an interval for an equation with sine and cosine using sum and difference identities
 pcalc026 Solving a trigonometric equation using sum and difference identities
 pcalc027 Solving a trigonometric equation using double-angle identities
 pcalc028 Solving a trigonometric equation using half-angle identities

Additional Topics in Trigonometry

pcalc031 Solving a triangle with the law of sines: Problem type 1
 pcalc032 Solving a triangle with the law of sines: Problem type 2
 pcalc644 Solving a word problem using the law of sines
 pcalc033 Solving a triangle with the law of cosines
 pcalc645 Solving a word problem using the law of cosines
 pcalc646 Finding the area of a triangle using trigonometry
 pcalc647 Heron's formula
 pcalc060 Magnitude of a vector given in component form
 pcalc739 Multiplication of a vector by a scalar: Geometric approach
 pcalc063 Translation of a vector
 geom856 Vector addition and scalar multiplication: Component form
 pcalc729 Unit vectors
 vector008 Linear combination of vectors: Component form
 geom857 Vector addition: Geometric approach
 vector007 Vector subtraction: Geometric approach
 vector002 Finding the magnitude and direction of a vector given its graph
 vector005 Finding the components of a vector given its graph
 vector011 Finding magnitudes of forces related to a sum of three vectors
 vector012 Finding magnitudes of forces related to an object suspended by cables
 vector009 Dot product of vectors given in component form
 vector010 Using the dot product to find perpendicular vectors
 pcalc730 Finding the angle between two vectors given in component form
 vector006 Finding the component of a vector along another vector
 pcalc055 Plotting a point in polar coordinates
 pcalc056 Converting rectangular coordinates to polar coordinates: Special angles
 pcalc057 Converting polar coordinates to rectangular coordinates
 pcalc058 Converting an equation written in rectangular form to one written in polar form
 pcalc059 Converting an equation written in polar form to one written in rectangular coordinates
 pcalc052 Writing a complex number in trigonometric form: Decimal answers
 pcalc054 De Moivre's theorem: Answers in standard form
 pcalc807 Finding the n th roots of a number: Problem type 1
 pcalc808 Finding the n th roots of a number: Problem type 2

Systems of Equations and Matrices

alge075 Classifying systems of linear equations from graphs
 alge916 Solving a system of linear equations with fractional coefficients
 alge917 Solving a system of linear equations with decimal coefficients
 alge752 Solving a 2×2 system of linear equations that is inconsistent or consistent dependent
 alge077 Creating an inconsistent system of linear equations
 alge988 Identifying the operations used to create equivalent systems of equations
 pcalc099 Consistency and independence of a system of linear equations
 alge753 Solving a 3×3 system of linear equations: Problem type 1
 alge263 Interpreting the graphs of two functions
 alge192 Solving a percent mixture problem using a system of linear equations

alge224 Solving a distance, rate, time problem using a system of linear equations
 alge172 Solving a tax rate or interest rate problem using a system of linear equations
 alge793 Solving a word problem using a 3x3 system of linear equations: Problem type 1
 pcalc037 Scalar multiplication of a matrix
 pcalc038 Addition or subtraction of matrices
 pcalc740 Linear combination of matrices
 pcalc039 Multiplication of matrices: Basic
 pcalc710 Multiplication of matrices: Advanced
 pcalc712 Gauss-Jordan elimination with a 2x2 matrix
 pcalc046 Solving a system of linear equations given its augmented matrix
 pcalc040 Finding the inverse of a 2x2 matrix
 pcalc041 Finding the inverse of a 3x3 matrix
 pcalc711 Using the inverse of a matrix to solve a 3x3 system of linear equations
 pcalc042 Finding the determinant of a 2x2 matrix
 pcalc043 Finding the determinant of a 3x3 matrix
 pcalc045 Using Cramer's rule to solve a 2x2 system of linear equations
 pcalc047 Using Cramer's rule to solve a 3x3 system of linear equations
 pcalc812 Partial fraction decomposition with distinct linear factors
 pcalc813 Partial fraction decomposition with repeated linear factors
 pcalc814 Partial fraction decomposition with an irreducible quadratic factor
 alge994 Graphically solving a system of linear and quadratic equations
 pcalc796 Using a graphing calculator to solve a system of equations
 alge995 Solving a system of linear and quadratic equations
 pcalc098 Solving a system of nonlinear equations: Problem type 1
 alge912 Identifying solutions to a linear inequality in two variables
 alge225 Graphing a linear inequality in the plane: Vertical or horizontal line
 alge720 Graphing a linear inequality in the plane: Slope-intercept form
 alge018 Graphing a linear inequality in the plane: Standard form
 pcalc748 Graphing a quadratic inequality: Problem type 1
 pcalc749 Graphing a quadratic inequality: Problem type 2
 alge079 Graphing a system of two linear inequalities: Basic
 alge921 Graphing a system of two linear inequalities: Advanced
 alge922 Graphing a system of three linear inequalities
 pcalc096 Graphing a system of nonlinear inequalities: Problem type 1
 alge729 Writing a multi-step inequality for a real-world situation
 pcalc093 Solving a word problem using a system of linear inequalities: Problem type 1
 pcalc095 Linear programming
 pcalc094 Solving a word problem using linear programming

Conic Sections

pcalc067 Graphing a parabola of the form $ay^2 + by + cx + d = 0$ or $ax^2 + bx + cy + d = 0$
 pcalc068 Writing an equation of a parabola given the vertex and the focus
 pcalc069 Finding the focus of a parabola of the form $ay^2 + by + cx + d = 0$ or $ax^2 + bx + cy + d = 0$
 pcalc734 Graphing an ellipse given its equation in standard form
 pcalc070 Graphing an ellipse centered at the origin: $Ax^2 + By^2 = C$
 pcalc071 Graphing an ellipse given its equation in general form
 pcalc072 Finding the foci of an ellipse given its equation in general form
 pcalc074 Writing an equation of an ellipse given the center, an endpoint of an axis, and the length of the other axis
 pcalc073 Writing an equation of an ellipse given the foci and the major axis length
 pcalc097 Graphing a system of nonlinear inequalities: Problem type 2
 pcalc735 Graphing a hyperbola given its equation in standard form
 pcalc075 Graphing a hyperbola centered at the origin: $Ax^2 - By^2 - C = 0$
 pcalc076 Graphing a hyperbola given its equation in general form
 pcalc077 Finding the foci of a hyperbola given its equation in general form
 pcalc078 Writing an equation of a hyperbola given the foci and the vertices
 pcalc079 Writing an equation of a hyperbola given the foci and the asymptotes: Advanced
 pcalc736 Classifying conics given their equations

Sequences, Series, and Probability

alge644 Finding the first terms of an arithmetic sequence using an explicit rule
 alge645 Finding the first terms of a geometric sequence using an explicit rule
 pcalc080 Finding the first terms of a sequence using an explicit rule with multiple occurrences of n
 alge906 Finding the next terms of an arithmetic sequence with integers
 alge908 Finding the first terms of a sequence using a recursive rule
 alge979 Identifying arithmetic sequences and finding the common difference
 alge931 Finding a specified term of an arithmetic sequence given the first terms
 pcalc085 Finding a specified term of an arithmetic sequence given the common difference and first term
 pcalc715 Finding a specified term of an arithmetic sequence given two terms of the sequence
 alge909 Writing an explicit rule for an arithmetic sequence
 alge910 Writing a recursive rule for an arithmetic sequence
 pcalc718 Sum of the first n terms of an arithmetic sequence
 alge907 Finding the next terms of a geometric sequence with signed numbers
 alge981 Identifying arithmetic and geometric sequences
 alge980 Identifying geometric sequences and finding the common ratio
 alge934 Finding a specified term of a geometric sequence given the first terms
 pcalc086 Finding a specified term of a geometric sequence given the common ratio and first term
 pcalc717 Finding a specified term of a geometric sequence given two terms of the sequence
 pcalc713 Arithmetic and geometric sequences: Identifying and writing an explicit rule
 alge911 Writing recursive rules for arithmetic and geometric sequences
 pcalc719 Sum of the first n terms of a geometric sequence
 pcalc720 Sum of an infinite geometric series
 alge965 Identifying linear, quadratic, and exponential functions given ordered pairs
 pcalc082 Factorial expressions
 mstat041 Interpreting a tree diagram
 mstat040 Introduction to the counting principle
 mstat015 Counting principle
 mstat017 Computing permutations and combinations
 pcalc809 Introduction to permutations and combinations
 pcalc810 Permutations and combinations: Problem type 1
 pcalc089 Permutations and combinations: Problem type 2
 pcalc090 Permutations and combinations: Problem type 3
 pcalc087 Binomial formula
 mstat010 Probability of an event
 mstat046 Experimental and theoretical probability
 stat106 Outcomes and event probability
 mstat011 Area as probability
 stat850 Probability of independent events
 stat851 Probability of dependent events
 stat117 Probabilities of draws with replacement
 stat118 Probabilities of draws without replacement
 mstat042 Interpreting a Venn diagram of 2 sets
 mstat043 Interpreting a Venn diagram of 3 sets
 stat119 Venn diagrams: Two events
 stat101 Venn diagrams: Word problems
 stat112 Probabilities involving two dice
 stat114 Probability of intersection or union: Word problems
 stat115 Independent events: Basic
 stat120 Probability of union: Basic
 stat116 Conditional probability: Basic
 stat109 Intersection and conditional probability
 stat174 Binomial problems: Basic
 stat155 Binomial problems: Advanced

Limits and Continuity

pcalc901 Estimating a limit numerically
 pcalc902 Finding limits from a graph

pcalc905 Finding a limit by using the limit laws: Problem type 1
 pcalc904 Finding limits for a piecewise-defined function
 pcalc906 Finding a limit by using the limit laws: Problem type 2
 pcalc907 Finding a limit by using the limit laws: Problem type 3
 pcalc911 Squeeze Theorem
 pcalc903 Determining points of discontinuity from a graph
 pcalc914 Determining a parameter to make a function continuous
 pcalc915 Infinite limits and graphs
 pcalc910 Limits at infinity and graphs
 pcalc908 Limits at infinity and rational functions
 pcalc909 Infinite limits and rational functions
 pcalc913 Finding a limit of a trigonometric function by using continuity
 pcalc912 Finding a limit by using special trigonometric limits

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Real Numbers

arith687 Fractional position on a number line
 arith605 Plotting rational numbers on a number line
 arith691 Ordering integers
 arith602 Estimating a square root
 arith712 Ordering real numbers
 alge001 Identifying numbers as integers or non-integers
 alge002 Identifying numbers as rational or irrational
 arith070 Least common multiple of 2 numbers
 arith804 Least common multiple of 3 numbers
 arith116 Signed fraction addition or subtraction: Basic
 arith864 Signed fraction subtraction involving double negation
 arith106 Signed fraction addition or subtraction: Advanced
 arith811 Addition and subtraction of 3 fractions involving signs
 arith822 Signed fraction multiplication: Basic
 arith105 Signed fraction multiplication: Advanced
 arith814 Signed fraction division
 arith104 Operations with absolute value: Problem type 2
 geom525 Computing distances between decimals on the number line
 arith702 Exponents and integers: Problem type 1
 arith703 Exponents and integers: Problem type 2
 arith704 Exponents and signed fractions
 arith118 Order of operations with integers
 arith600 Order of operations with integers and exponents
 alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge004 Evaluating a quadratic expression: Integers
 alge808 Evaluating a linear expression: Signed fraction multiplication with addition or subtraction
 mstat065 Converting between temperatures in Fahrenheit and Celsius
 alge187 Properties of addition
 alge188 Properties of real numbers
 alge604 Distributive property: Integer coefficients
 alge608 Using distribution and combining like terms to simplify: Univariate
 alge609 Using distribution with double negation and combining like terms to simplify: Multivariate
 geom340 Area of a piecewise rectangular figure
 geom142 Word problem involving the area between two rectangles
 geom801 Area of a triangle
 geom022 Area of a parallelogram
 geom023 Area of a trapezoid
 geom016 Circumference of a circle
 geom301 Perimeter involving rectangles and circles
 geom802 Circumference and area of a circle

geom302 Area involving rectangles and circles
 geom036 Word problem involving the area between two concentric circles
 geom214 Area involving inscribed figures
 geom311 Volume of a rectangular prism
 geom090 Volume of a triangular prism
 geom033 Volume of a pyramid
 geom035 Volume of a cylinder
 geom092 Word problem involving the rate of filling or emptying a cylinder
 geom622 Volume of a cone
 geom841 Volume of a sphere
 geom031 Surface area of a cube or a rectangular prism
 geom091 Surface area of a triangular prism
 geom621 Surface area of a cylinder
 geom842 Surface area of a sphere

Linear Equations and Inequalities

alge836 Additive property of equality with signed fractions
 alge012 Multiplicative property of equality with signed fractions
 alge837 Solving a multi-step equation given in fractional form
 alge986 Identifying properties used to solve a linear equation
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
 alge420 Solving a linear equation with several occurrences of the variable: Fractional forms with monomial numerators
 alge208 Solving a two-step equation with signed fractions
 alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
 alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
 alge742 Solving equations with zero, one, or infinitely many solutions
 alge840 Solving a proportion of the form $(x+a)\div b = c\div d$
 alge511 Solving for a variable in terms of other variables using addition or subtraction: Basic
 alge512 Solving for a variable in terms of other variables using addition or subtraction: Advanced
 alge513 Solving for a variable in terms of other variables using multiplication or division: Basic
 alge514 Solving for a variable in terms of other variables using multiplication or division: Advanced
 alge517 Solving for a variable in terms of other variables using addition or subtraction with division
 alge518 Solving for a variable inside parentheses in terms of other variables
 alge507 Solving for a variable in terms of other variables in a linear equation with fractions
 alge016 Translating a sentence into a one-step equation
 alge841 Translating a sentence into a multi-step equation
 alge014 Solving a word problem with two unknowns using a linear equation
 alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
 alge219 Solving a decimal word problem using a linear equation with the variable on both sides
 alge704 Solving a fraction word problem using a linear equation with the variable on both sides
 alge792 Solving a word problem with three unknowns using a linear equation
 alge842 Solving a word problem involving consecutive integers
 alge730 Writing a multi-step equation for a real-world situation
 alge794 Solving a value mixture problem using a linear equation
 alge823 Solving a one-step word problem using the formula $d = rt$
 alge796 Solving a distance, rate, time problem using a linear equation
 geom817 Finding a side length given the perimeter and side lengths with variables
 geom143 Finding the perimeter or area of a rectangle given one of these values
 geom838 Circumference ratios
 geom530 Solving equations involving vertical angles
 geom623 Finding angle measures of a triangle given angles with variables

stat803 Finding the value for a new score that will yield a given mean
 arith852 Finding the multiplier to give a final amount after a percentage increase or decrease
 arith847 Finding the sale price given the original price and percent discount
 arith848 Finding the total cost including tax or markup
 arith031 Finding the original price given the sale price and percent discount
 arith854 Computing a percent mixture
 alge795 Solving a percent mixture problem using a linear equation
 arith232 Finding simple interest without a calculator
 alge845 Translating a sentence into a one-step inequality
 alge846 Translating a sentence into a multi-step inequality
 alge748 Writing an inequality for a real-world situation
 alge017 Graphing a linear inequality on the number line
 alge822 Writing an inequality given a graph on the number line
 alge186 Translating a sentence into a compound inequality
 alge166 Graphing a compound inequality on the number line
 alge847 Writing a compound inequality given a graph on the number line
 set001 Set builder notation
 set004 Set builder and interval notation
 set002 Union and intersection of finite sets
 set005 Union and intersection of intervals
 alge844 Identifying solutions to a two-step linear inequality in one variable
 alge852 Additive property of inequality with signed fractions
 alge964 Multiplicative property of inequality with signed fractions
 alge855 Solving a two-step linear inequality: Problem type 1
 alge856 Solving a two-step linear inequality: Problem type 2
 alge857 Solving a two-step linear inequality with a fractional coefficient
 alge977 Solving a linear inequality with multiple occurrences of the variable: Problem type 1
 alge858 Solving a linear inequality with multiple occurrences of the variable: Problem type 2
 alge859 Solving a linear inequality with multiple occurrences of the variable: Problem type 3
 alge860 Solving inequalities with no solution or all real numbers as solutions
 alge746 Solving a compound linear inequality: Graph solution, basic
 alge747 Solving a compound linear inequality: Interval notation
 alge749 Solving a decimal word problem using a two-step linear inequality
 alge750 Solving a decimal word problem using a linear inequality with the variable on both sides
 alge603 Introduction to solving an absolute value equation
 alge864 Solving an absolute value equation: Problem type 1
 alge865 Solving an absolute value equation: Problem type 2
 alge866 Solving an absolute value equation: Problem type 3
 alge867 Solving an absolute value equation: Problem type 4
 alge167 Solving an absolute value equation of the form $-ax+b = -cx+d$
 alge868 Solving an absolute value inequality: Problem type 1
 alge943 Writing an absolute value inequality given a graph on the number line
 alge869 Solving an absolute value inequality: Problem type 2
 alge870 Solving an absolute value inequality: Problem type 3
 alge871 Solving an absolute value inequality: Problem type 4
 alge872 Solving an absolute value inequality: Problem type 5

Lines and Functions

alge064 Reading a point in the coordinate plane
 alge067 Plotting a point in the coordinate plane
 alge850 Table for a linear equation
 alge873 Identifying solutions to a linear equation in two variables
 alge066 Finding a solution to a linear equation in two variables
 alge877 Graphing a linear equation of the form $y = mx$
 alge878 Graphing a line given its equation in slope-intercept form: Integer slope
 alge879 Graphing a line given its equation in slope-intercept form: Fractional slope
 alge880 Graphing a line given its equation in standard form
 alge198 Graphing a vertical or horizontal line
 alge884 Finding x- and y-intercepts given the graph of a line on a grid

alge924 Finding x- and y-intercepts of a line given the equation: Basic
 alge210 Finding x- and y-intercepts of a line given the equation: Advanced
 alge197 Graphing a line given its x- and y-intercepts
 alge881 Graphing a line by first finding its x- and y-intercepts
 alge875 Classifying slopes given graphs of lines
 alge886 Finding slope given the graph of a line on a grid
 alge887 Finding slope given two points on the line
 alge885 Finding the slope of horizontal and vertical lines
 alge888 Finding the coordinate that yields a given slope
 alge259 Graphing a line given its slope and y-intercept
 alge196 Graphing a line through a given point with a given slope
 alge876 Identifying linear equations: Advanced
 alge874 Identifying linear functions given ordered pairs
 alge891 Rewriting a linear equation in the form $Ax + By = C$
 alge889 Finding the slope and y-intercept of a line given its equation in the form $y = mx + b$
 alge890 Finding the slope and y-intercept of a line given its equation in the form $Ax + By = C$
 alge882 Graphing a line by first finding its slope and y-intercept
 alge258 Writing an equation of a line given its slope and y-intercept
 alge892 Writing an equation and graphing a line given its slope and y-intercept
 alge893 Writing an equation in slope-intercept form given the slope and a point
 alge883 Graphing a line given its equation in point-slope form
 alge894 Writing an equation in point-slope form given the slope and a point
 alge070 Writing an equation of a line given the y-intercept and another point
 alge072 Writing the equation of the line through two given points
 alge073 Writing the equations of vertical and horizontal lines through a given point
 geom806 Finding slopes of lines parallel and perpendicular to a line given in slope-intercept form
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 alge895 Identifying parallel and perpendicular lines from equations
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 alge897 Writing and evaluating a function that models a real-world situation: Advanced
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 alge992 Combining functions to write a new function that models a real-world situation
 alge987 Comparing properties of linear functions given in different forms
 alge989 Interpreting the parameters of a linear function that models a real-world situation
 alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
 alge806 Application problem with a linear function: Finding a coordinate given two points
 alge991 Solving a linear equation by graphing
 mstat030 Sketching the line of best fit
 mstat023 Scatter plots and correlation
 mstat068 Predictions from the line of best fit
 mstat067 Approximating the equation of a line of best fit and making predictions
 fun032 Identifying functions from relations
 fun010 Vertical line test
 fun016 Domain and range from ordered pairs
 fun001 Table for a linear function
 pcalc760 Evaluating functions: Linear and quadratic or cubic
 fun030 Evaluating a piecewise-defined function
 fun033 Variable expressions as inputs of functions: Problem type 1
 alge294 Finding outputs of a one-step function that models a real-world situation: Function notation
 alge295 Finding outputs of a two-step function with decimals that models a real-world situation: Function notation
 alge296 Finding inputs and outputs of a two-step function that models a real-world situation: Function notation
 alge990 Domain and range of a linear function that models a real-world situation
 fun026 Finding an output of a function from its graph
 pcalc761 Finding inputs and outputs of a function from its graph
 fun007 Domain and range from the graph of a discrete relation
 fun024 Domain and range from the graph of a continuous function
 fun025 Domain and range from the graph of a piecewise function
 pcalc750 Finding intercepts of a nonlinear function given its graph
 alge999 Finding where a function is increasing, decreasing, or constant given the graph
 pcalc751 Finding where a function is increasing, decreasing, or constant given the graph: Interval notation
 pcalc752 Finding local maxima and minima of a function given the graph

mstat018 Choosing a graph to fit a narrative: Basic
 mstat051 Choosing a graph to fit a narrative: Advanced
 alge896 Graphing an integer function and finding its range for a given domain
 alge570 Graphing a function of the form $f(x) = ax + b$: Integer slope
 alge571 Graphing a function of the form $f(x) = ax + b$: Fractional slope
 alge913 Graphing an absolute value equation of the form $y = A - x -$
 alge954 Graphing a parabola of the form $y = ax^2$
 alge955 Graphing a parabola of the form $y = ax^2 + c$
 alge572 Graphing a function of the form $f(x) = ax^2$
 alge573 Graphing a function of the form $f(x) = ax^2 + c$
 alge262 Graphing a cubic function of the form $y = ax^3$
 fun031 Graphing a piecewise-defined function: Problem type 1
 pcalc768 Finding the average rate of change of a function
 alge998 Finding the average rate of change of a function given its graph

Exponents and Polynomials

alge821 Understanding the product rule of exponents
 alge024 Introduction to the product rule of exponents
 alge311 Product rule with positive exponents: Univariate
 alge030 Product rule with positive exponents: Multivariate
 arith029 Ordering numbers with positive exponents
 alge826 Understanding the power rules of exponents
 alge306 Introduction to the power of a power rule of exponents
 alge305 Introduction to the power of a product rule of exponents
 alge307 Power rules with positive exponents: Multivariate products
 alge308 Power rules with positive exponents: Multivariate quotients
 alge756 Power and product rules with positive exponents
 alge451 Simplifying a ratio of multivariate monomials: Basic
 alge827 Introduction to the quotient rule of exponents
 alge452 Simplifying a ratio of univariate monomials
 alge026 Quotient of expressions involving exponents
 alge453 Simplifying a ratio of multivariate monomials: Advanced
 alge927 Power and quotient rules with positive exponents
 alge790 Evaluating expressions with exponents of zero
 arith729 Evaluating an expression with a negative exponent: Whole number base
 arith042 Evaluating an expression with a negative exponent: Positive fraction base
 arith043 Evaluating an expression with a negative exponent: Negative integer base
 arith024 Ordering numbers with negative exponents
 alge791 Rewriting an algebraic expression without a negative exponent
 alge961 Introduction to the product rule with negative exponents
 alge028 Product rule with negative exponents
 alge755 Quotient rule with negative exponents: Problem type 1
 alge926 Quotient rule with negative exponents: Problem type 2
 alge025 Power of a power rule with negative exponents
 alge799 Power rules with negative exponents
 alge928 Power and quotient rules with negative exponents: Problem type 1
 alge929 Power and quotient rules with negative exponents: Problem type 2
 alge757 Power, product, and quotient rules with negative exponents
 arith036 Scientific notation with positive exponent
 arith037 Scientific notation with negative exponent
 scinot012 Converting between scientific notation and standard form in a real-world situation
 scinot008 Multiplying numbers written in scientific notation: Basic
 scinot009 Multiplying numbers written in scientific notation: Advanced
 scinot010 Dividing numbers written in scientific notation: Basic
 scinot011 Dividing numbers written in scientific notation: Advanced
 alge758 Degree and leading coefficient of a univariate polynomial
 alge031 Degree of a multivariate polynomial
 alge798 Simplifying a sum or difference of two univariate polynomials
 alge029 Simplifying a sum or difference of three univariate polynomials

alge932 Simplifying a sum or difference of multivariate polynomials
 alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
 alge972 Multiplying a univariate polynomial by a monomial with a negative coefficient
 alge835 Multiplying a multivariate polynomial by a monomial
 alge033 Multiplying binomials with leading coefficients of 1
 alge983 Multiplying binomials with leading coefficients greater than 1
 alge765 Multiplying binomials in two variables
 alge764 Multiplying conjugate binomials: Univariate
 alge081 Multiplying conjugate binomials: Multivariate
 alge032 Squaring a binomial: Univariate
 alge068 Squaring a binomial: Multivariate
 alge973 Multiplying binomials with negative coefficients
 alge935 Multiplication involving binomials and trinomials in one variable
 alge180 Multiplication involving binomials and trinomials in two variables
 arith034 Prime numbers
 arith035 Prime factorization
 arith033 Greatest common factor of 2 numbers
 alge605 Factoring a linear binomial
 alge736 Introduction to the GCF of two monomials
 alge930 Greatest common factor of three univariate monomials
 alge037 Greatest common factor of two multivariate monomials
 alge738 Factoring out a monomial from a polynomial: Univariate
 alge739 Factoring out a monomial from a polynomial: Multivariate
 alge949 Factoring out a binomial from a polynomial: GCF factoring, basic
 alge923 Factoring a univariate polynomial by grouping: Problem type 1
 alge950 Factoring a univariate polynomial by grouping: Problem type 2
 alge951 Factoring a multivariate polynomial by grouping: Problem type 1
 alge952 Factoring a multivariate polynomial by grouping: Problem type 2
 alge039 Factoring a quadratic with leading coefficient 1
 alge942 Factoring a quadratic in two variables with leading coefficient 1
 alge936 Factoring out a constant before factoring a quadratic
 alge939 Factoring a quadratic with leading coefficient greater than 1: Problem type 1
 alge940 Factoring a quadratic with leading coefficient greater than 1: Problem type 2
 alge941 Factoring a quadratic with leading coefficient greater than 1: Problem type 3
 alge978 Factoring a quadratic by the ac-method
 alge265 Factoring a quadratic in two variables with leading coefficient greater than 1
 alge937 Factoring a quadratic with a negative leading coefficient
 alge944 Factoring a perfect square trinomial with leading coefficient 1
 alge945 Factoring a perfect square trinomial with leading coefficient greater than 1
 alge946 Factoring a perfect square trinomial in two variables
 alge290 Factoring a difference of squares in one variable: Basic
 alge947 Factoring a difference of squares in one variable: Advanced
 alge839 Factoring a difference of squares in two variables
 alge948 Factoring a polynomial involving a GCF and a difference of squares: Univariate
 alge833 Factoring a polynomial involving a GCF and a difference of squares: Multivariate
 alge041 Factoring a product of a quadratic trinomial and a monomial
 alge042 Factoring with repeated use of the difference of squares formula
 alge044 Factoring a sum or difference of two cubes
 pcalc675 Factoring out a binomial from a polynomial: GCF factoring or substitution
 alge681 Solving an equation written in factored form
 alge956 Finding the roots of a quadratic equation of the form $ax^2 + bx = 0$
 alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
 alge211 Solving a quadratic equation needing simplification
 alge046 Roots of a product of polynomials
 alge163 Writing a quadratic equation given the roots and the leading coefficient
 alge703 Solving a word problem using a quadratic equation with rational roots
 alge407 Introduction to the Pythagorean Theorem
 geom044 Pythagorean Theorem
 alge408 Word problem involving the Pythagorean Theorem
 alge713 Using the Pythagorean Theorem and a quadratic equation to find side lengths of a right triangle

Rational Expressions

alge049 Restriction on a variable in a denominator: Linear
 alge467 Restriction on a variable in a denominator: Quadratic
 alge468 Evaluating a rational function: Problem type 1
 alge469 Evaluating a rational function: Problem type 2
 alge715 Domain of a rational function: Excluded values
 alge454 Simplifying a ratio of factored polynomials: Linear factors
 alge455 Simplifying a ratio of factored polynomials: Factors with exponents
 alge456 Simplifying a ratio of polynomials using GCF factoring
 alge457 Simplifying a ratio of linear polynomials: 1, -1, and no simplification
 alge458 Simplifying a ratio of polynomials by factoring a quadratic with leading coefficient 1
 alge710 Simplifying a ratio of polynomials: Problem type 1
 alge682 Simplifying a ratio of polynomials: Problem type 2
 alge459 Simplifying a ratio of polynomials: Problem type 3
 alge034 Simplifying a ratio of multivariate polynomials
 alge053 Multiplying rational expressions involving multivariate monomials
 alge460 Multiplying rational expressions made up of linear expressions
 alge620 Multiplying rational expressions involving quadratics with leading coefficients of 1
 alge461 Multiplying rational expressions involving quadratics with leading coefficients greater than 1
 alge462 Multiplying rational expressions involving multivariate quadratics
 alge054 Dividing rational expressions involving multivariate monomials
 alge463 Dividing rational expressions involving linear expressions
 alge766 Dividing rational expressions involving quadratics with leading coefficients of 1
 alge464 Dividing rational expressions involving quadratics with leading coefficients greater than 1
 alge465 Dividing rational expressions involving multivariate quadratics
 alge466 Multiplication and division of 3 rational expressions
 alge737 Introduction to the LCM of two monomials
 alge055 Least common multiple of two monomials
 alge427 Finding the LCD of rational expressions with linear denominators: Relatively prime
 alge428 Finding the LCD of rational expressions with linear denominators: Common factors
 alge429 Finding the LCD of rational expressions with quadratic denominators
 alge430 Writing equivalent rational expressions with monomial denominators
 alge431 Writing equivalent rational expressions with polynomial denominators
 alge304 Writing equivalent rational expressions involving opposite factors
 alge432 Introduction to adding fractions with variables and common denominators
 alge433 Adding rational expressions with common denominators and monomial numerators
 alge056 Adding rational expressions with common denominators and binomial numerators
 alge434 Adding rational expressions with common denominators and GCF factoring
 alge435 Adding rational expressions with common denominators and quadratic factoring
 alge436 Adding rational expressions with different denominators and a single occurrence of a variable
 alge437 Adding rational expressions with denominators ax and bx : Basic
 alge438 Adding rational expressions with denominators ax and bx : Advanced
 alge439 Adding rational expressions with denominators axn and bxm
 alge440 Adding rational expressions with multivariate monomial denominators: Basic
 alge226 Adding rational expressions with multivariate monomial denominators: Advanced
 alge441 Adding rational expressions with linear denominators without common factors: Basic
 alge442 Adding rational expressions with linear denominators without common factors: Advanced
 alge443 Adding rational expressions with linear denominators with common factors: Basic
 alge444 Adding rational expressions with linear denominators with common factors: Advanced
 alge445 Adding rational expressions with denominators $ax-b$ and $b-ax$
 alge661 Adding rational expressions involving different quadratic denominators
 alge446 Adding 3 rational expressions with different quadratic denominators
 arith695 Complex fraction without variables: Problem type 1
 arith696 Complex fraction without variables: Problem type 2
 alge470 Complex fraction involving univariate monomials
 alge058 Complex fraction involving multivariate monomials
 alge471 Complex fraction: GCF factoring
 alge472 Complex fraction: Quadratic factoring
 alge473 Complex fraction made of sums involving rational expressions: Problem type 1
 alge474 Complex fraction made of sums involving rational expressions: Problem type 2
 alge475 Complex fraction made of sums involving rational expressions: Problem type 3

alge476 Complex fraction made of sums involving rational expressions: Problem type 4
 alge477 Complex fraction made of sums involving rational expressions: Problem type 5
 alge478 Complex fraction made of sums involving rational expressions: Problem type 6
 alge479 Complex fraction made of sums involving rational expressions: Multivariate
 alge480 Complex fraction with negative exponents: Problem type 1
 alge481 Complex fraction with negative exponents: Problem type 2
 alge162 Complex fraction that contains a complex fraction
 alge271 Solving a proportion of the form $a/(x+b) = c/x$
 alge060 Solving a rational equation that simplifies to linear: Denominator x
 alge205 Solving a rational equation that simplifies to linear: Denominator $x+a$
 alge769 Solving a rational equation that simplifies to linear: Denominators a , x , or ax
 alge421 Solving a rational equation that simplifies to linear: Denominators ax and bx
 alge422 Solving a rational equation that simplifies to linear: Like binomial denominators
 alge206 Solving a rational equation that simplifies to linear: Unlike binomial denominators
 alge423 Solving a rational equation that simplifies to linear: Factorable quadratic denominator
 alge424 Solving a rational equation that simplifies to quadratic: Proportional form, basic
 alge425 Solving a rational equation that simplifies to quadratic: Denominator x
 alge212 Solving a rational equation that simplifies to quadratic: Binomial denominators, constant numerators
 alge062 Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators
 alge426 Solving a rational equation that simplifies to quadratic: Factorable quadratic denominator
 alge047 Solving a rational equation that simplifies to quadratic: Proportional form, advanced
 alge508 Solving for a variable in terms of other variables in a rational equation: Problem type 1
 alge509 Solving for a variable in terms of other variables in a rational equation: Problem type 2
 alge510 Solving for a variable in terms of other variables in a rational equation: Problem type 3
 arith610 Word problem on proportions: Problem type 1
 arith611 Word problem on proportions: Problem type 2
 geom037 Similar polygons
 geom038 Similar right triangles
 geom337 Indirect measurement
 geom133 Ratio of volumes
 arith612 Word problem involving multiple rates
 alge770 Solving a work problem using a rational equation
 alge450 Solving a distance, rate, time problem using a rational equation
 alge059 Ordering fractions with variables
 alge982 Identifying direct variation equations
 alge938 Identifying direct variation from ordered pairs and writing equations
 alge904 Writing a direct variation equation
 alge175 Word problem on direct variation
 alge828 Interpreting direct variation from a graph
 alge905 Writing an inverse variation equation
 alge903 Identifying direct and inverse variation equations
 alge902 Identifying direct and inverse variation from ordered pairs and writing equations
 alge176 Word problem on inverse variation
 alge220 Word problem on inverse proportions
 pcalc681 Writing an equation that models variation
 alge772 Word problem on combined variation

Radicals

alge413 Finding all square roots of a number
 arith601 Square root of a rational perfect square
 arith760 Square roots of perfect squares with signs
 arith761 Square roots of integers raised to even exponents
 alge415 Introduction to simplifying a radical expression with an even exponent
 alge264 Square root of a perfect square monomial
 alge537 Using absolute value to simplify square roots of perfect square monomials
 arith094 Cube root of an integer
 alge549 Finding n th roots of perfect n th powers with signs
 arith768 Finding the n th root of a perfect n th power fraction
 alge550 Finding the n th root of a perfect n th power monomial

alge538 Using absolute value to simplify higher radical expressions
alge539 Table for a square root function
alge546 Evaluating a cube root function
alge540 Domain of a square root function: Basic
pcalc763 Domain of a square root function: Advanced
alge547 Domains of higher root functions
alge543 Graphing a square root function: Problem type 1
alge544 Graphing a square root function: Problem type 2
alge545 Graphing a square root function: Problem type 3
alge548 Graphing a cube root function
alge812 Converting between radical form and exponent form
alge560 Rational exponents: Unit fraction exponents and whole number bases
alge561 Rational exponents: Unit fraction exponents and bases involving signs
alge250 Rational exponents: Non-unit fraction exponent with a whole number base
alge251 Rational exponents: Negative exponents and fractional bases
alge558 Rational exponents: Product rule
alge559 Rational exponents: Quotient rule
alge773 Rational exponents: Products and quotients with negative exponents
alge562 Rational exponents: Power of a power rule
alge249 Rational exponents: Powers of powers with negative exponents
arith093 Simplifying the square root of a whole number less than 100
arith762 Simplifying the square root of a whole number greater than 100
alge080 Simplifying a radical expression with an even exponent
alge520 Introduction to simplifying a radical expression with an odd exponent
alge521 Simplifying a radical expression with an odd exponent
alge275 Simplifying a radical expression with two variables
alge273 Simplifying a higher root of a whole number
alge551 Introduction to simplifying a higher radical expression
alge552 Simplifying a higher radical expression: Univariate
alge811 Simplifying a higher radical expression: Multivariate
arith767 Introduction to square root addition or subtraction
arith032 Square root addition or subtraction
alge533 Square root addition or subtraction with three terms
alge531 Introduction to simplifying a sum or difference of radical expressions: Univariate
alge532 Simplifying a sum or difference of radical expressions: Univariate
alge084 Simplifying a sum or difference of radical expressions: Multivariate
alge554 Simplifying a sum or difference of higher roots
alge555 Simplifying a sum or difference of higher radical expressions
arith764 Introduction to square root multiplication
arith765 Square root multiplication: Basic
arith039 Square root multiplication: Advanced
alge522 Introduction to simplifying a product of radical expressions: Univariate
alge523 Simplifying a product of radical expressions: Univariate
alge640 Simplifying a product of radical expressions: Multivariate
alge082 Simplifying a product of radical expressions: Multivariate, fractional expressions
alge556 Introduction to simplifying a product of higher roots
alge557 Simplifying a product of higher radical expressions
alge525 Introduction to simplifying a product involving square roots using the distributive property
alge526 Simplifying a product involving square roots using the distributive property: Basic
alge276 Simplifying a product involving square roots using the distributive property: Advanced
alge774 Special products of radical expressions: Conjugates and squaring
alge984 Classifying sums and products as rational or irrational
arith766 Simplifying a quotient of square roots
alge530 Simplifying a quotient involving a sum or difference with a square root
alge527 Rationalizing a denominator: Quotient involving square roots
alge528 Rationalizing a denominator: Square root of a fraction
alge529 Rationalizing a denominator: Quotient involving a monomial
alge534 Rationalizing a denominator using conjugates: Integer numerator
alge535 Rationalizing a denominator using conjugates: Square root in numerator
alge536 Rationalizing a denominator using conjugates: Variable in denominator
alge564 Rationalizing a denominator: Quotient involving a higher radical
alge775 Rationalizing a denominator: Quotient involving higher radicals and monomials

alge563 Simplifying products or quotients of higher radicals with different indices: Univariate
 alge776 Simplifying products or quotients of higher radicals with different indices: Multivariate
 alge400 Introduction to solving a radical equation
 pcalc682 Evaluating functions: Absolute value, rational, radical
 pcalc754 Finding the domain of a fractional function involving radicals
 alge089 Solving a radical equation that simplifies to a linear equation: One radical, basic
 alge402 Solving a radical equation that simplifies to a linear equation: One radical, advanced
 alge090 Solving a radical equation that simplifies to a linear equation: Two radicals
 alge403 Solving a radical equation that simplifies to a quadratic equation: One radical, basic
 alge404 Solving a radical equation that simplifies to a quadratic equation: One radical, advanced
 alge411 Solving a radical equation with a quadratic expression under the radical
 alge405 Solving a radical equation with two radicals that simplifies to $\sqrt{x} = a$
 alge182 Solving a radical equation that simplifies to a quadratic equation: Two radicals
 alge412 Algebraic symbol manipulation with radicals
 alge542 Word problem involving radical equations: Basic
 alge409 Word problem involving radical equations: Advanced
 alge410 Solving an equation with a root index greater than 2: Problem type 1
 alge417 Solving an equation with a root index greater than 2: Problem type 2
 alge416 Solving an equation with exponent $1/a$: Problem type 1
 alge418 Solving an equation with exponent $1/a$: Problem type 2
 alge778 Using i to rewrite square roots of negative numbers
 alge779 Simplifying a product and quotient involving square roots of negative numbers
 pcalc048 Adding or subtracting complex numbers
 pcalc049 Multiplying complex numbers
 pcalc050 Dividing complex numbers
 pcalc053 Simplifying a power of i

Quadratic Equations and Functions

alge962 Solving an equation of the form $x^2 = a$ using the square root property
 alge092 Solving a quadratic equation using the square root property: Exact answers, basic
 alge227 Solving a quadratic equation using the square root property: Exact answers, advanced
 alge094 Completing the square
 alge780 Solving a quadratic equation by completing the square: Exact answers
 alge095 Applying the quadratic formula: Exact answers
 alge963 Applying the quadratic formula: Decimal answers
 pcalc051 Solving a quadratic equation with complex roots
 alge214 Discriminant of a quadratic equation
 alge193 Discriminant of a quadratic equation with parameter
 alge524 Solving a word problem using a quadratic equation with irrational roots
 alge093 Solving an equation using the odd-root property: Problem type 1
 alge228 Solving an equation using the odd-root property: Problem type 2
 alge230 Solving an equation with positive rational exponent
 alge231 Solving an equation with negative rational exponent
 alge781 Solving an equation that can be written in quadratic form: Problem type 1
 alge782 Solving an equation that can be written in quadratic form: Problem type 2
 alge974 Finding the vertex, x -intercepts, and axis of symmetry from the graph of a parabola
 alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
 alge569 Graphing a parabola of the form $y = x^2 + bx + c$
 pcalc746 Graphing a parabola of the form $y = ax^2 + bx + c$: Integer coefficients
 pcalc747 Graphing a parabola of the form $y = ax^2 + bx + c$: Rational coefficients
 alge277 Finding the x -intercept(s) and the vertex of a parabola
 pcalc793 Using a graphing calculator to find the x -intercept(s) and vertex of a quadratic function
 pcalc774 Rewriting a quadratic function to find the vertex of its graph
 pcalc775 Finding the maximum or minimum of a quadratic function
 alge785 Word problem involving the maximum or minimum of a quadratic function
 alge975 Domain and range from the graph of a parabola
 pcalc762 Range of a quadratic function
 pcalc680 Writing the equation of a quadratic function given its graph
 alge957 Solving a quadratic equation by graphing

alge996 Comparing properties of quadratic functions given in different forms
 alge702 Classifying the graph of a function
 pcalc679 Testing an equation for symmetry about the axes and origin
 pcalc114 Even and odd functions: Problem type 1
 alge953 Translating the graph of a parabola: One step
 alge723 How the leading coefficient affects the shape of a parabola
 alge898 Translating the graph of an absolute value function: One step
 alge899 Translating the graph of an absolute value function: Two steps
 alge900 Graphing an absolute value equation in the plane: Basic
 alge168 Graphing an absolute value equation in the plane: Advanced
 alge901 How the leading coefficient affects the graph of an absolute value function
 alge185 Writing an equation for a function after a vertical translation
 pcalc769 Translating the graph of a function: One step
 pcalc770 Translating the graph of a function: Two steps
 pcalc771 Transforming the graph of a function by reflecting over an axis
 pcalc772 Transforming the graph of a function by shrinking or stretching
 pcalc773 Transforming the graph of a function using more than one transformation
 fun020 Writing an equation for a function after a vertical and horizontal translation
 fun019 Sum, difference, and product of two functions
 pcalc753 Finding a difference quotient for a linear or quadratic function
 alge786 Quotient of two functions: Basic
 pcalc756 Combining functions: Advanced
 fun022 Composition of two functions: Basic
 pcalc776 Expressing a function as a composition of two functions
 fun021 Composition of two functions: Domain and range
 alge129 Composition of two functions: Advanced
 pcalc924 Determining whether an equation defines a function: Basic
 pcalc757 Determining whether an equation defines a function: Advanced
 fun011 Horizontal line test
 pcalc777 Determining whether two functions are inverses of each other
 fun012 Inverse functions: Linear, discrete
 alge130 Inverse functions: Rational
 pcalc778 Inverse functions: Quadratic, cubic, radical

Polynomial and Rational Functions

pcalc764 Finding zeros of a polynomial function written in factored form
 pcalc766 Finding a polynomial of a given degree with given zeros: Real zeros
 pcalc765 Finding x- and y-intercepts given a polynomial function
 pcalc678 Finding x- and y-intercepts of the graph of a nonlinear equation
 pcalc782 Determining the end behavior of the graph of a polynomial function
 pcalc783 Matching graphs with polynomial functions
 pcalc738 Inferring properties of a polynomial function from its graph
 pcalc794 Using a graphing calculator to find local extrema of a polynomial function
 pcalc115 Using a graphing calculator to solve a word problem involving a local extremum of a polynomial function
 alge759 Dividing a polynomial by a monomial: Univariate
 alge760 Dividing a polynomial by a monomial: Multivariate
 alge761 Polynomial long division: Problem type 1
 alge762 Polynomial long division: Problem type 2
 alge763 Polynomial long division: Problem type 3
 pcalc117 Synthetic division
 alge985 Closure properties of integers and polynomials
 pcalc786 Using the remainder theorem to evaluate a polynomial
 pcalc787 The Factor Theorem
 pcalc118 Remainder theorem: Advanced
 pcalc741 Using a given zero to write a polynomial as a product of linear factors: Real zeros
 pcalc758 Finding all possible rational zeros using the rational zeros theorem: Problem type 1
 pcalc759 Finding all possible rational zeros using the rational zeros theorem: Problem type 2
 pcalc788 Descartes' Rule of Signs

pcalc743 Using the rational zeros theorem to find all zeros of a polynomial: Rational zeros
 pcalc744 Using the rational zeros theorem to find all zeros of a polynomial: Irrational zeros
 pcalc795 Using a graphing calculator to find zeros of a polynomial function
 pcalc704 Using a graphing calculator to solve a word problem involving a polynomial of degree 3
 pcalc785 Multiplying expressions involving complex conjugates
 pcalc767 Finding a polynomial of a given degree with given zeros: Complex zeros
 pcalc742 Using a given zero to write a polynomial as a product of linear factors: Complex zeros
 pcalc745 Using the rational zeros theorem to find all zeros of a polynomial: Complex zeros
 pcalc703 Using the conjugate zeros theorem to find all zeros of a polynomial
 pcalc705 Linear factors theorem and conjugate zeros theorem
 pcalc917 Finding the asymptotes of a rational function: Constant over linear
 pcalc918 Finding the asymptotes of a rational function: Linear over linear
 pcalc790 Finding horizontal and vertical asymptotes of a rational function: Quadratic numerator or denominator
 alge515 Graphing a rational function: Constant over linear
 alge516 Graphing a rational function: Linear over linear
 pcalc109 Graphing a rational function: Quadratic over linear
 pcalc792 Graphing rational functions with holes
 pcalc791 Matching graphs with rational functions: Two vertical asymptotes
 pcalc706 Writing the equation of a rational function given its graph
 alge784 Solving a quadratic inequality written in factored form
 alge771 Solving a quadratic inequality
 pcalc676 Solving a polynomial inequality
 alge783 Solving a rational inequality: Problem type 1
 pcalc677 Solving a rational inequality: Problem type 2

Exponential and Logarithmic Functions

alge971 Table for an exponential function
 alge969 Graphing an exponential function: $f(x) = ax$
 alge970 Graphing an exponential function: $f(x) = a(b)^x$
 alge712 Graphing an exponential function and its asymptote: $f(x) = a(b)^x$
 pcalc922 Translating the graph of an exponential function
 pcalc797 The graph, domain, and range of an exponential function
 pcalc103 Graphing an exponential function and its asymptote: $f(x) = a(e)^{x-b} + c$
 alge830 Evaluating an exponential function that models a real-world situation
 pcalc919 Evaluating an exponential function with base e that models a real-world situation
 arith853 Introduction to compound interest
 alge177 Finding a final amount in a word problem on exponential growth or decay
 alge741 Finding the final amount in a word problem on compound interest
 alge966 Finding the initial amount and rate of change given an exponential function
 alge968 Writing an equation that models exponential growth or decay
 alge967 Writing an exponential function rule given a table of ordered pairs
 alge993 Comparing linear, polynomial, and exponential functions
 alge108 Converting between logarithmic and exponential equations
 pcalc799 Converting between natural logarithmic and exponential equations
 alge232 Evaluating a logarithmic expression
 alge233 Solving an equation of the form $\log_b a = c$
 pcalc923 Translating the graph of a logarithmic function
 alge788 Graphing a logarithmic function: Basic
 pcalc800 The graph, domain, and range of a logarithmic function
 pcalc801 Domain of a logarithmic function: Advanced
 pcalc104 Graphing a logarithmic function: Advanced
 pcalc708 Basic properties of logarithms
 pcalc779 Expanding a logarithmic expression: Problem type 1
 pcalc780 Expanding a logarithmic expression: Problem type 2
 alge787 Writing an expression as a single logarithm
 pcalc612 Change of base for logarithms: Problem type 1
 pcalc613 Change of base for logarithms: Problem type 2
 pcalc803 Solving a multi-step equation involving a single logarithm
 pcalc804 Solving a multi-step equation involving natural logarithms

alge113 Solving an equation involving logarithms on both sides: Problem type 1
 pcalc805 Solving an equation involving logarithms on both sides: Problem type 2
 alge301 Solving an exponential equation by finding common bases: Linear exponents
 alge482 Solving an exponential equation by finding common bases: Linear and quadratic exponents
 pcalc920 Solving an exponential equation by using logarithms: Decimal answers, basic
 pcalc921 Solving an exponential equation by using natural logarithms: Decimal answers
 alge111 Solving an exponential equation by using logarithms: Exact answers in logarithmic form
 pcalc802 Solving an exponential equation by using substitution and quadratic factoring
 alge178 Finding the time to reach a limit in a word problem on exponential growth or decay
 pcalc614 Finding the initial or final amount in a word problem on exponential growth or decay
 pcalc615 Finding the rate or time in a word problem on continuous exponential growth or decay

Conic Sections

alge132 Distance between two points in the plane: Exact answers
 alge191 Midpoint of a line segment in the plane
 alge414 Finding an endpoint of a line segment given the other endpoint and the midpoint
 pcalc067 Graphing a parabola of the form $ay^2 + by + cx + d = 0$ or $ax^2 + bx + cy + d = 0$
 pcalc068 Writing an equation of a parabola given the vertex and the focus
 pcalc069 Finding the focus of a parabola of the form $ay^2 + by + cx + d = 0$ or $ax^2 + bx + cy + d = 0$
 pcalc605 Graphing a circle given its equation in standard form
 pcalc128 Graphing a circle given its equation in general form: Basic
 pcalc129 Graphing a circle given its equation in general form: Advanced
 pcalc065 Writing an equation of a circle given its center and a point on the circle
 pcalc066 Writing an equation of a circle given the endpoints of a diameter
 pcalc734 Graphing an ellipse given its equation in standard form
 pcalc070 Graphing an ellipse centered at the origin: $Ax^2 + By^2 = C$
 pcalc071 Graphing an ellipse given its equation in general form
 pcalc072 Finding the foci of an ellipse given its equation in general form
 pcalc074 Writing an equation of an ellipse given the center, an endpoint of an axis, and the length of the other axis
 pcalc073 Writing an equation of an ellipse given the foci and the major axis length
 pcalc735 Graphing a hyperbola given its equation in standard form
 pcalc075 Graphing a hyperbola centered at the origin: $Ax^2 - By^2 - C = 0$
 pcalc076 Graphing a hyperbola given its equation in general form
 pcalc077 Finding the foci of a hyperbola given its equation in general form
 pcalc078 Writing an equation of a hyperbola given the foci and the vertices
 pcalc079 Writing an equation of a hyperbola given the foci and the asymptotes: Advanced
 pcalc736 Classifying conics given their equations

Systems and Matrices

alge914 Identifying solutions to a system of linear equations
 alge075 Classifying systems of linear equations from graphs
 alge725 Graphically solving a system of linear equations
 alge751 Solving a system of linear equations using substitution
 alge915 Solving a system of linear equations using elimination with addition
 alge076 Solving a system of linear equations using elimination with multiplication and addition
 alge916 Solving a system of linear equations with fractional coefficients
 alge917 Solving a system of linear equations with decimal coefficients
 alge752 Solving a 2×2 system of linear equations that is inconsistent or consistent dependent
 alge077 Creating an inconsistent system of linear equations
 alge988 Identifying the operations used to create equivalent systems of equations
 pcalc099 Consistency and independence of a system of linear equations
 alge753 Solving a 3×3 system of linear equations: Problem type 1
 alge263 Interpreting the graphs of two functions
 alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations
 alge919 Solving a word problem using a system of linear equations of the form $Ax + By = C$

alge918 Solving a word problem using a system of linear equations of the form $y = mx + b$
 alge184 Solving a value mixture problem using a system of linear equations
 alge192 Solving a percent mixture problem using a system of linear equations
 alge224 Solving a distance, rate, time problem using a system of linear equations
 alge172 Solving a tax rate or interest rate problem using a system of linear equations
 alge793 Solving a word problem using a 3x3 system of linear equations: Problem type 1
 pcalc037 Scalar multiplication of a matrix
 pcalc038 Addition or subtraction of matrices
 pcalc740 Linear combination of matrices
 pcalc039 Multiplication of matrices: Basic
 pcalc710 Multiplication of matrices: Advanced
 pcalc712 Gauss-Jordan elimination with a 2x2 matrix
 pcalc046 Solving a system of linear equations given its augmented matrix
 pcalc040 Finding the inverse of a 2x2 matrix
 pcalc041 Finding the inverse of a 3x3 matrix
 pcalc711 Using the inverse of a matrix to solve a 3x3 system of linear equations
 pcalc042 Finding the determinant of a 2x2 matrix
 pcalc043 Finding the determinant of a 3x3 matrix
 pcalc045 Using Cramer's rule to solve a 2x2 system of linear equations
 pcalc047 Using Cramer's rule to solve a 3x3 system of linear equations
 pcalc812 Partial fraction decomposition with distinct linear factors
 pcalc813 Partial fraction decomposition with repeated linear factors
 pcalc814 Partial fraction decomposition with an irreducible quadratic factor
 alge994 Graphically solving a system of linear and quadratic equations
 pcalc796 Using a graphing calculator to solve a system of equations
 pcalc806 Using a graphing calculator to solve an exponential or logarithmic equation
 alge995 Solving a system of linear and quadratic equations
 pcalc098 Solving a system of nonlinear equations: Problem type 1
 alge912 Identifying solutions to a linear inequality in two variables
 alge225 Graphing a linear inequality in the plane: Vertical or horizontal line
 alge720 Graphing a linear inequality in the plane: Slope-intercept form
 alge018 Graphing a linear inequality in the plane: Standard form
 pcalc748 Graphing a quadratic inequality: Problem type 1
 pcalc749 Graphing a quadratic inequality: Problem type 2
 alge079 Graphing a system of two linear inequalities: Basic
 alge921 Graphing a system of two linear inequalities: Advanced
 alge922 Graphing a system of three linear inequalities
 alge729 Writing a multi-step inequality for a real-world situation
 pcalc093 Solving a word problem using a system of linear inequalities: Problem type 1
 pcalc095 Linear programming
 pcalc094 Solving a word problem using linear programming
 pcalc096 Graphing a system of nonlinear inequalities: Problem type 1
 pcalc097 Graphing a system of nonlinear inequalities: Problem type 2

Sequences, Series, and Probability

alge644 Finding the first terms of an arithmetic sequence using an explicit rule
 alge645 Finding the first terms of a geometric sequence using an explicit rule
 pcalc080 Finding the first terms of a sequence using an explicit rule with multiple occurrences of n
 alge906 Finding the next terms of an arithmetic sequence with integers
 alge908 Finding the first terms of a sequence using a recursive rule
 alge979 Identifying arithmetic sequences and finding the common difference
 alge931 Finding a specified term of an arithmetic sequence given the first terms
 pcalc085 Finding a specified term of an arithmetic sequence given the common difference and first term
 pcalc715 Finding a specified term of an arithmetic sequence given two terms of the sequence
 alge909 Writing an explicit rule for an arithmetic sequence
 alge910 Writing a recursive rule for an arithmetic sequence
 pcalc718 Sum of the first n terms of an arithmetic sequence
 alge907 Finding the next terms of a geometric sequence with signed numbers
 alge981 Identifying arithmetic and geometric sequences

alge980 Identifying geometric sequences and finding the common ratio
 alge934 Finding a specified term of a geometric sequence given the first terms
 pcalc086 Finding a specified term of a geometric sequence given the common ratio and first term
 pcalc717 Finding a specified term of a geometric sequence given two terms of the sequence
 pcalc713 Arithmetic and geometric sequences: Identifying and writing an explicit rule
 alge911 Writing recursive rules for arithmetic and geometric sequences
 pcalc719 Sum of the first n terms of a geometric sequence
 pcalc720 Sum of an infinite geometric series
 alge965 Identifying linear, quadratic, and exponential functions given ordered pairs
 pcalc082 Factorial expressions
 mstat041 Interpreting a tree diagram
 mstat040 Introduction to the counting principle
 mstat015 Counting principle
 mstat017 Computing permutations and combinations
 pcalc809 Introduction to permutations and combinations
 pcalc810 Permutations and combinations: Problem type 1
 pcalc089 Permutations and combinations: Problem type 2
 pcalc090 Permutations and combinations: Problem type 3
 pcalc087 Binomial formula
 mstat010 Probability of an event
 mstat046 Experimental and theoretical probability
 stat106 Outcomes and event probability
 mstat011 Area as probability
 stat850 Probability of independent events
 stat851 Probability of dependent events
 stat117 Probabilities of draws with replacement
 stat118 Probabilities of draws without replacement
 mstat042 Interpreting a Venn diagram of 2 sets
 mstat043 Interpreting a Venn diagram of 3 sets
 stat119 Venn diagrams: Two events
 stat101 Venn diagrams: Word problems
 stat112 Probabilities involving two dice
 stat114 Probability of intersection or union: Word problems
 stat115 Independent events: Basic
 stat120 Probability of union: Basic
 stat116 Conditional probability: Basic
 stat109 Intersection and conditional probability
 stat174 Binomial problems: Basic
 stat155 Binomial problems: Advanced

B.15 College Algebra with Trigonometry

Algebra and Geometry Review

arith687 Fractional position on a number line
 arith605 Plotting rational numbers on a number line
 arith691 Ordering integers
 arith602 Estimating a square root
 arith712 Ordering real numbers
 alge001 Identifying numbers as integers or non-integers
 alge002 Identifying numbers as rational or irrational
 arith116 Signed fraction addition or subtraction: Basic
 arith864 Signed fraction subtraction involving double negation
 arith106 Signed fraction addition or subtraction: Advanced
 arith811 Addition and subtraction of 3 fractions involving signs
 arith822 Signed fraction multiplication: Basic
 arith105 Signed fraction multiplication: Advanced
 arith814 Signed fraction division

arith104 Operations with absolute value: Problem type 2
alge694 Computing the distance between two integers on a number line
arith702 Exponents and integers: Problem type 1
arith703 Exponents and integers: Problem type 2
arith704 Exponents and signed fractions
arith118 Order of operations with integers
arith600 Order of operations with integers and exponents
alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
alge004 Evaluating a quadratic expression: Integers
alge808 Evaluating a linear expression: Signed fraction multiplication with addition or subtraction
mstat065 Converting between temperatures in Fahrenheit and Celsius
alge187 Properties of addition
alge188 Properties of real numbers
alge604 Distributive property: Integer coefficients
alge608 Using distribution and combining like terms to simplify: Univariate
alge667 Identifying properties used to simplify an algebraic expression
alge609 Using distribution with double negation and combining like terms to simplify: Multivariate
alge821 Understanding the product rule of exponents
alge024 Introduction to the product rule of exponents
alge311 Product rule with positive exponents: Univariate
alge030 Product rule with positive exponents: Multivariate
arith029 Ordering numbers with positive exponents
alge826 Understanding the power rules of exponents
alge306 Introduction to the power of a power rule of exponents
alge305 Introduction to the power of a product rule of exponents
alge307 Power rules with positive exponents: Multivariate products
alge308 Power rules with positive exponents: Multivariate quotients
alge756 Power and product rules with positive exponents
alge451 Simplifying a ratio of multivariate monomials: Basic
alge827 Introduction to the quotient rule of exponents
alge452 Simplifying a ratio of univariate monomials
alge026 Quotient of expressions involving exponents
alge453 Simplifying a ratio of multivariate monomials: Advanced
alge927 Power and quotient rules with positive exponents
alge790 Evaluating expressions with exponents of zero
arith729 Evaluating an expression with a negative exponent: Whole number base
arith042 Evaluating an expression with a negative exponent: Positive fraction base
arith043 Evaluating an expression with a negative exponent: Negative integer base
arith024 Ordering numbers with negative exponents
alge791 Rewriting an algebraic expression without a negative exponent
alge961 Introduction to the product rule with negative exponents
alge028 Product rule with negative exponents
alge755 Quotient rule with negative exponents: Problem type 1
alge926 Quotient rule with negative exponents: Problem type 2
alge025 Power of a power rule with negative exponents
alge799 Power rules with negative exponents
alge928 Power and quotient rules with negative exponents: Problem type 1
alge929 Power and quotient rules with negative exponents: Problem type 2
alge757 Power, product, and quotient rules with negative exponents
arith036 Scientific notation with positive exponent
arith037 Scientific notation with negative exponent
scinot012 Converting between scientific notation and standard form in a real-world situation
scinot008 Multiplying numbers written in scientific notation: Basic
scinot009 Multiplying numbers written in scientific notation: Advanced
scinot019 Multiplying numbers written in decimal form or scientific notation in a real-world situation
scinot010 Dividing numbers written in scientific notation: Basic
scinot011 Dividing numbers written in scientific notation: Advanced
scinot013 Finding the scale factor between numbers given in scientific notation in a real-world situation
alge758 Degree and leading coefficient of a univariate polynomial
alge031 Degree of a multivariate polynomial
alge798 Simplifying a sum or difference of two univariate polynomials
alge029 Simplifying a sum or difference of three univariate polynomials

alge932 Simplifying a sum or difference of multivariate polynomials
alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
alge972 Multiplying a univariate polynomial by a monomial with a negative coefficient
alge835 Multiplying a multivariate polynomial by a monomial
alge033 Multiplying binomials with leading coefficients of 1
alge983 Multiplying binomials with leading coefficients greater than 1
alge765 Multiplying binomials in two variables
alge764 Multiplying conjugate binomials: Univariate
alge081 Multiplying conjugate binomials: Multivariate
alge032 Squaring a binomial: Univariate
alge068 Squaring a binomial: Multivariate
alge973 Multiplying binomials with negative coefficients
alge935 Multiplication involving binomials and trinomials in one variable
alge180 Multiplication involving binomials and trinomials in two variables
arith034 Prime numbers
arith035 Prime factorization
arith033 Greatest common factor of 2 numbers
alge605 Factoring a linear binomial
alge736 Introduction to the GCF of two monomials
alge930 Greatest common factor of three univariate monomials
alge037 Greatest common factor of two multivariate monomials
alge738 Factoring out a monomial from a polynomial: Univariate
alge739 Factoring out a monomial from a polynomial: Multivariate
alge949 Factoring out a binomial from a polynomial: GCF factoring, basic
alge923 Factoring a univariate polynomial by grouping: Problem type 1
alge950 Factoring a univariate polynomial by grouping: Problem type 2
alge951 Factoring a multivariate polynomial by grouping: Problem type 1
alge952 Factoring a multivariate polynomial by grouping: Problem type 2
alge039 Factoring a quadratic with leading coefficient 1
alge942 Factoring a quadratic in two variables with leading coefficient 1
alge936 Factoring out a constant before factoring a quadratic
alge939 Factoring a quadratic with leading coefficient greater than 1: Problem type 1
alge940 Factoring a quadratic with leading coefficient greater than 1: Problem type 2
alge941 Factoring a quadratic with leading coefficient greater than 1: Problem type 3
alge978 Factoring a quadratic by the ac-method
alge265 Factoring a quadratic in two variables with leading coefficient greater than 1
alge937 Factoring a quadratic with a negative leading coefficient
alge944 Factoring a perfect square trinomial with leading coefficient 1
alge945 Factoring a perfect square trinomial with leading coefficient greater than 1
alge946 Factoring a perfect square trinomial in two variables
alge290 Factoring a difference of squares in one variable: Basic
alge947 Factoring a difference of squares in one variable: Advanced
alge839 Factoring a difference of squares in two variables
alge948 Factoring a polynomial involving a GCF and a difference of squares: Univariate
alge833 Factoring a polynomial involving a GCF and a difference of squares: Multivariate
alge041 Factoring a product of a quadratic trinomial and a monomial
alge042 Factoring with repeated use of the difference of squares formula
alge044 Factoring a sum or difference of two cubes
pcalc577 Factoring out binomials from a polynomial: GCF factoring, advanced
pcalc578 Using substitution to factor polynomials
alge049 Restriction on a variable in a denominator: Linear
alge454 Simplifying a ratio of factored polynomials: Linear factors
alge455 Simplifying a ratio of factored polynomials: Factors with exponents
alge456 Simplifying a ratio of polynomials using GCF factoring
alge457 Simplifying a ratio of linear polynomials: 1, -1, and no simplification
alge458 Simplifying a ratio of polynomials by factoring a quadratic with leading coefficient 1
alge710 Simplifying a ratio of polynomials: Problem type 1
alge682 Simplifying a ratio of polynomials: Problem type 2
alge459 Simplifying a ratio of polynomials: Problem type 3
alge034 Simplifying a ratio of multivariate polynomials
alge053 Multiplying rational expressions involving multivariate monomials
alge460 Multiplying rational expressions made up of linear expressions

alge620 Multiplying rational expressions involving quadratics with leading coefficients of 1
 alge461 Multiplying rational expressions involving quadratics with leading coefficients greater than 1
 alge462 Multiplying rational expressions involving multivariate quadratics
 alge054 Dividing rational expressions involving multivariate monomials
 alge463 Dividing rational expressions involving linear expressions
 alge766 Dividing rational expressions involving quadratics with leading coefficients of 1
 alge464 Dividing rational expressions involving quadratics with leading coefficients greater than 1
 alge465 Dividing rational expressions involving multivariate quadratics
 alge466 Multiplication and division of 3 rational expressions
 arith070 Least common multiple of 2 numbers
 arith804 Least common multiple of 3 numbers
 alge737 Introduction to the LCM of two monomials
 alge055 Least common multiple of two monomials
 alge427 Finding the LCD of rational expressions with linear denominators: Relatively prime
 alge428 Finding the LCD of rational expressions with linear denominators: Common factors
 alge429 Finding the LCD of rational expressions with quadratic denominators
 alge430 Writing equivalent rational expressions with monomial denominators
 alge431 Writing equivalent rational expressions with polynomial denominators
 alge304 Writing equivalent rational expressions involving opposite factors
 alge432 Introduction to adding fractions with variables and common denominators
 alge433 Adding rational expressions with common denominators and monomial numerators
 alge056 Adding rational expressions with common denominators and binomial numerators
 alge434 Adding rational expressions with common denominators and GCF factoring
 alge435 Adding rational expressions with common denominators and quadratic factoring
 alge436 Adding rational expressions with different denominators and a single occurrence of a variable
 alge437 Adding rational expressions with denominators ax and bx : Basic
 alge438 Adding rational expressions with denominators ax and bx : Advanced
 alge439 Adding rational expressions with denominators axn and bxm
 alge440 Adding rational expressions with multivariate monomial denominators: Basic
 alge226 Adding rational expressions with multivariate monomial denominators: Advanced
 alge441 Adding rational expressions with linear denominators without common factors: Basic
 alge442 Adding rational expressions with linear denominators without common factors: Advanced
 alge443 Adding rational expressions with linear denominators with common factors: Basic
 alge444 Adding rational expressions with linear denominators with common factors: Advanced
 alge445 Adding rational expressions with denominators $ax-b$ and $b-ax$
 alge661 Adding rational expressions involving different quadratic denominators
 alge446 Adding 3 rational expressions with different quadratic denominators
 arith695 Complex fraction without variables: Problem type 1
 arith696 Complex fraction without variables: Problem type 2
 alge470 Complex fraction involving univariate monomials
 alge058 Complex fraction involving multivariate monomials
 alge471 Complex fraction: GCF factoring
 alge472 Complex fraction: Quadratic factoring
 alge473 Complex fraction made of sums involving rational expressions: Problem type 1
 alge474 Complex fraction made of sums involving rational expressions: Problem type 2
 alge475 Complex fraction made of sums involving rational expressions: Problem type 3
 alge476 Complex fraction made of sums involving rational expressions: Problem type 4
 alge477 Complex fraction made of sums involving rational expressions: Problem type 5
 alge478 Complex fraction made of sums involving rational expressions: Problem type 6
 alge479 Complex fraction made of sums involving rational expressions: Multivariate
 alge480 Complex fraction with negative exponents: Problem type 1
 alge481 Complex fraction with negative exponents: Problem type 2
 alge162 Complex fraction that contains a complex fraction
 alge413 Finding all square roots of a number
 arith601 Square root of a rational perfect square
 arith760 Square roots of perfect squares with signs
 arith761 Square roots of integers raised to even exponents
 alge415 Introduction to simplifying a radical expression with an even exponent
 alge264 Square root of a perfect square monomial
 alge603 Introduction to solving an absolute value equation
 alge537 Using absolute value to simplify square roots of perfect square monomials
 arith094 Cube root of an integer

alge549 Finding n th roots of perfect n th powers with signs
arith768 Finding the n th root of a perfect n th power fraction
alge550 Finding the n th root of a perfect n th power monomial
alge538 Using absolute value to simplify higher radical expressions
alge812 Converting between radical form and exponent form
alge560 Rational exponents: Unit fraction exponents and whole number bases
alge561 Rational exponents: Unit fraction exponents and bases involving signs
alge250 Rational exponents: Non-unit fraction exponent with a whole number base
alge251 Rational exponents: Negative exponents and fractional bases
alge558 Rational exponents: Product rule
alge559 Rational exponents: Quotient rule
alge773 Rational exponents: Products and quotients with negative exponents
alge562 Rational exponents: Power of a power rule
alge249 Rational exponents: Powers of powers with negative exponents
arith093 Simplifying the square root of a whole number less than 100
arith762 Simplifying the square root of a whole number greater than 100
alge080 Simplifying a radical expression with an even exponent
alge520 Introduction to simplifying a radical expression with an odd exponent
alge521 Simplifying a radical expression with an odd exponent
alge275 Simplifying a radical expression with two variables
alge273 Simplifying a higher root of a whole number
alge551 Introduction to simplifying a higher radical expression
alge552 Simplifying a higher radical expression: Univariate
alge811 Simplifying a higher radical expression: Multivariate
arith767 Introduction to square root addition or subtraction
arith032 Square root addition or subtraction
alge533 Square root addition or subtraction with three terms
alge531 Introduction to simplifying a sum or difference of radical expressions: Univariate
alge532 Simplifying a sum or difference of radical expressions: Univariate
alge084 Simplifying a sum or difference of radical expressions: Multivariate
alge554 Simplifying a sum or difference of higher roots
alge555 Simplifying a sum or difference of higher radical expressions
arith764 Introduction to square root multiplication
arith765 Square root multiplication: Basic
arith039 Square root multiplication: Advanced
alge522 Introduction to simplifying a product of radical expressions: Univariate
alge523 Simplifying a product of radical expressions: Univariate
alge640 Simplifying a product of radical expressions: Multivariate
alge082 Simplifying a product of radical expressions: Multivariate, fractional expressions
alge556 Introduction to simplifying a product of higher roots
alge557 Simplifying a product of higher radical expressions
alge525 Introduction to simplifying a product involving square roots using the distributive property
alge526 Simplifying a product involving square roots using the distributive property: Basic
alge276 Simplifying a product involving square roots using the distributive property: Advanced
alge774 Special products of radical expressions: Conjugates and squaring
alge984 Classifying sums and products as rational or irrational
arith766 Simplifying a quotient of square roots
alge530 Simplifying a quotient involving a sum or difference with a square root
alge527 Rationalizing a denominator: Quotient involving square roots
alge528 Rationalizing a denominator: Square root of a fraction
alge529 Rationalizing a denominator: Quotient involving a monomial
alge534 Rationalizing a denominator using conjugates: Integer numerator
alge535 Rationalizing a denominator using conjugates: Square root in numerator
alge536 Rationalizing a denominator using conjugates: Variable in denominator
alge564 Rationalizing a denominator: Quotient involving a higher radical
alge775 Rationalizing a denominator: Quotient involving higher radicals and monomials
alge563 Simplifying products or quotients of higher radicals with different indices: Univariate
alge776 Simplifying products or quotients of higher radicals with different indices: Multivariate
geom340 Area of a piecewise rectangular figure
geom142 Word problem involving the area between two rectangles
geom801 Area of a triangle
geom022 Area of a parallelogram

geom023 Area of a trapezoid
 geom016 Circumference of a circle
 geom301 Perimeter involving rectangles and circles
 geom802 Circumference and area of a circle
 geom477 Circumference and area of a circle: Exact answers in terms of pi
 geom302 Area involving rectangles and circles
 geom036 Word problem involving the area between two concentric circles
 geom214 Area involving inscribed figures
 geom311 Volume of a rectangular prism
 geom090 Volume of a triangular prism
 geom033 Volume of a pyramid
 geom035 Volume of a cylinder
 geom092 Word problem involving the rate of filling or emptying a cylinder
 geom622 Volume of a cone
 geom086 Volume of a cone: Exact answers in terms of pi
 geom841 Volume of a sphere
 geom031 Surface area of a cube or a rectangular prism
 geom091 Surface area of a triangular prism
 geom621 Surface area of a cylinder
 geom034 Surface area of a cylinder: Exact answers in terms of pi
 geom842 Surface area of a sphere
 alge407 Introduction to the Pythagorean Theorem
 geom044 Pythagorean Theorem
 alge408 Word problem involving the Pythagorean Theorem

Equations and Inequalities

alge836 Additive property of equality with signed fractions
 alge012 Multiplicative property of equality with signed fractions
 alge837 Solving a multi-step equation given in fractional form
 alge986 Identifying properties used to solve a linear equation
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
 alge420 Solving a linear equation with several occurrences of the variable: Fractional forms with monomial numerators
 alge208 Solving a two-step equation with signed fractions
 alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
 alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
 alge742 Solving equations with zero, one, or infinitely many solutions
 alge840 Solving a proportion of the form $(x+a) \div b = c \div d$
 alge511 Solving for a variable in terms of other variables using addition or subtraction: Basic
 alge512 Solving for a variable in terms of other variables using addition or subtraction: Advanced
 alge513 Solving for a variable in terms of other variables using multiplication or division: Basic
 alge514 Solving for a variable in terms of other variables using multiplication or division: Advanced
 alge517 Solving for a variable in terms of other variables using addition or subtraction with division
 alge518 Solving for a variable inside parentheses in terms of other variables
 alge507 Solving for a variable in terms of other variables in a linear equation with fractions
 alge016 Translating a sentence into a one-step equation
 alge841 Translating a sentence into a multi-step equation
 alge014 Solving a word problem with two unknowns using a linear equation
 alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
 alge219 Solving a decimal word problem using a linear equation with the variable on both sides
 alge704 Solving a fraction word problem using a linear equation with the variable on both sides
 alge792 Solving a word problem with three unknowns using a linear equation

alge842 Solving a word problem involving consecutive integers
alge730 Writing a multi-step equation for a real-world situation
alge794 Solving a value mixture problem using a linear equation
alge823 Solving a one-step word problem using the formula $d = rt$
alge796 Solving a distance, rate, time problem using a linear equation
geom817 Finding a side length given the perimeter and side lengths with variables
geom143 Finding the perimeter or area of a rectangle given one of these values
geom838 Circumference ratios
geom530 Solving equations involving vertical angles
geom628 Finding angle measures of a triangle given angles with variables
stat803 Finding the value for a new score that will yield a given mean
arith852 Finding the multiplier to give a final amount after a percentage increase or decrease
arith847 Finding the sale price given the original price and percent discount
arith848 Finding the total cost including tax or markup
arith031 Finding the original price given the sale price and percent discount
arith854 Computing a percent mixture
alge795 Solving a percent mixture problem using a linear equation
arith232 Finding simple interest without a calculator
arith514 Converting a repeating decimal to a fraction
alge864 Solving an absolute value equation: Problem type 1
alge865 Solving an absolute value equation: Problem type 2
alge866 Solving an absolute value equation: Problem type 3
alge867 Solving an absolute value equation: Problem type 4
alge167 Solving an absolute value equation of the form $-ax+b = -cx+d$
alge845 Translating a sentence into a one-step inequality
alge846 Translating a sentence into a multi-step inequality
alge748 Writing an inequality for a real-world situation
alge017 Graphing a linear inequality on the number line
alge822 Writing an inequality given a graph on the number line
alge186 Translating a sentence into a compound inequality
alge166 Graphing a compound inequality on the number line
alge847 Writing a compound inequality given a graph on the number line
set001 Set builder notation
set004 Set builder and interval notation
set002 Union and intersection of finite sets
set005 Union and intersection of intervals
alge844 Identifying solutions to a two-step linear inequality in one variable
alge852 Additive property of inequality with signed fractions
alge964 Multiplicative property of inequality with signed fractions
alge855 Solving a two-step linear inequality: Problem type 1
alge856 Solving a two-step linear inequality: Problem type 2
alge857 Solving a two-step linear inequality with a fractional coefficient
alge977 Solving a linear inequality with multiple occurrences of the variable: Problem type 1
alge858 Solving a linear inequality with multiple occurrences of the variable: Problem type 2
alge859 Solving a linear inequality with multiple occurrences of the variable: Problem type 3
alge860 Solving inequalities with no solution or all real numbers as solutions
alge746 Solving a compound linear inequality: Graph solution, basic
alge747 Solving a compound linear inequality: Interval notation
alge749 Solving a decimal word problem using a two-step linear inequality
alge750 Solving a decimal word problem using a linear inequality with the variable on both sides
alge868 Solving an absolute value inequality: Problem type 1
alge943 Writing an absolute value inequality given a graph on the number line
alge869 Solving an absolute value inequality: Problem type 2
alge870 Solving an absolute value inequality: Problem type 3
alge871 Solving an absolute value inequality: Problem type 4
alge872 Solving an absolute value inequality: Problem type 5
alge271 Solving a proportion of the form $a/(x+b) = c/x$
alge060 Solving a rational equation that simplifies to linear: Denominator x
alge205 Solving a rational equation that simplifies to linear: Denominator $x+a$
alge769 Solving a rational equation that simplifies to linear: Denominators a , x , or ax
alge421 Solving a rational equation that simplifies to linear: Denominators ax and bx
alge422 Solving a rational equation that simplifies to linear: Like binomial denominators

alge206 Solving a rational equation that simplifies to linear: Unlike binomial denominators
 alge508 Solving for a variable in terms of other variables in a rational equation: Problem type 1
 alge509 Solving for a variable in terms of other variables in a rational equation: Problem type 2
 alge510 Solving for a variable in terms of other variables in a rational equation: Problem type 3
 arith610 Word problem on proportions: Problem type 1
 arith611 Word problem on proportions: Problem type 2
 geom037 Similar polygons
 geom038 Similar right triangles
 geom337 Indirect measurement
 geom133 Ratio of volumes
 arith612 Word problem involving multiple rates
 alge770 Solving a work problem using a rational equation
 alge450 Solving a distance, rate, time problem using a rational equation
 alge059 Ordering fractions with variables
 alge778 Using i to rewrite square roots of negative numbers
 alge779 Simplifying a product and quotient involving square roots of negative numbers
 pcalc048 Adding or subtracting complex numbers
 pcalc049 Multiplying complex numbers
 pcalc050 Dividing complex numbers
 pcalc053 Simplifying a power of i
 alge681 Solving an equation written in factored form
 alge956 Finding the roots of a quadratic equation of the form $ax^2 + bx = 0$
 alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
 alge211 Solving a quadratic equation needing simplification
 alge046 Roots of a product of polynomials
 alge163 Writing a quadratic equation given the roots and the leading coefficient
 alge703 Solving a word problem using a quadratic equation with rational roots
 alge713 Using the Pythagorean Theorem and a quadratic equation to find side lengths of a right triangle
 alge962 Solving an equation of the form $x^2 = a$ using the square root property
 alge092 Solving a quadratic equation using the square root property: Exact answers, basic
 alge227 Solving a quadratic equation using the square root property: Exact answers, advanced
 alge094 Completing the square
 alge780 Solving a quadratic equation by completing the square: Exact answers
 alge095 Applying the quadratic formula: Exact answers
 alge963 Applying the quadratic formula: Decimal answers
 pcalc051 Solving a quadratic equation with complex roots
 alge214 Discriminant of a quadratic equation
 alge193 Discriminant of a quadratic equation with parameter
 alge524 Solving a word problem using a quadratic equation with irrational roots
 alge093 Solving an equation using the odd-root property: Problem type 1
 alge228 Solving an equation using the odd-root property: Problem type 2
 alge467 Restriction on a variable in a denominator: Quadratic
 alge423 Solving a rational equation that simplifies to linear: Factorable quadratic denominator
 alge424 Solving a rational equation that simplifies to quadratic: Proportional form, basic
 alge425 Solving a rational equation that simplifies to quadratic: Denominator x
 alge212 Solving a rational equation that simplifies to quadratic: Binomial denominators, constant numerators
 alge062 Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators
 alge426 Solving a rational equation that simplifies to quadratic: Factorable quadratic denominator
 alge047 Solving a rational equation that simplifies to quadratic: Proportional form, advanced
 alge400 Introduction to solving a radical equation
 alge089 Solving a radical equation that simplifies to a linear equation: One radical, basic
 alge402 Solving a radical equation that simplifies to a linear equation: One radical, advanced
 alge090 Solving a radical equation that simplifies to a linear equation: Two radicals
 alge403 Solving a radical equation that simplifies to a quadratic equation: One radical, basic
 alge404 Solving a radical equation that simplifies to a quadratic equation: One radical, advanced
 alge411 Solving a radical equation with a quadratic expression under the radical
 alge405 Solving a radical equation with two radicals that simplifies to $\sqrt{x} = a$
 alge182 Solving a radical equation that simplifies to a quadratic equation: Two radicals
 alge412 Algebraic symbol manipulation with radicals
 alge542 Word problem involving radical equations: Basic
 alge409 Word problem involving radical equations: Advanced

alge410 Solving an equation with a root index greater than 2: Problem type 1
 alge417 Solving an equation with a root index greater than 2: Problem type 2
 alge416 Solving an equation with exponent $1/a$: Problem type 1
 alge418 Solving an equation with exponent $1/a$: Problem type 2
 alge230 Solving an equation with positive rational exponent
 alge231 Solving an equation with negative rational exponent
 alge781 Solving an equation that can be written in quadratic form: Problem type 1
 alge782 Solving an equation that can be written in quadratic form: Problem type 2

Graphs and Functions

alge064 Reading a point in the coordinate plane
 alge067 Plotting a point in the coordinate plane
 arith405 Naming the quadrant or axis of a point given its coordinates
 arith406 Naming the quadrant or axis of a point given the signs of its coordinates
 geom437 Finding the area of a triangle or parallelogram in the coordinate plane
 alge850 Table for a linear equation
 alge132 Distance between two points in the plane: Exact answers
 alge324 Distance between two points in the plane: Decimal answers
 geom323 Identifying scalene, isosceles, and equilateral triangles given coordinates of their vertices
 alge191 Midpoint of a line segment in the plane
 alge414 Finding an endpoint of a line segment given the other endpoint and the midpoint
 alge873 Identifying solutions to a linear equation in two variables
 alge066 Finding a solution to a linear equation in two variables
 alge877 Graphing a linear equation of the form $y = mx$
 alge878 Graphing a line given its equation in slope-intercept form: Integer slope
 alge879 Graphing a line given its equation in slope-intercept form: Fractional slope
 alge880 Graphing a line given its equation in standard form
 alge198 Graphing a vertical or horizontal line
 alge884 Finding x - and y -intercepts given the graph of a line on a grid
 alge924 Finding x - and y -intercepts of a line given the equation: Basic
 alge210 Finding x - and y -intercepts of a line given the equation: Advanced
 alge197 Graphing a line given its x - and y -intercepts
 alge881 Graphing a line by first finding its x - and y -intercepts
 pcalc750 Finding intercepts of a nonlinear function given its graph
 pcalc678 Finding x - and y -intercepts of the graph of a nonlinear equation
 alge913 Graphing an absolute value equation of the form $y = A - |x - h|$
 alge954 Graphing a parabola of the form $y = ax^2$
 alge955 Graphing a parabola of the form $y = ax^2 + c$
 alge262 Graphing a cubic function of the form $y = ax^3$
 pcalc416 Determining if graphs have symmetry with respect to the x -axis, y -axis, or origin
 pcalc679 Testing an equation for symmetry about the axes and origin
 alge875 Classifying slopes given graphs of lines
 alge886 Finding slope given the graph of a line on a grid
 alge887 Finding slope given two points on the line
 alge885 Finding the slope of horizontal and vertical lines
 alge888 Finding the coordinate that yields a given slope
 alge259 Graphing a line given its slope and y -intercept
 alge196 Graphing a line through a given point with a given slope
 alge876 Identifying linear equations: Advanced
 alge874 Identifying linear functions given ordered pairs
 alge891 Rewriting a linear equation in the form $Ax + By = C$
 alge889 Finding the slope and y -intercept of a line given its equation in the form $y = mx + b$
 alge890 Finding the slope and y -intercept of a line given its equation in the form $Ax + By = C$
 alge882 Graphing a line by first finding its slope and y -intercept
 alge258 Writing an equation of a line given its slope and y -intercept
 alge892 Writing an equation and graphing a line given its slope and y -intercept
 alge314 Finding the slope, y -intercept, and equation for a linear function given a table of values
 alge893 Writing an equation in slope-intercept form given the slope and a point
 alge318 Finding the slope and a point on a line given its equation in point-slope form

alge883 Graphing a line given its equation in point-slope form
 alge894 Writing an equation in point-slope form given the slope and a point
 alge313 Writing an equation in standard form given the slope and a point
 alge070 Writing an equation of a line given the y -intercept and another point
 alge072 Writing the equation of the line through two given points
 alge073 Writing the equations of vertical and horizontal lines through a given point
 alge322 Comparing linear functions to the parent function $y=x$
 geom806 Finding slopes of lines parallel and perpendicular to a line given in slope-intercept form
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 alge895 Identifying parallel and perpendicular lines from equations
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 geom462 Identifying parallel and perpendicular lines from coordinates
 geom322 Identifying coordinates that give right triangles
 alge897 Writing and evaluating a function that models a real-world situation: Advanced
 alge654 Graphing ordered pairs and writing an equation from a table of values in context
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 alge817 Finding the initial amount and rate of change given a table for a linear function
 alge818 Finding the initial amount and rate of change given a graph of a linear function
 alge992 Combining functions to write a new function that models a real-world situation
 alge987 Comparing properties of linear functions given in different forms
 alge989 Interpreting the parameters of a linear function that models a real-world situation
 alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
 alge806 Application problem with a linear function: Finding a coordinate given two points
 alge991 Solving a linear equation by graphing
 mstat094 Constructing a scatter plot
 mstat030 Sketching the line of best fit
 mstat023 Scatter plots and correlation
 mstat068 Predictions from the line of best fit
 mstat067 Approximating the equation of a line of best fit and making predictions
 mstat069 Computing residuals
 mstat070 Interpreting residual plots
 mstat093 Classifying linear and nonlinear relationships from scatter plots
 mstat071 Linear relationship and the correlation coefficient
 mstat096 Identifying outliers and clustering in scatter plots
 mstat095 Finding outliers in a data set
 alge914 Identifying solutions to a system of linear equations
 alge725 Graphically solving a system of linear equations
 pcalc820 Using a graphing calculator to solve a system of linear equations: Basic
 pcalc821 Using a graphing calculator to solve a system of linear equations: Advanced
 alge317 Writing a system of linear equations given its graph
 alge751 Solving a system of linear equations using substitution
 alge915 Solving a system of linear equations using elimination with addition
 alge076 Solving a system of linear equations using elimination with multiplication and addition
 geom496 Identifying the center and radius to graph a circle given its equation in standard form
 geom497 Identifying the center and radius to graph a circle given its equation in general form: Basic
 geom668 Identifying the center and radius to graph a circle given its equation in general form: Advanced
 geom499 Writing the equation of a circle centered at the origin given its radius or a point on the circle
 geom495 Writing an equation of a circle and identifying points that lie on the circle
 geom498 Writing an equation of a circle given its center and radius or diameter
 geom493 Deriving the equation of a circle using the Pythagorean Theorem
 pcalc065 Writing an equation of a circle given its center and a point on the circle
 pcalc066 Writing an equation of a circle given the endpoints of a diameter
 fun032 Identifying functions from relations
 fun010 Vertical line test
 fun001 Table for a linear function
 pcalc760 Evaluating functions: Linear and quadratic or cubic
 alge468 Evaluating a rational function: Problem type 1
 alge469 Evaluating a rational function: Problem type 2
 alge539 Table for a square root function
 alge546 Evaluating a cube root function
 pcalc682 Evaluating functions: Absolute value, rational, radical
 fun030 Evaluating a piecewise-defined function

fun033 Variable expressions as inputs of functions: Problem type 1
 pcalc571 Variable expressions as inputs of functions: Problem type 2
 pcalc411 Variable expressions as inputs of functions: Problem type 3
 fun016 Domain and range from ordered pairs
 alge715 Domain of a rational function: Excluded values
 pcalc412 Domain of a rational function: Interval notation
 alge540 Domain of a square root function: Basic
 pcalc763 Domain of a square root function: Advanced
 alge547 Domains of higher root functions
 pcalc754 Finding the domain of a fractional function involving radicals
 pcalc924 Determining whether an equation defines a function: Basic
 pcalc757 Determining whether an equation defines a function: Advanced
 alge294 Finding outputs of a one-step function that models a real-world situation: Function notation
 alge295 Finding outputs of a two-step function with decimals that models a real-world situation: Function notation
 alge296 Finding inputs and outputs of a two-step function that models a real-world situation: Function notation
 alge990 Domain and range of a linear function that models a real-world situation
 pcalc471 Rewriting a multivariate function as a univariate function given a relationship between its variables
 pcalc753 Finding a difference quotient for a linear or quadratic function
 pcalc414 Finding a difference quotient for a rational function
 fun026 Finding an output of a function from its graph
 pcalc761 Finding inputs and outputs of a function from its graph
 fun007 Domain and range from the graph of a discrete relation
 alge312 Finding domain and range from a linear graph in context
 fun024 Domain and range from the graph of a continuous function
 fun025 Domain and range from the graph of a piecewise function
 alge999 Finding where a function is increasing, decreasing, or constant given the graph
 pcalc751 Finding where a function is increasing, decreasing, or constant given the graph: Interval notation
 pcalc752 Finding local maxima and minima of a function given the graph
 pcalc439 Finding the absolute maximum and minimum of a function given the graph
 pcalc417 Finding values and intervals where the graph of a function is zero, positive, or negative
 mstat018 Choosing a graph to fit a narrative: Basic
 mstat051 Choosing a graph to fit a narrative: Advanced
 alge896 Graphing an integer function and finding its range for a given domain
 alge570 Graphing a function of the form $f(x) = ax + b$: Integer slope
 alge571 Graphing a function of the form $f(x) = ax + b$: Fractional slope
 alge900 Graphing an absolute value equation in the plane: Basic
 alge168 Graphing an absolute value equation in the plane: Advanced
 alge572 Graphing a function of the form $f(x) = ax^2$
 alge573 Graphing a function of the form $f(x) = ax^2 + c$
 alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
 alge543 Graphing a square root function: Problem type 1
 alge544 Graphing a square root function: Problem type 2
 alge545 Graphing a square root function: Problem type 3
 alge548 Graphing a cube root function
 pcalc443 Matching parent graphs with their equations
 fun031 Graphing a piecewise-defined function: Problem type 1
 pcalc444 Graphing a piecewise-defined function: Problem type 2
 pcalc568 Graphing a piecewise-defined function: Problem type 3
 pcalc114 Even and odd functions: Problem type 1
 pcalc440 Even and odd functions: Problem type 2
 pcalc768 Finding the average rate of change of a function
 alge998 Finding the average rate of change of a function given its graph
 pcalc442 Word problem involving average rate of change
 pcalc441 Writing the equation of a secant line
 pcalc467 Translating the graph of a parabola: One step
 pcalc465 Translating the graph of a parabola: Two steps
 alge723 How the leading coefficient affects the shape of a parabola
 pcalc468 Translating the graph of an absolute value function: One step
 alge899 Translating the graph of an absolute value function: Two steps
 alge901 How the leading coefficient affects the graph of an absolute value function
 alge185 Writing an equation for a function after a vertical translation

pcalc469 Translating the graph of a function: One step
 pcalc770 Translating the graph of a function: Two steps
 pcalc569 Transforming the graph of a function by reflecting over an axis
 pcalc470 Transforming the graph of a function by shrinking or stretching
 pcalc570 Transforming the graph of a function using more than one transformation
 pcalc466 Transforming the graph of a quadratic, cubic, square root, or absolute value function
 fun020 Writing an equation for a function after a vertical and horizontal translation
 fun019 Sum, difference, and product of two functions
 alge786 Quotient of two functions: Basic
 pcalc413 Quotient of two functions: Advanced
 pcalc756 Combining functions: Advanced
 alge716 Introduction to the composition of two functions
 fun022 Composition of two functions: Basic
 pcalc484 Composition of a function with itself
 pcalc776 Expressing a function as a composition of two functions
 fun021 Composition of two functions: Domain and range
 alge129 Composition of two functions: Advanced
 pcalc483 Composition of two rational functions
 pcalc485 Word problem involving composition of two functions
 fun011 Horizontal line test
 pcalc777 Determining whether two functions are inverses of each other
 fun012 Inverse functions: Linear, discrete
 pcalc573 Inverse functions: Quadratic, square root
 pcalc572 Inverse functions: Cubic, cube root
 alge130 Inverse functions: Rational
 pcalc486 Graphing the inverse of a function given its graph
 pcalc487 Finding, evaluating, and interpreting an inverse function for a given linear relationship

Polynomial and Rational Functions

alge974 Finding the vertex, x-intercepts, and axis of symmetry from the graph of a parabola
 alge569 Graphing a parabola of the form $y = x^2 + bx + c$
 pcalc574 Graphing a parabola of the form $y = a(x-h)^2 + k$
 pcalc746 Graphing a parabola of the form $y = ax^2 + bx + c$: Integer coefficients
 pcalc747 Graphing a parabola of the form $y = ax^2 + bx + c$: Rational coefficients
 alge323 Finding the zeros of a quadratic function given its equation
 pcalc714 Using a graphing calculator to find the zeros of a quadratic function
 alge320 Writing a quadratic function given its zeros
 alge277 Finding the x-intercept(s) and the vertex of a parabola
 pcalc793 Using a graphing calculator to find the x-intercept(s) and vertex of a quadratic function
 alge319 Rewriting a quadratic function in standard form
 pcalc550 Rewriting a quadratic function to find its vertex and sketch its graph
 pcalc775 Finding the maximum or minimum of a quadratic function
 alge785 Word problem involving the maximum or minimum of a quadratic function
 pcalc551 Word problem involving optimizing area by using a quadratic function
 pcalc415 Domain and range from the graph of a quadratic function
 pcalc762 Range of a quadratic function
 pcalc680 Writing the equation of a quadratic function given its graph
 alge957 Solving a quadratic equation by graphing
 alge996 Comparing properties of quadratic functions given in different forms
 alge702 Classifying the graph of a function
 mstat102 Choosing a quadratic model and using it to make a prediction
 pcalc546 Identifying polynomial functions
 pcalc764 Finding zeros of a polynomial function written in factored form
 pcalc547 Finding zeros and their multiplicities given a polynomial function written in factored form
 pcalc766 Finding a polynomial of a given degree with given zeros: Real zeros
 pcalc765 Finding x- and y-intercepts given a polynomial function
 pcalc782 Determining the end behavior of the graph of a polynomial function
 pcalc548 Determining end behavior and intercepts to graph a polynomial function
 pcalc783 Matching graphs with polynomial functions

pcalc738 Inferring properties of a polynomial function from its graph
pcalc794 Using a graphing calculator to find local extrema of a polynomial function
pcalc115 Using a graphing calculator to solve a word problem involving a local extremum of a polynomial function
alge759 Dividing a polynomial by a monomial: Univariate
alge760 Dividing a polynomial by a monomial: Multivariate
alge761 Polynomial long division: Problem type 1
alge762 Polynomial long division: Problem type 2
alge763 Polynomial long division: Problem type 3
pcalc117 Synthetic division
pcalc786 Using the remainder theorem to evaluate a polynomial
pcalc787 The Factor Theorem
pcalc118 Remainder theorem: Advanced
alge985 Closure properties of integers and polynomials
pcalc741 Using a given zero to write a polynomial as a product of linear factors: Real zeros
pcalc758 Finding all possible rational zeros using the rational zeros theorem: Problem type 1
pcalc759 Finding all possible rational zeros using the rational zeros theorem: Problem type 2
pcalc788 Descartes' Rule of Signs
pcalc743 Using the rational zeros theorem to find all zeros of a polynomial: Rational zeros
pcalc744 Using the rational zeros theorem to find all zeros of a polynomial: Irrational zeros
pcalc795 Using a graphing calculator to find zeros of a polynomial function
pcalc704 Using a graphing calculator to solve a word problem involving a polynomial of degree 3
pcalc785 Multiplying expressions involving complex conjugates
pcalc767 Finding a polynomial of a given degree with given zeros: Complex zeros
pcalc742 Using a given zero to write a polynomial as a product of linear factors: Complex zeros
pcalc745 Using the rational zeros theorem to find all zeros of a polynomial: Complex zeros
pcalc703 Using the conjugate zeros theorem to find all zeros of a polynomial
pcalc705 Linear factors theorem and conjugate zeros theorem
pcalc552 Finding the intercepts, asymptotes, domain, and range from the graph of a rational function
pcalc917 Finding the asymptotes of a rational function: Constant over linear
pcalc918 Finding the asymptotes of a rational function: Linear over linear
pcalc790 Finding horizontal and vertical asymptotes of a rational function: Quadratic numerator or denominator
pcalc562 Finding the asymptotes of a rational function: Quadratic over linear
alge515 Graphing a rational function: Constant over linear
alge516 Graphing a rational function: Linear over linear
pcalc553 Transforming the graph of a rational function
pcalc109 Graphing a rational function: Quadratic over linear
pcalc792 Graphing rational functions with holes
pcalc791 Matching graphs with rational functions: Two vertical asymptotes
pcalc557 Graphing a rational function with more than one vertical asymptote
pcalc706 Writing the equation of a rational function given its graph
pcalc556 Using a graphing calculator to solve a word problem involving a local extremum of a rational function
alge784 Solving a quadratic inequality written in factored form
alge771 Solving a quadratic inequality
pcalc558 Solving a polynomial inequality: Problem type 1
pcalc560 Solving a polynomial inequality: Problem type 2
pcalc561 Solving a polynomial inequality: Problem type 3
pcalc559 Solving a polynomial inequality: Problem type 4
alge783 Solving a rational inequality: Problem type 1
pcalc677 Solving a rational inequality: Problem type 2
alge982 Identifying direct variation equations
alge938 Identifying direct variation from ordered pairs and writing equations
alge904 Writing a direct variation equation
alge175 Word problem on direct variation
alge828 Interpreting direct variation from a graph
alge905 Writing an inverse variation equation
alge903 Identifying direct and inverse variation equations
alge902 Identifying direct and inverse variation from ordered pairs and writing equations
alge176 Word problem on inverse variation
alge220 Word problem on inverse proportions
pcalc681 Writing an equation that models variation
alge772 Word problem on combined variation

Exponential and Logarithmic Functions

alge971 Table for an exponential function
 pcalc488 Graphing an exponential function: $f(x)=bx$
 pcalc489 Graphing an exponential function: $f(x) = a(b)^x$
 pcalc567 Graphing an exponential function: $f(x)=b \cdot x$ or $f(x)=-bax$
 pcalc922 Translating the graph of an exponential function
 alge321 Finding domain and range from the graph of an exponential function
 pcalc797 The graph, domain, and range of an exponential function
 pcalc490 Transforming the graph of a natural exponential function
 pcalc103 Graphing an exponential function and its asymptote: $f(x) = a(e)^{x-b} + c$
 pcalc491 Using a calculator to evaluate exponential expressions
 alge830 Evaluating an exponential function that models a real-world situation
 pcalc555 Using a calculator to evaluate exponential expressions involving base e
 pcalc919 Evaluating an exponential function with base e that models a real-world situation
 arith853 Introduction to compound interest
 arith910 Calculating and comparing simple interest and compound interest
 alge177 Finding a final amount in a word problem on exponential growth or decay
 alge741 Finding the final amount in a word problem on compound interest
 alge966 Finding the initial amount and rate of change given an exponential function
 alge968 Writing an equation that models exponential growth or decay
 alge967 Writing an exponential function rule given a table of ordered pairs
 mstat103 Choosing an exponential model and using it to make a prediction
 alge993 Comparing linear, polynomial, and exponential functions
 pcalc492 Using a calculator to evaluate natural and common logarithmic expressions
 pcalc493 Converting between logarithmic and exponential equations
 pcalc494 Converting between natural logarithmic and exponential equations
 pcalc495 Evaluating logarithmic expressions
 alge233 Solving an equation of the form $\log_b a = c$
 pcalc923 Translating the graph of a logarithmic function
 alge788 Graphing a logarithmic function: Basic
 pcalc800 The graph, domain, and range of a logarithmic function
 pcalc801 Domain of a logarithmic function: Advanced
 pcalc104 Graphing a logarithmic function: Advanced
 pcalc708 Basic properties of logarithms
 pcalc511 Using properties of logarithms to evaluate expressions
 pcalc779 Expanding a logarithmic expression: Problem type 1
 pcalc521 Expanding a logarithmic expression: Problem type 2
 pcalc522 Expanding a logarithmic expression: Problem type 3
 alge787 Writing an expression as a single logarithm
 pcalc612 Change of base for logarithms: Problem type 1
 pcalc613 Change of base for logarithms: Problem type 2
 pcalc513 Solving a multi-step equation involving a single logarithm: Problem type 1
 pcalc510 Solving a multi-step equation involving a single logarithm: Problem type 2
 pcalc804 Solving a multi-step equation involving natural logarithms
 alge113 Solving an equation involving logarithms on both sides: Problem type 1
 pcalc805 Solving an equation involving logarithms on both sides: Problem type 2
 alge301 Solving an exponential equation by finding common bases: Linear exponents
 alge482 Solving an exponential equation by finding common bases: Linear and quadratic exponents
 pcalc920 Solving an exponential equation by using logarithms: Decimal answers, basic
 pcalc921 Solving an exponential equation by using natural logarithms: Decimal answers
 pcalc523 Solving an exponential equation by using logarithms: Decimal answers, advanced
 alge111 Solving an exponential equation by using logarithms: Exact answers in logarithmic form
 pcalc802 Solving an exponential equation by using substitution and quadratic factoring
 alge178 Finding the time to reach a limit in a word problem on exponential growth or decay
 pcalc524 Finding the time in a word problem on compound interest
 pcalc508 Finding the time given an exponential function with base e that models a real-world situation
 pcalc525 Finding the final amount in a word problem on continuous compound interest
 pcalc527 Finding the initial amount in a word problem on continuous compound interest

pcalc526 Finding the final amount in a word problem on continuous exponential growth or decay
 pcalc615 Finding the rate or time in a word problem on continuous exponential growth or decay
 pcalc528 Finding half-life or doubling time
 pcalc529 Writing and evaluating a function modeling continuous exponential growth or decay given doubling time or half-life
 pcalc530 Writing and evaluating a function modeling continuous exponential growth or decay given two outputs

Trigonometric Functions

pcalc001 Converting degrees-minutes-seconds to decimal degrees
 pcalc661 Converting a decimal degree to degrees-minutes-seconds
 pcalc002 Converting between degree and radian measure: Problem type 1
 pcalc621 Converting between degree and radian measure: Problem type 2
 pcalc006 Sketching an angle in standard position
 pcalc622 Coterminal angles
 pcalc005 Arc length and central angle measure
 pcalc623 Area of a sector of a circle
 pcalc624 Angular and linear speed
 pcalc627 Finding coordinates on the unit circle for special angles
 pcalc625 Finding a point on the unit circle given one coordinate
 pcalc629 Trigonometric functions and special angles: Problem type 1
 pcalc628 Finding trigonometric ratios from a point on the unit circle
 pcalc630 Trigonometric functions and special angles: Problem type 2
 pcalc631 Trigonometric functions and special angles: Problem type 3
 pcalc409 Evaluating expressions involving sine and cosine
 pcalc427 Even and odd properties of trigonometric functions
 pcalc616 Using a calculator to approximate sine, cosine, and tangent values
 pcalc408 Using a calculator to approximate cosecant, secant, and cotangent values
 pcalc410 Evaluating a sinusoidal function that models a real-world situation
 geom506 Special right triangles: Exact answers
 pcalc609 Sine, cosine, and tangent ratios: Numbers for side lengths
 pcalc600 Sine, cosine, and tangent ratios: Variables for side lengths
 pcalc606 Using the Pythagorean Theorem to find a trigonometric ratio
 pcalc008 Finding trigonometric ratios given a right triangle
 geom317 Understanding trigonometric ratios through similar right triangles
 geom316 Relationship between the sines and cosines of complementary angles
 geom318 Using similar right triangles to find trigonometric ratios
 pcalc607 Using a trigonometric ratio to find a side length in a right triangle
 pcalc610 Using trigonometry to find a length in a word problem with one right triangle
 pcalc608 Using a trigonometric ratio to find an angle measure in a right triangle
 pcalc611 Using trigonometry to find angles of elevation or depression in a word problem
 pcalc642 Solving a right triangle
 pcalc473 Using trigonometry to find a length in a word problem with two right triangles
 pcalc626 Reference angles: Problem type 1
 pcalc632 Reference angles: Problem type 2
 pcalc671 Determining the location of a terminal point given the signs of trigonometric values
 pcalc011 Finding values of trigonometric functions given information about an angle: Problem type 1
 pcalc012 Finding values of trigonometric functions given information about an angle: Problem type 2
 pcalc013 Finding values of trigonometric functions given information about an angle: Problem type 3
 pcalc426 Finding values of trigonometric functions given information about an angle: Problem type 4
 pcalc445 Sketching the graph of $y=a*\sin(x)$ or $y=a*\cos(x)$
 pcalc446 Sketching the graph of $y=\sin(bx)$ or $y=\cos(bx)$
 pcalc447 Sketching the graph of $y=\sin(x)+d$ or $y=\cos(x)+d$
 pcalc448 Sketching the graph of $y=\sin(x+c)$ or $y=\cos(x+c)$
 pcalc107 Sketching the graph of $y=a*\sin(x+c)$ or $y=a*\cos(x+c)$
 pcalc106 Sketching the graph of $y=a*\sin(bx)$ or $y=a*\cos(bx)$
 pcalc014 Sketching the graph of $y=a*\sin(bx+c)$ or $y=a*\cos(bx+c)$
 pcalc438 Sketching the graph of $y=a*\sin(bx)+d$ or $y=a*\cos(bx)+d$
 pcalc633 Amplitude and period of sine and cosine functions
 pcalc634 Amplitude, period, and phase shift of sine and cosine functions

pcalc635 Writing the equation of a sine or cosine function given its graph: Problem type 1
 pcalc636 Writing the equation of a sine or cosine function given its graph: Problem type 2
 pcalc640 Word problem involving a sine or cosine function: Problem type 1
 pcalc641 Word problem involving a sine or cosine function: Problem type 2
 pcalc474 Sketching a graph of a damped sine or cosine function
 pcalc428 Domains and ranges of trigonometric functions
 pcalc637 Matching graphs and equations for secant, cosecant, tangent, and cotangent functions
 pcalc017 Sketching the graph of a secant or cosecant function: Problem type 1
 pcalc638 Sketching the graph of a secant or cosecant function: Problem type 2
 pcalc105 Sketching the graph of a tangent or cotangent function: Problem type 1
 pcalc015 Sketching the graph of a tangent or cotangent function: Problem type 2
 pcalc016 Values of inverse trigonometric functions
 pcalc018 Composition of a trigonometric function with its inverse trigonometric function: Problem type 1
 pcalc419 Composition of a trigonometric function with its inverse trigonometric function: Problem type 2
 pcalc420 Composition of a trigonometric function with the inverse of another trigonometric function: Problem type 1
 pcalc421 Composition of a trigonometric function with the inverse of another trigonometric function: Problem type 2
 pcalc036 Composition of a trigonometric function with the inverse of another trigonometric function: Problem type 3
 pcalc423 Composition of trigonometric functions with variable expressions as inputs: Problem type 1
 pcalc422 Composition of trigonometric functions with variable expressions as inputs: Problem type 2
 pcalc418 Using a calculator to approximate inverse trigonometric values

Trigonometric Identities and Equations

pcalc648 Simplifying trigonometric expressions
 pcalc666 Using cofunction identities
 pcalc110 Verifying a trigonometric identity
 pcalc034 Proving trigonometric identities: Problem type 1
 pcalc404 Proving trigonometric identities: Problem type 2
 pcalc405 Proving trigonometric identities: Problem type 3
 pcalc429 Proving trigonometric identities: Problem type 4
 pcalc406 Proving trigonometric identities using odd and even properties
 pcalc029 Sum and difference identities: Problem type 1
 pcalc663 Sum and difference identities: Problem type 2
 pcalc664 Sum and difference identities: Problem type 3
 pcalc430 Sum and difference identities: Problem type 4
 pcalc431 Proving trigonometric identities using sum and difference properties: Problem type 1
 pcalc432 Proving trigonometric identities using sum and difference properties: Problem type 2
 pcalc030 Double-angle identities: Problem type 1
 pcalc667 Double-angle identities: Problem type 2
 pcalc434 Double-angle identities: Problem type 3
 pcalc437 Power-reducing identities
 pcalc662 Half-angle identities: Problem type 1
 pcalc665 Half-angle identities: Problem type 2
 pcalc124 Product-to-sum and sum-to-product identities: Problem type 1
 pcalc674 Product-to-sum and sum-to-product identities: Problem type 2
 pcalc402 Proving trigonometric identities using double-angle properties
 pcalc436 Proving trigonometric identities using sum-to-product formulas
 pcalc650 Finding solutions in an interval for a basic equation involving sine or cosine
 pcalc651 Finding solutions in an interval for a basic tangent, cotangent, secant, or cosecant equation
 pcalc660 Solving a basic trigonometric equation using a calculator
 pcalc020 Solving a basic trigonometric equation involving sine or cosine
 pcalc021 Solving a basic trigonometric equation involving tangent, cotangent, secant, or cosecant
 pcalc670 Finding solutions in an interval for a trigonometric equation in factored form
 pcalc652 Finding solutions in an interval for a trigonometric equation with a squared function: Problem type 1
 pcalc653 Finding solutions in an interval for a trigonometric equation with a squared function: Problem type 2
 pcalc654 Finding solutions in an interval for a trigonometric equation using Pythagorean identities: Problem type 1

pcalc424 Finding solutions in an interval for a trigonometric equation using Pythagorean identities: Problem type 2
 pcalc657 Finding solutions in an interval for an equation with sine and cosine using double-angle identities
 pcalc668 Solving a trigonometric equation modeling a real-world situation
 pcalc811 Using a graphing calculator to solve a trigonometric equation
 pcalc127 Using a graphing calculator to solve a trigonometric inequality
 pcalc022 Solving a trigonometric equation involving a squared function: Problem type 1
 pcalc023 Solving a trigonometric equation involving a squared function: Problem type 2
 pcalc024 Solving a trigonometric equation involving more than one function
 pcalc025 Solving a trigonometric equation involving an angle multiplied by a constant
 pcalc655 Finding solutions in an interval for a trigonometric equation with an angle multiplied by a constant
 pcalc656 Finding solutions in an interval for an equation with sine and cosine using sum and difference identities
 pcalc026 Solving a trigonometric equation using sum and difference identities
 pcalc027 Solving a trigonometric equation using double-angle identities
 pcalc028 Solving a trigonometric equation using half-angle identities

Additional Topics in Trigonometry

pcalc031 Solving a triangle with the law of sines: Problem type 1
 pcalc032 Solving a triangle with the law of sines: Problem type 2
 pcalc644 Solving a word problem using the law of sines
 geom320 Proving the law of sines
 pcalc033 Solving a triangle with the law of cosines
 geom409 Proving the law of cosines
 pcalc645 Solving a word problem using the law of cosines
 geom439 Using trigonometry to find the area of a right triangle
 pcalc646 Finding the area of a triangle using trigonometry
 geom319 Expressing the area of a triangle in terms of the sine of one of its angles
 pcalc647 Heron's formula
 vector028 Writing a position vector in $a_i + b_j$ form given its graph
 vector014 Writing a vector in $a_i + b_j$ form given its initial and terminal points
 vector013 Writing a vector in component form given its initial and terminal points
 vector015 Magnitude of a vector given in $a_i + b_j$ form
 pcalc060 Magnitude of a vector given in component form
 vector016 Vector addition and scalar multiplication: $a_i + b_j$ form
 vector017 Linear combination of vectors: $a_i + b_j$ form
 geom856 Vector addition and scalar multiplication: Component form
 vector008 Linear combination of vectors: Component form
 pcalc729 Unit vectors
 pcalc739 Multiplication of a vector by a scalar: Geometric approach
 geom857 Vector addition: Geometric approach
 vector007 Vector subtraction: Geometric approach
 vector002 Finding the magnitude and direction of a vector given its graph
 vector005 Finding the components of a vector given its graph
 vector019 Finding the direction angle of a vector given in $a_i + b_j$ form
 vector018 Writing a vector given its magnitude and direction angle
 vector020 Writing a vector to represent a force pushing or pulling an object
 vector021 Finding the magnitude and direction angle of the resultant force of two vectors
 vector011 Finding magnitudes of forces related to a sum of three vectors
 vector012 Finding magnitudes of forces related to an object suspended by cables
 vector023 Dot product of vectors given in $a_i + b_j$ form
 vector009 Dot product of vectors given in component form
 pcalc730 Finding the angle between two vectors given in component form
 vector024 Classifying vector relationships by finding the angle between two vectors given in $a_i + b_j$ form
 vector010 Using the dot product to find perpendicular vectors
 vector006 Finding the component of a vector along another vector
 vector025 Decomposing a vector into two orthogonal vectors
 vector026 Finding the amount of work done given a force vector and a distance
 vector027 Finding magnitudes of forces related to an object on a ramp
 pcalc449 Plotting points in polar coordinates

pcalc450 Multiple representations of polar coordinates
 pcalc056 Converting rectangular coordinates to polar coordinates: Special angles
 pcalc451 Converting rectangular coordinates to polar coordinates: Decimal answers
 pcalc057 Converting polar coordinates to rectangular coordinates
 pcalc058 Converting an equation written in rectangular form to one written in polar form
 pcalc452 Converting an equation written in polar form to one written in rectangular form: Problem type 1
 pcalc453 Converting an equation written in polar form to one written in rectangular form: Problem type 2
 pcalc454 Graphing a polar equation: Basic
 pcalc455 Graphing a polar equation: Circle
 pcalc456 Graphing a polar equation: Limacon
 pcalc457 Graphing a polar equation: Rose
 pcalc458 Graphing a polar equation: Lemniscate
 pcalc459 Matching polar equations with their graphs
 pcalc460 Identifying symmetries of graphs given their polar equations
 pcalc461 Plotting complex numbers
 pcalc462 Writing a complex number in standard form given its trigonometric form
 pcalc472 Writing a complex number in trigonometric form: Special angles
 pcalc052 Writing a complex number in trigonometric form: Decimal answers
 pcalc463 Multiplying and dividing complex numbers in trigonometric form
 pcalc464 De Moivre's Theorem: Answers in trigonometric form
 pcalc054 De Moivre's theorem: Answers in standard form
 pcalc807 Finding the n th roots of a number: Problem type 1
 pcalc808 Finding the n th roots of a number: Problem type 2

Systems of Equations and Matrices

alge075 Classifying systems of linear equations from graphs
 alge916 Solving a system of linear equations with fractional coefficients
 alge917 Solving a system of linear equations with decimal coefficients
 alge752 Solving a 2x2 system of linear equations that is inconsistent or consistent dependent
 alge077 Creating an inconsistent system of linear equations
 alge988 Identifying the operations used to create equivalent systems of equations
 pcalc099 Consistency and independence of a system of linear equations
 alge263 Interpreting the graphs of two functions
 alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations
 alge919 Solving a word problem using a system of linear equations of the form $Ax + By = C$
 alge918 Solving a word problem using a system of linear equations of the form $y = mx + b$
 alge184 Solving a value mixture problem using a system of linear equations
 alge192 Solving a percent mixture problem using a system of linear equations
 alge224 Solving a distance, rate, time problem using a system of linear equations
 alge172 Solving a tax rate or interest rate problem using a system of linear equations
 pcalc496 Introduction to solving a 3x3 system of linear equations
 alge753 Solving a 3x3 system of linear equations: Problem type 1
 pcalc497 Solving a 3x3 system of linear equations: Problem type 2
 pcalc498 Solving a 3x3 system of linear equations that is inconsistent or consistent dependent
 alge793 Solving a word problem using a 3x3 system of linear equations: Problem type 1
 pcalc549 Solving a word problem using a 3x3 system of linear equations: Problem type 2
 pcalc037 Scalar multiplication of a matrix
 pcalc038 Addition or subtraction of matrices
 pcalc740 Linear combination of matrices
 pcalc507 Squaring and multiplying 2x2 matrices
 pcalc039 Multiplication of matrices: Basic
 pcalc710 Multiplication of matrices: Advanced
 pcalc503 Word problem involving multiplication of matrices
 pcalc504 Finding the inverse of a 2x2 matrix
 pcalc505 Finding the inverse of a 3x3 matrix
 pcalc042 Finding the determinant of a 2x2 matrix
 pcalc043 Finding the determinant of a 3x3 matrix
 pcalc564 Completing Gauss-Jordan elimination with a 2x2 matrix
 pcalc712 Gauss-Jordan elimination with a 2x2 matrix

pcalc500 Writing solutions to 3x3 systems of linear equations from augmented matrices
 pcalc499 Completing Gauss-Jordan elimination with a 3x3 matrix
 pcalc046 Solving a system of linear equations given its augmented matrix
 pcalc502 Finding the inverse of a matrix to solve a 2x2 system of linear equations
 pcalc711 Using the inverse of a matrix to solve a 3x3 system of linear equations
 pcalc045 Using Cramer's rule to solve a 2x2 system of linear equations
 pcalc047 Using Cramer's rule to solve a 3x3 system of linear equations
 pcalc531 Introduction to partial fraction decomposition with distinct linear factors
 pcalc812 Partial fraction decomposition with distinct linear factors
 pcalc813 Partial fraction decomposition with repeated linear factors
 pcalc814 Partial fraction decomposition with an irreducible quadratic factor
 pcalc533 Partial fraction decomposition with repeated, irreducible quadratic factors
 alge994 Graphically solving a system of linear and quadratic equations
 pcalc716 Using a graphing calculator to solve a system of linear and quadratic equations: Basic
 pcalc796 Using a graphing calculator to solve a system of equations
 pcalc806 Using a graphing calculator to solve an exponential or logarithmic equation
 alge995 Solving a system of linear and quadratic equations
 pcalc098 Solving a system of nonlinear equations: Problem type 1
 pcalc534 Solving a system of nonlinear equations: Problem type 2
 pcalc535 Solving a word problem involving geometry using a system of nonlinear equations
 alge912 Identifying solutions to a linear inequality in two variables
 alge225 Graphing a linear inequality in the plane: Vertical or horizontal line
 alge720 Graphing a linear inequality in the plane: Slope-intercept form
 alge018 Graphing a linear inequality in the plane: Standard form
 alge315 Writing an inequality given its graph in the plane: Horizontal or vertical boundary line
 alge316 Writing an inequality given its graph in the plane: Slanted boundary line
 pcalc748 Graphing a quadratic inequality: Problem type 1
 pcalc749 Graphing a quadratic inequality: Problem type 2
 pcalc536 Graphing an inequality involving a circle
 alge079 Graphing a system of two linear inequalities: Basic
 alge921 Graphing a system of two linear inequalities: Advanced
 alge922 Graphing a system of three linear inequalities
 pcalc096 Graphing a system of nonlinear inequalities: Problem type 1
 alge729 Writing a multi-step inequality for a real-world situation
 pcalc093 Solving a word problem using a system of linear inequalities: Problem type 1
 pcalc537 Solving a word problem using a system of linear inequalities: Problem type 2
 pcalc095 Linear programming
 pcalc094 Solving a word problem using linear programming

Conic Sections

pcalc566 Graphing a parabola of the form $y^2 = ax$ or $x^2 = ay$
 pcalc575 Graphing a parabola of the form $x = a(y - k)^2 + h$ or $y = a(x - h)^2 + k$
 pcalc067 Graphing a parabola of the form $ay^2 + by + cx + d = 0$ or $ax^2 + bx + cy + d = 0$
 pcalc068 Writing an equation of a parabola given the vertex and the focus
 pcalc475 Writing an equation of a parabola given the focus and the directrix
 geom494 Deriving the equation of a parabola given its focus and directrix
 pcalc476 Finding the vertex, focus, directrix, and axis of symmetry of a parabola
 pcalc069 Finding the focus of a parabola of the form $ay^2 + by + cx + d = 0$ or $ax^2 + bx + cy + d = 0$
 pcalc477 Writing an equation of a parabola given its graph
 pcalc478 Word problem involving a parabola
 pcalc734 Graphing an ellipse given its equation in standard form
 pcalc070 Graphing an ellipse centered at the origin: $Ax^2 + By^2 = C$
 pcalc071 Graphing an ellipse given its equation in general form
 pcalc479 Finding the center, vertices, and foci of an ellipse
 pcalc072 Finding the foci of an ellipse given its equation in general form
 pcalc074 Writing an equation of an ellipse given the center, an endpoint of an axis, and the length of the other axis
 pcalc073 Writing an equation of an ellipse given the foci and the major axis length
 pcalc097 Graphing a system of nonlinear inequalities: Problem type 2

pcalc480 Word problem involving an ellipse
 pcalc735 Graphing a hyperbola given its equation in standard form
 pcalc075 Graphing a hyperbola centered at the origin: $Ax^2 - By^2 - C = 0$
 pcalc076 Graphing a hyperbola given its equation in general form
 pcalc481 Finding the center, vertices, foci, and asymptotes of a hyperbola
 pcalc077 Finding the foci of a hyperbola given its equation in general form
 pcalc078 Writing an equation of a hyperbola given the foci and the vertices
 pcalc482 Writing an equation of a hyperbola given the foci and the asymptotes: Basic
 pcalc079 Writing an equation of a hyperbola given the foci and the asymptotes: Advanced
 pcalc736 Classifying conics given their equations
 pcalc538 Completing a table and choosing a graph given a pair of parametric equations
 pcalc539 Writing the equation of a line and sketching its graph given its parametric equations
 pcalc540 Writing the equation of a parabola and sketching its graph given its parametric equations
 pcalc541 Writing the equation of a circle or ellipse and sketching its graph given its parametric equations
 pcalc542 Graphing a pair of parametric equations with a restricted domain: Line or parabola
 pcalc563 Graphing a pair of parametric equations with a restricted domain: Circle
 pcalc565 Graphing a pair of parametric equations with a restricted domain: Ellipse
 pcalc544 Completing pairs of parametric equations
 pcalc545 Word problem involving parametric equations for projectile motion: Problem type 1
 pcalc576 Word problem involving parametric equations for projectile motion: Problem type 2

Sequences, Series, and Probability

alge644 Finding the first terms of an arithmetic sequence using an explicit rule
 alge645 Finding the first terms of a geometric sequence using an explicit rule
 pcalc080 Finding the first terms of a sequence using an explicit rule with multiple occurrences of n
 alge906 Finding the next terms of an arithmetic sequence with integers
 alge908 Finding the first terms of a sequence using a recursive rule
 alge979 Identifying arithmetic sequences and finding the common difference
 alge931 Finding a specified term of an arithmetic sequence given the first terms
 pcalc085 Finding a specified term of an arithmetic sequence given the common difference and first term
 pcalc715 Finding a specified term of an arithmetic sequence given two terms of the sequence
 alge909 Writing an explicit rule for an arithmetic sequence
 alge910 Writing a recursive rule for an arithmetic sequence
 pcalc718 Sum of the first n terms of an arithmetic sequence
 alge907 Finding the next terms of a geometric sequence with signed numbers
 alge981 Identifying arithmetic and geometric sequences
 alge980 Identifying geometric sequences and finding the common ratio
 alge934 Finding a specified term of a geometric sequence given the first terms
 pcalc086 Finding a specified term of a geometric sequence given the common ratio and first term
 pcalc717 Finding a specified term of a geometric sequence given two terms of the sequence
 pcalc713 Arithmetic and geometric sequences: Identifying and writing an explicit rule
 alge911 Writing recursive rules for arithmetic and geometric sequences
 pcalc719 Sum of the first n terms of a geometric sequence
 pcalc720 Sum of an infinite geometric series
 alge965 Identifying linear, quadratic, and exponential functions given ordered pairs
 pcalc082 Factorial expressions
 mstat041 Interpreting a tree diagram
 mstat040 Introduction to the counting principle
 mstat015 Counting principle
 mstat017 Computing permutations and combinations
 pcalc809 Introduction to permutations and combinations
 pcalc810 Permutations and combinations: Problem type 1
 pcalc089 Permutations and combinations: Problem type 2
 pcalc090 Permutations and combinations: Problem type 3
 pcalc087 Binomial formula
 mstat099 Determining a sample space and outcomes for a simple event
 mstat100 Determining a sample space and outcomes for a compound event
 mstat010 Probability of an event
 mstat046 Experimental and theoretical probability

stat106 Outcomes and event probability
 mstat116 Probabilities of a permutation and a combination
 mstat011 Area as probability
 stat850 Probability of independent events
 stat851 Probability of dependent events
 stat117 Probabilities of draws with replacement
 stat118 Probabilities of draws without replacement
 mstat042 Interpreting a Venn diagram of 2 sets
 mstat043 Interpreting a Venn diagram of 3 sets
 stat119 Venn diagrams: Two events
 stat101 Venn diagrams: Word problems
 stat112 Probabilities involving two dice
 mstat115 Determining outcomes for compound events and complements of events
 mstat109 Using a Venn diagram to understand the addition rule for probability
 mstat108 Outcomes and event probability: Addition rule
 stat114 Probability of intersection or union: Word problems
 mstat104 Identifying independent events given values of probabilities
 stat115 Independent events: Basic
 stat120 Probability of union: Basic
 mstat110 Using a Venn diagram to understand the multiplication rule for probability
 mstat107 Outcomes and event probability: Conditional probability
 mstat105 Computing conditional probability using a two-way frequency table
 mstat106 Computing conditional probability to make an inference using a two-way frequency table
 stat116 Conditional probability: Basic
 stat109 Intersection and conditional probability
 stat174 Binomial problems: Basic
 stat155 Binomial problems: Advanced
 mstat114 Using a random number table to make a fair decision

Limits and Continuity

pcalc901 Estimating a limit numerically
 pcalc902 Finding limits from a graph
 pcalc905 Finding a limit by using the limit laws: Problem type 1
 pcalc904 Finding limits for a piecewise-defined function
 pcalc906 Finding a limit by using the limit laws: Problem type 2
 pcalc907 Finding a limit by using the limit laws: Problem type 3
 pcalc911 Squeeze Theorem
 pcalc903 Determining points of discontinuity from a graph
 pcalc914 Determining a parameter to make a function continuous
 pcalc915 Infinite limits and graphs
 pcalc910 Limits at infinity and graphs
 pcalc908 Limits at infinity and rational functions
 pcalc909 Infinite limits and rational functions
 pcalc913 Finding a limit of a trigonometric function by using continuity
 pcalc912 Finding a limit by using special trigonometric limits

B.16 PreCalculus

Algebra and Geometry Review

arith687 Fractional position on a number line
 arith605 Plotting rational numbers on a number line
 arith691 Ordering integers
 arith602 Estimating a square root

arith712 Ordering real numbers
alge001 Identifying numbers as integers or non-integers
alge002 Identifying numbers as rational or irrational
arith116 Signed fraction addition or subtraction: Basic
arith864 Signed fraction subtraction involving double negation
arith106 Signed fraction addition or subtraction: Advanced
arith811 Addition and subtraction of 3 fractions involving signs
arith822 Signed fraction multiplication: Basic
arith105 Signed fraction multiplication: Advanced
arith814 Signed fraction division
arith104 Operations with absolute value: Problem type 2
alge694 Computing the distance between two integers on a number line
arith702 Exponents and integers: Problem type 1
arith703 Exponents and integers: Problem type 2
arith704 Exponents and signed fractions
arith118 Order of operations with integers
arith600 Order of operations with integers and exponents
alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
alge004 Evaluating a quadratic expression: Integers
alge808 Evaluating a linear expression: Signed fraction multiplication with addition or subtraction
mstat065 Converting between temperatures in Fahrenheit and Celsius
alge187 Properties of addition
alge188 Properties of real numbers
alge604 Distributive property: Integer coefficients
alge608 Using distribution and combining like terms to simplify: Univariate
alge667 Identifying properties used to simplify an algebraic expression
alge609 Using distribution with double negation and combining like terms to simplify: Multivariate
alge821 Understanding the product rule of exponents
alge024 Introduction to the product rule of exponents
alge311 Product rule with positive exponents: Univariate
alge030 Product rule with positive exponents: Multivariate
arith029 Ordering numbers with positive exponents
alge826 Understanding the power rules of exponents
alge306 Introduction to the power of a power rule of exponents
alge305 Introduction to the power of a product rule of exponents
alge307 Power rules with positive exponents: Multivariate products
alge308 Power rules with positive exponents: Multivariate quotients
alge756 Power and product rules with positive exponents
alge451 Simplifying a ratio of multivariate monomials: Basic
alge827 Introduction to the quotient rule of exponents
alge452 Simplifying a ratio of univariate monomials
alge026 Quotient of expressions involving exponents
alge453 Simplifying a ratio of multivariate monomials: Advanced
alge927 Power and quotient rules with positive exponents
alge790 Evaluating expressions with exponents of zero
arith729 Evaluating an expression with a negative exponent: Whole number base
arith042 Evaluating an expression with a negative exponent: Positive fraction base
arith043 Evaluating an expression with a negative exponent: Negative integer base
arith024 Ordering numbers with negative exponents
alge791 Rewriting an algebraic expression without a negative exponent
alge961 Introduction to the product rule with negative exponents
alge028 Product rule with negative exponents
alge755 Quotient rule with negative exponents: Problem type 1
alge926 Quotient rule with negative exponents: Problem type 2
alge025 Power of a power rule with negative exponents
alge799 Power rules with negative exponents
alge928 Power and quotient rules with negative exponents: Problem type 1
alge929 Power and quotient rules with negative exponents: Problem type 2
alge757 Power, product, and quotient rules with negative exponents
arith036 Scientific notation with positive exponent
arith037 Scientific notation with negative exponent
scinot012 Converting between scientific notation and standard form in a real-world situation

scinot008 Multiplying numbers written in scientific notation: Basic
scinot009 Multiplying numbers written in scientific notation: Advanced
scinot019 Multiplying numbers written in decimal form or scientific notation in a real-world situation
scinot010 Dividing numbers written in scientific notation: Basic
scinot011 Dividing numbers written in scientific notation: Advanced
scinot013 Finding the scale factor between numbers given in scientific notation in a real-world situation
alge758 Degree and leading coefficient of a univariate polynomial
alge031 Degree of a multivariate polynomial
alge798 Simplifying a sum or difference of two univariate polynomials
alge029 Simplifying a sum or difference of three univariate polynomials
alge932 Simplifying a sum or difference of multivariate polynomials
alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
alge972 Multiplying a univariate polynomial by a monomial with a negative coefficient
alge835 Multiplying a multivariate polynomial by a monomial
alge033 Multiplying binomials with leading coefficients of 1
alge983 Multiplying binomials with leading coefficients greater than 1
alge765 Multiplying binomials in two variables
alge764 Multiplying conjugate binomials: Univariate
alge081 Multiplying conjugate binomials: Multivariate
alge032 Squaring a binomial: Univariate
alge068 Squaring a binomial: Multivariate
alge973 Multiplying binomials with negative coefficients
alge935 Multiplication involving binomials and trinomials in one variable
alge180 Multiplication involving binomials and trinomials in two variables
arith034 Prime numbers
arith035 Prime factorization
arith033 Greatest common factor of 2 numbers
alge605 Factoring a linear binomial
alge736 Introduction to the GCF of two monomials
alge930 Greatest common factor of three univariate monomials
alge037 Greatest common factor of two multivariate monomials
alge738 Factoring out a monomial from a polynomial: Univariate
alge739 Factoring out a monomial from a polynomial: Multivariate
alge949 Factoring out a binomial from a polynomial: GCF factoring, basic
alge923 Factoring a univariate polynomial by grouping: Problem type 1
alge950 Factoring a univariate polynomial by grouping: Problem type 2
alge951 Factoring a multivariate polynomial by grouping: Problem type 1
alge952 Factoring a multivariate polynomial by grouping: Problem type 2
alge039 Factoring a quadratic with leading coefficient 1
alge942 Factoring a quadratic in two variables with leading coefficient 1
alge936 Factoring out a constant before factoring a quadratic
alge939 Factoring a quadratic with leading coefficient greater than 1: Problem type 1
alge940 Factoring a quadratic with leading coefficient greater than 1: Problem type 2
alge941 Factoring a quadratic with leading coefficient greater than 1: Problem type 3
alge978 Factoring a quadratic by the ac-method
alge265 Factoring a quadratic in two variables with leading coefficient greater than 1
alge937 Factoring a quadratic with a negative leading coefficient
alge944 Factoring a perfect square trinomial with leading coefficient 1
alge945 Factoring a perfect square trinomial with leading coefficient greater than 1
alge946 Factoring a perfect square trinomial in two variables
alge290 Factoring a difference of squares in one variable: Basic
alge947 Factoring a difference of squares in one variable: Advanced
alge839 Factoring a difference of squares in two variables
alge948 Factoring a polynomial involving a GCF and a difference of squares: Univariate
alge833 Factoring a polynomial involving a GCF and a difference of squares: Multivariate
alge041 Factoring a product of a quadratic trinomial and a monomial
alge042 Factoring with repeated use of the difference of squares formula
alge044 Factoring a sum or difference of two cubes
pcalc577 Factoring out binomials from a polynomial: GCF factoring, advanced
pcalc578 Using substitution to factor polynomials
alge049 Restriction on a variable in a denominator: Linear
alge454 Simplifying a ratio of factored polynomials: Linear factors

alge455 Simplifying a ratio of factored polynomials: Factors with exponents
alge456 Simplifying a ratio of polynomials using GCF factoring
alge457 Simplifying a ratio of linear polynomials: 1, -1, and no simplification
alge458 Simplifying a ratio of polynomials by factoring a quadratic with leading coefficient 1
alge710 Simplifying a ratio of polynomials: Problem type 1
alge682 Simplifying a ratio of polynomials: Problem type 2
alge459 Simplifying a ratio of polynomials: Problem type 3
alge034 Simplifying a ratio of multivariate polynomials
alge053 Multiplying rational expressions involving multivariate monomials
alge460 Multiplying rational expressions made up of linear expressions
alge620 Multiplying rational expressions involving quadratics with leading coefficients of 1
alge461 Multiplying rational expressions involving quadratics with leading coefficients greater than 1
alge462 Multiplying rational expressions involving multivariate quadratics
alge054 Dividing rational expressions involving multivariate monomials
alge463 Dividing rational expressions involving linear expressions
alge766 Dividing rational expressions involving quadratics with leading coefficients of 1
alge464 Dividing rational expressions involving quadratics with leading coefficients greater than 1
alge465 Dividing rational expressions involving multivariate quadratics
alge466 Multiplication and division of 3 rational expressions
arith070 Least common multiple of 2 numbers
arith804 Least common multiple of 3 numbers
alge737 Introduction to the LCM of two monomials
alge055 Least common multiple of two monomials
alge427 Finding the LCD of rational expressions with linear denominators: Relatively prime
alge428 Finding the LCD of rational expressions with linear denominators: Common factors
alge429 Finding the LCD of rational expressions with quadratic denominators
alge430 Writing equivalent rational expressions with monomial denominators
alge431 Writing equivalent rational expressions with polynomial denominators
alge304 Writing equivalent rational expressions involving opposite factors
alge432 Introduction to adding fractions with variables and common denominators
alge433 Adding rational expressions with common denominators and monomial numerators
alge056 Adding rational expressions with common denominators and binomial numerators
alge434 Adding rational expressions with common denominators and GCF factoring
alge435 Adding rational expressions with common denominators and quadratic factoring
alge436 Adding rational expressions with different denominators and a single occurrence of a variable
alge437 Adding rational expressions with denominators ax and bx : Basic
alge438 Adding rational expressions with denominators ax and bx : Advanced
alge439 Adding rational expressions with denominators axn and bxm
alge440 Adding rational expressions with multivariate monomial denominators: Basic
alge226 Adding rational expressions with multivariate monomial denominators: Advanced
alge441 Adding rational expressions with linear denominators without common factors: Basic
alge442 Adding rational expressions with linear denominators without common factors: Advanced
alge443 Adding rational expressions with linear denominators with common factors: Basic
alge444 Adding rational expressions with linear denominators with common factors: Advanced
alge445 Adding rational expressions with denominators $ax-b$ and $b-ax$
alge661 Adding rational expressions involving different quadratic denominators
alge446 Adding 3 rational expressions with different quadratic denominators
arith695 Complex fraction without variables: Problem type 1
arith696 Complex fraction without variables: Problem type 2
alge470 Complex fraction involving univariate monomials
alge058 Complex fraction involving multivariate monomials
alge471 Complex fraction: GCF factoring
alge472 Complex fraction: Quadratic factoring
alge473 Complex fraction made of sums involving rational expressions: Problem type 1
alge474 Complex fraction made of sums involving rational expressions: Problem type 2
alge475 Complex fraction made of sums involving rational expressions: Problem type 3
alge476 Complex fraction made of sums involving rational expressions: Problem type 4
alge477 Complex fraction made of sums involving rational expressions: Problem type 5
alge478 Complex fraction made of sums involving rational expressions: Problem type 6
alge479 Complex fraction made of sums involving rational expressions: Multivariate
alge480 Complex fraction with negative exponents: Problem type 1
alge481 Complex fraction with negative exponents: Problem type 2

alge162 Complex fraction that contains a complex fraction
alge413 Finding all square roots of a number
arith601 Square root of a rational perfect square
arith760 Square roots of perfect squares with signs
arith761 Square roots of integers raised to even exponents
alge415 Introduction to simplifying a radical expression with an even exponent
alge264 Square root of a perfect square monomial
alge603 Introduction to solving an absolute value equation
alge537 Using absolute value to simplify square roots of perfect square monomials
arith094 Cube root of an integer
alge549 Finding nth roots of perfect nth powers with signs
arith768 Finding the nth root of a perfect nth power fraction
alge550 Finding the nth root of a perfect nth power monomial
alge538 Using absolute value to simplify higher radical expressions
alge812 Converting between radical form and exponent form
alge560 Rational exponents: Unit fraction exponents and whole number bases
alge561 Rational exponents: Unit fraction exponents and bases involving signs
alge250 Rational exponents: Non-unit fraction exponent with a whole number base
alge251 Rational exponents: Negative exponents and fractional bases
alge558 Rational exponents: Product rule
alge559 Rational exponents: Quotient rule
alge773 Rational exponents: Products and quotients with negative exponents
alge562 Rational exponents: Power of a power rule
alge249 Rational exponents: Powers of powers with negative exponents
arith093 Simplifying the square root of a whole number less than 100
arith762 Simplifying the square root of a whole number greater than 100
alge080 Simplifying a radical expression with an even exponent
alge520 Introduction to simplifying a radical expression with an odd exponent
alge521 Simplifying a radical expression with an odd exponent
alge275 Simplifying a radical expression with two variables
alge273 Simplifying a higher root of a whole number
alge551 Introduction to simplifying a higher radical expression
alge552 Simplifying a higher radical expression: Univariate
alge811 Simplifying a higher radical expression: Multivariate
arith767 Introduction to square root addition or subtraction
arith032 Square root addition or subtraction
alge533 Square root addition or subtraction with three terms
alge531 Introduction to simplifying a sum or difference of radical expressions: Univariate
alge532 Simplifying a sum or difference of radical expressions: Univariate
alge084 Simplifying a sum or difference of radical expressions: Multivariate
alge554 Simplifying a sum or difference of higher roots
alge555 Simplifying a sum or difference of higher radical expressions
arith764 Introduction to square root multiplication
arith765 Square root multiplication: Basic
arith039 Square root multiplication: Advanced
alge522 Introduction to simplifying a product of radical expressions: Univariate
alge523 Simplifying a product of radical expressions: Univariate
alge640 Simplifying a product of radical expressions: Multivariate
alge082 Simplifying a product of radical expressions: Multivariate, fractional expressions
alge556 Introduction to simplifying a product of higher roots
alge557 Simplifying a product of higher radical expressions
alge525 Introduction to simplifying a product involving square roots using the distributive property
alge526 Simplifying a product involving square roots using the distributive property: Basic
alge276 Simplifying a product involving square roots using the distributive property: Advanced
alge774 Special products of radical expressions: Conjugates and squaring
alge984 Classifying sums and products as rational or irrational
arith766 Simplifying a quotient of square roots
alge530 Simplifying a quotient involving a sum or difference with a square root
alge527 Rationalizing a denominator: Quotient involving square roots
alge528 Rationalizing a denominator: Square root of a fraction
alge529 Rationalizing a denominator: Quotient involving a monomial
alge534 Rationalizing a denominator using conjugates: Integer numerator

alge535 Rationalizing a denominator using conjugates: Square root in numerator
 alge536 Rationalizing a denominator using conjugates: Variable in denominator
 alge564 Rationalizing a denominator: Quotient involving a higher radical
 alge775 Rationalizing a denominator: Quotient involving higher radicals and monomials
 alge563 Simplifying products or quotients of higher radicals with different indices: Univariate
 alge776 Simplifying products or quotients of higher radicals with different indices: Multivariate
 geom340 Area of a piecewise rectangular figure
 geom142 Word problem involving the area between two rectangles
 geom801 Area of a triangle
 geom022 Area of a parallelogram
 geom023 Area of a trapezoid
 geom016 Circumference of a circle
 geom301 Perimeter involving rectangles and circles
 geom802 Circumference and area of a circle
 geom477 Circumference and area of a circle: Exact answers in terms of pi
 geom302 Area involving rectangles and circles
 geom036 Word problem involving the area between two concentric circles
 geom214 Area involving inscribed figures
 geom311 Volume of a rectangular prism
 geom090 Volume of a triangular prism
 geom033 Volume of a pyramid
 geom035 Volume of a cylinder
 geom092 Word problem involving the rate of filling or emptying a cylinder
 geom622 Volume of a cone
 geom086 Volume of a cone: Exact answers in terms of pi
 geom841 Volume of a sphere
 geom031 Surface area of a cube or a rectangular prism
 geom091 Surface area of a triangular prism
 geom621 Surface area of a cylinder
 geom034 Surface area of a cylinder: Exact answers in terms of pi
 geom842 Surface area of a sphere
 alge407 Introduction to the Pythagorean Theorem
 geom044 Pythagorean Theorem
 alge408 Word problem involving the Pythagorean Theorem

Equations and Inequalities

alge836 Additive property of equality with signed fractions
 alge012 Multiplicative property of equality with signed fractions
 alge837 Solving a multi-step equation given in fractional form
 alge986 Identifying properties used to solve a linear equation
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
 alge420 Solving a linear equation with several occurrences of the variable: Fractional forms with monomial numerators
 alge208 Solving a two-step equation with signed fractions
 alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
 alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
 alge742 Solving equations with zero, one, or infinitely many solutions
 alge840 Solving a proportion of the form $(x+a)\div b = c\div d$
 alge511 Solving for a variable in terms of other variables using addition or subtraction: Basic
 alge512 Solving for a variable in terms of other variables using addition or subtraction: Advanced
 alge513 Solving for a variable in terms of other variables using multiplication or division: Basic
 alge514 Solving for a variable in terms of other variables using multiplication or division: Advanced

alge517 Solving for a variable in terms of other variables using addition or subtraction with division
 alge518 Solving for a variable inside parentheses in terms of other variables
 alge507 Solving for a variable in terms of other variables in a linear equation with fractions
 alge016 Translating a sentence into a one-step equation
 alge841 Translating a sentence into a multi-step equation
 alge014 Solving a word problem with two unknowns using a linear equation
 alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
 alge219 Solving a decimal word problem using a linear equation with the variable on both sides
 alge704 Solving a fraction word problem using a linear equation with the variable on both sides
 alge792 Solving a word problem with three unknowns using a linear equation
 alge842 Solving a word problem involving consecutive integers
 alge730 Writing a multi-step equation for a real-world situation
 alge794 Solving a value mixture problem using a linear equation
 alge823 Solving a one-step word problem using the formula $d = rt$
 alge796 Solving a distance, rate, time problem using a linear equation
 geom817 Finding a side length given the perimeter and side lengths with variables
 geom143 Finding the perimeter or area of a rectangle given one of these values
 geom838 Circumference ratios
 geom530 Solving equations involving vertical angles
 geom628 Finding angle measures of a triangle given angles with variables
 stat803 Finding the value for a new score that will yield a given mean
 arith852 Finding the multiplier to give a final amount after a percentage increase or decrease
 arith847 Finding the sale price given the original price and percent discount
 arith848 Finding the total cost including tax or markup
 arith031 Finding the original price given the sale price and percent discount
 arith854 Computing a percent mixture
 alge795 Solving a percent mixture problem using a linear equation
 arith232 Finding simple interest without a calculator
 arith514 Converting a repeating decimal to a fraction
 alge864 Solving an absolute value equation: Problem type 1
 alge865 Solving an absolute value equation: Problem type 2
 alge866 Solving an absolute value equation: Problem type 3
 alge867 Solving an absolute value equation: Problem type 4
 alge167 Solving an absolute value equation of the form $|ax+b| = |cx+d|$
 alge845 Translating a sentence into a one-step inequality
 alge846 Translating a sentence into a multi-step inequality
 alge748 Writing an inequality for a real-world situation
 alge017 Graphing a linear inequality on the number line
 alge822 Writing an inequality given a graph on the number line
 alge186 Translating a sentence into a compound inequality
 alge166 Graphing a compound inequality on the number line
 alge847 Writing a compound inequality given a graph on the number line
 set001 Set builder notation
 set004 Set builder and interval notation
 set002 Union and intersection of finite sets
 set005 Union and intersection of intervals
 alge844 Identifying solutions to a two-step linear inequality in one variable
 alge852 Additive property of inequality with signed fractions
 alge964 Multiplicative property of inequality with signed fractions
 alge855 Solving a two-step linear inequality: Problem type 1
 alge856 Solving a two-step linear inequality: Problem type 2
 alge857 Solving a two-step linear inequality with a fractional coefficient
 alge977 Solving a linear inequality with multiple occurrences of the variable: Problem type 1
 alge858 Solving a linear inequality with multiple occurrences of the variable: Problem type 2
 alge859 Solving a linear inequality with multiple occurrences of the variable: Problem type 3
 alge860 Solving inequalities with no solution or all real numbers as solutions
 alge746 Solving a compound linear inequality: Graph solution, basic
 alge747 Solving a compound linear inequality: Interval notation
 alge749 Solving a decimal word problem using a two-step linear inequality
 alge750 Solving a decimal word problem using a linear inequality with the variable on both sides
 alge868 Solving an absolute value inequality: Problem type 1
 alge943 Writing an absolute value inequality given a graph on the number line

alge869 Solving an absolute value inequality: Problem type 2
 alge870 Solving an absolute value inequality: Problem type 3
 alge871 Solving an absolute value inequality: Problem type 4
 alge872 Solving an absolute value inequality: Problem type 5
 alge271 Solving a proportion of the form $a/(x+b) = c/x$
 alge060 Solving a rational equation that simplifies to linear: Denominator x
 alge205 Solving a rational equation that simplifies to linear: Denominator $x+a$
 alge769 Solving a rational equation that simplifies to linear: Denominators a , x , or ax
 alge421 Solving a rational equation that simplifies to linear: Denominators ax and bx
 alge422 Solving a rational equation that simplifies to linear: Like binomial denominators
 alge206 Solving a rational equation that simplifies to linear: Unlike binomial denominators
 alge508 Solving for a variable in terms of other variables in a rational equation: Problem type 1
 alge509 Solving for a variable in terms of other variables in a rational equation: Problem type 2
 alge510 Solving for a variable in terms of other variables in a rational equation: Problem type 3
 arith610 Word problem on proportions: Problem type 1
 arith611 Word problem on proportions: Problem type 2
 geom037 Similar polygons
 geom038 Similar right triangles
 geom337 Indirect measurement
 geom133 Ratio of volumes
 arith612 Word problem involving multiple rates
 alge770 Solving a work problem using a rational equation
 alge450 Solving a distance, rate, time problem using a rational equation
 alge059 Ordering fractions with variables
 alge778 Using i to rewrite square roots of negative numbers
 alge779 Simplifying a product and quotient involving square roots of negative numbers
 pcalc048 Adding or subtracting complex numbers
 pcalc049 Multiplying complex numbers
 pcalc050 Dividing complex numbers
 pcalc053 Simplifying a power of i
 alge681 Solving an equation written in factored form
 alge956 Finding the roots of a quadratic equation of the form $ax^2 + bx = 0$
 alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
 alge211 Solving a quadratic equation needing simplification
 alge046 Roots of a product of polynomials
 alge163 Writing a quadratic equation given the roots and the leading coefficient
 alge703 Solving a word problem using a quadratic equation with rational roots
 alge713 Using the Pythagorean Theorem and a quadratic equation to find side lengths of a right triangle
 alge962 Solving an equation of the form $x^2 = a$ using the square root property
 alge092 Solving a quadratic equation using the square root property: Exact answers, basic
 alge227 Solving a quadratic equation using the square root property: Exact answers, advanced
 alge094 Completing the square
 alge780 Solving a quadratic equation by completing the square: Exact answers
 alge095 Applying the quadratic formula: Exact answers
 alge963 Applying the quadratic formula: Decimal answers
 pcalc051 Solving a quadratic equation with complex roots
 alge214 Discriminant of a quadratic equation
 alge193 Discriminant of a quadratic equation with parameter
 alge524 Solving a word problem using a quadratic equation with irrational roots
 alge093 Solving an equation using the odd-root property: Problem type 1
 alge228 Solving an equation using the odd-root property: Problem type 2
 alge467 Restriction on a variable in a denominator: Quadratic
 alge423 Solving a rational equation that simplifies to linear: Factorable quadratic denominator
 alge424 Solving a rational equation that simplifies to quadratic: Proportional form, basic
 alge425 Solving a rational equation that simplifies to quadratic: Denominator x
 alge212 Solving a rational equation that simplifies to quadratic: Binomial denominators, constant numerators
 alge062 Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators
 alge426 Solving a rational equation that simplifies to quadratic: Factorable quadratic denominator
 alge047 Solving a rational equation that simplifies to quadratic: Proportional form, advanced
 alge400 Introduction to solving a radical equation
 alge089 Solving a radical equation that simplifies to a linear equation: One radical, basic

alge402 Solving a radical equation that simplifies to a linear equation: One radical, advanced
 alge090 Solving a radical equation that simplifies to a linear equation: Two radicals
 alge403 Solving a radical equation that simplifies to a quadratic equation: One radical, basic
 alge404 Solving a radical equation that simplifies to a quadratic equation: One radical, advanced
 alge411 Solving a radical equation with a quadratic expression under the radical
 alge405 Solving a radical equation with two radicals that simplifies to $\sqrt{x} = a$
 alge182 Solving a radical equation that simplifies to a quadratic equation: Two radicals
 alge412 Algebraic symbol manipulation with radicals
 alge542 Word problem involving radical equations: Basic
 alge409 Word problem involving radical equations: Advanced
 alge410 Solving an equation with a root index greater than 2: Problem type 1
 alge417 Solving an equation with a root index greater than 2: Problem type 2
 alge416 Solving an equation with exponent $1/a$: Problem type 1
 alge418 Solving an equation with exponent $1/a$: Problem type 2
 alge230 Solving an equation with positive rational exponent
 alge231 Solving an equation with negative rational exponent
 alge781 Solving an equation that can be written in quadratic form: Problem type 1
 alge782 Solving an equation that can be written in quadratic form: Problem type 2

Graphs and Functions

alge064 Reading a point in the coordinate plane
 alge067 Plotting a point in the coordinate plane
 arith405 Naming the quadrant or axis of a point given its coordinates
 arith406 Naming the quadrant or axis of a point given the signs of its coordinates
 geom437 Finding the area of a triangle or parallelogram in the coordinate plane
 alge850 Table for a linear equation
 alge132 Distance between two points in the plane: Exact answers
 alge324 Distance between two points in the plane: Decimal answers
 geom323 Identifying scalene, isosceles, and equilateral triangles given coordinates of their vertices
 alge191 Midpoint of a line segment in the plane
 alge414 Finding an endpoint of a line segment given the other endpoint and the midpoint
 alge873 Identifying solutions to a linear equation in two variables
 alge066 Finding a solution to a linear equation in two variables
 alge877 Graphing a linear equation of the form $y = mx$
 alge878 Graphing a line given its equation in slope-intercept form: Integer slope
 alge879 Graphing a line given its equation in slope-intercept form: Fractional slope
 alge880 Graphing a line given its equation in standard form
 alge198 Graphing a vertical or horizontal line
 alge884 Finding x - and y -intercepts given the graph of a line on a grid
 alge924 Finding x - and y -intercepts of a line given the equation: Basic
 alge210 Finding x - and y -intercepts of a line given the equation: Advanced
 alge197 Graphing a line given its x - and y -intercepts
 alge881 Graphing a line by first finding its x - and y -intercepts
 pcalc750 Finding intercepts of a nonlinear function given its graph
 pcalc678 Finding x - and y -intercepts of the graph of a nonlinear equation
 alge913 Graphing an absolute value equation of the form $y = A - |x - h|$
 alge954 Graphing a parabola of the form $y = ax^2$
 alge955 Graphing a parabola of the form $y = ax^2 + c$
 alge262 Graphing a cubic function of the form $y = ax^3$
 pcalc416 Determining if graphs have symmetry with respect to the x -axis, y -axis, or origin
 pcalc679 Testing an equation for symmetry about the axes and origin
 alge875 Classifying slopes given graphs of lines
 alge886 Finding slope given the graph of a line on a grid
 alge887 Finding slope given two points on the line
 alge885 Finding the slope of horizontal and vertical lines
 alge888 Finding the coordinate that yields a given slope
 alge259 Graphing a line given its slope and y -intercept
 alge196 Graphing a line through a given point with a given slope
 alge876 Identifying linear equations: Advanced

alge874 Identifying linear functions given ordered pairs
 alge891 Rewriting a linear equation in the form $Ax + By = C$
 alge889 Finding the slope and y-intercept of a line given its equation in the form $y = mx + b$
 alge890 Finding the slope and y-intercept of a line given its equation in the form $Ax + By = C$
 alge882 Graphing a line by first finding its slope and y-intercept
 alge258 Writing an equation of a line given its slope and y-intercept
 alge892 Writing an equation and graphing a line given its slope and y-intercept
 alge314 Finding the slope, y-intercept, and equation for a linear function given a table of values
 alge893 Writing an equation in slope-intercept form given the slope and a point
 alge318 Finding the slope and a point on a line given its equation in point-slope form
 alge883 Graphing a line given its equation in point-slope form
 alge894 Writing an equation in point-slope form given the slope and a point
 alge313 Writing an equation in standard form given the slope and a point
 alge070 Writing an equation of a line given the y-intercept and another point
 alge072 Writing the equation of the line through two given points
 alge073 Writing the equations of vertical and horizontal lines through a given point
 alge322 Comparing linear functions to the parent function $y=x$
 geom806 Finding slopes of lines parallel and perpendicular to a line given in slope-intercept form
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 alge895 Identifying parallel and perpendicular lines from equations
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 geom462 Identifying parallel and perpendicular lines from coordinates
 geom322 Identifying coordinates that give right triangles
 alge897 Writing and evaluating a function that models a real-world situation: Advanced
 alge654 Graphing ordered pairs and writing an equation from a table of values in context
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 alge817 Finding the initial amount and rate of change given a table for a linear function
 alge818 Finding the initial amount and rate of change given a graph of a linear function
 alge992 Combining functions to write a new function that models a real-world situation
 alge987 Comparing properties of linear functions given in different forms
 alge989 Interpreting the parameters of a linear function that models a real-world situation
 alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
 alge806 Application problem with a linear function: Finding a coordinate given two points
 alge991 Solving a linear equation by graphing
 mstat094 Constructing a scatter plot
 mstat030 Sketching the line of best fit
 mstat023 Scatter plots and correlation
 mstat068 Predictions from the line of best fit
 mstat067 Approximating the equation of a line of best fit and making predictions
 mstat069 Computing residuals
 mstat070 Interpreting residual plots
 mstat093 Classifying linear and nonlinear relationships from scatter plots
 mstat071 Linear relationship and the correlation coefficient
 mstat096 Identifying outliers and clustering in scatter plots
 mstat095 Finding outliers in a data set
 alge914 Identifying solutions to a system of linear equations
 alge725 Graphically solving a system of linear equations
 pcalc820 Using a graphing calculator to solve a system of linear equations: Basic
 pcalc821 Using a graphing calculator to solve a system of linear equations: Advanced
 alge317 Writing a system of linear equations given its graph
 alge751 Solving a system of linear equations using substitution
 alge915 Solving a system of linear equations using elimination with addition
 alge076 Solving a system of linear equations using elimination with multiplication and addition
 geom496 Identifying the center and radius to graph a circle given its equation in standard form
 geom497 Identifying the center and radius to graph a circle given its equation in general form: Basic
 geom668 Identifying the center and radius to graph a circle given its equation in general form: Advanced
 geom499 Writing the equation of a circle centered at the origin given its radius or a point on the circle
 geom495 Writing an equation of a circle and identifying points that lie on the circle
 geom498 Writing an equation of a circle given its center and radius or diameter
 geom493 Deriving the equation of a circle using the Pythagorean Theorem
 pcalc065 Writing an equation of a circle given its center and a point on the circle
 pcalc066 Writing an equation of a circle given the endpoints of a diameter

fun032 Identifying functions from relations
fun010 Vertical line test
fun001 Table for a linear function
pcalc760 Evaluating functions: Linear and quadratic or cubic
alge468 Evaluating a rational function: Problem type 1
alge469 Evaluating a rational function: Problem type 2
alge539 Table for a square root function
alge546 Evaluating a cube root function
pcalc682 Evaluating functions: Absolute value, rational, radical
fun030 Evaluating a piecewise-defined function
fun033 Variable expressions as inputs of functions: Problem type 1
pcalc571 Variable expressions as inputs of functions: Problem type 2
pcalc411 Variable expressions as inputs of functions: Problem type 3
fun016 Domain and range from ordered pairs
alge715 Domain of a rational function: Excluded values
pcalc412 Domain of a rational function: Interval notation
alge540 Domain of a square root function: Basic
pcalc763 Domain of a square root function: Advanced
alge547 Domains of higher root functions
pcalc754 Finding the domain of a fractional function involving radicals
pcalc924 Determining whether an equation defines a function: Basic
pcalc753 Determining whether an equation defines a function: Advanced
alge294 Finding outputs of a one-step function that models a real-world situation: Function notation
alge295 Finding outputs of a two-step function with decimals that models a real-world situation: Function notation
alge296 Finding inputs and outputs of a two-step function that models a real-world situation: Function notation
alge990 Domain and range of a linear function that models a real-world situation
pcalc471 Rewriting a multivariate function as a univariate function given a relationship between its variables
pcalc753 Finding a difference quotient for a linear or quadratic function
pcalc414 Finding a difference quotient for a rational function
fun026 Finding an output of a function from its graph
pcalc761 Finding inputs and outputs of a function from its graph
fun007 Domain and range from the graph of a discrete relation
alge312 Finding domain and range from a linear graph in context
fun024 Domain and range from the graph of a continuous function
fun025 Domain and range from the graph of a piecewise function
alge999 Finding where a function is increasing, decreasing, or constant given the graph
pcalc751 Finding where a function is increasing, decreasing, or constant given the graph: Interval notation
pcalc752 Finding local maxima and minima of a function given the graph
pcalc439 Finding the absolute maximum and minimum of a function given the graph
pcalc417 Finding values and intervals where the graph of a function is zero, positive, or negative
mstat018 Choosing a graph to fit a narrative: Basic
mstat051 Choosing a graph to fit a narrative: Advanced
alge896 Graphing an integer function and finding its range for a given domain
alge570 Graphing a function of the form $f(x) = ax + b$: Integer slope
alge571 Graphing a function of the form $f(x) = ax + b$: Fractional slope
alge900 Graphing an absolute value equation in the plane: Basic
alge168 Graphing an absolute value equation in the plane: Advanced
alge572 Graphing a function of the form $f(x) = ax^2$
alge573 Graphing a function of the form $f(x) = ax^2 + c$
alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
alge543 Graphing a square root function: Problem type 1
alge544 Graphing a square root function: Problem type 2
alge545 Graphing a square root function: Problem type 3
alge548 Graphing a cube root function
pcalc443 Matching parent graphs with their equations
fun031 Graphing a piecewise-defined function: Problem type 1
pcalc444 Graphing a piecewise-defined function: Problem type 2
pcalc568 Graphing a piecewise-defined function: Problem type 3
pcalc114 Even and odd functions: Problem type 1
pcalc440 Even and odd functions: Problem type 2
pcalc768 Finding the average rate of change of a function

alge998 Finding the average rate of change of a function given its graph
 pcalc442 Word problem involving average rate of change
 pcalc441 Writing the equation of a secant line
 pcalc467 Translating the graph of a parabola: One step
 pcalc465 Translating the graph of a parabola: Two steps
 alge723 How the leading coefficient affects the shape of a parabola
 pcalc468 Translating the graph of an absolute value function: One step
 alge899 Translating the graph of an absolute value function: Two steps
 alge901 How the leading coefficient affects the graph of an absolute value function
 alge185 Writing an equation for a function after a vertical translation
 pcalc469 Translating the graph of a function: One step
 pcalc770 Translating the graph of a function: Two steps
 pcalc569 Transforming the graph of a function by reflecting over an axis
 pcalc470 Transforming the graph of a function by shrinking or stretching
 pcalc570 Transforming the graph of a function using more than one transformation
 pcalc466 Transforming the graph of a quadratic, cubic, square root, or absolute value function
 fun020 Writing an equation for a function after a vertical and horizontal translation
 fun019 Sum, difference, and product of two functions
 alge786 Quotient of two functions: Basic
 pcalc413 Quotient of two functions: Advanced
 pcalc756 Combining functions: Advanced
 alge716 Introduction to the composition of two functions
 fun022 Composition of two functions: Basic
 pcalc484 Composition of a function with itself
 pcalc776 Expressing a function as a composition of two functions
 fun021 Composition of two functions: Domain and range
 alge129 Composition of two functions: Advanced
 pcalc483 Composition of two rational functions
 pcalc485 Word problem involving composition of two functions
 fun011 Horizontal line test
 pcalc777 Determining whether two functions are inverses of each other
 fun012 Inverse functions: Linear, discrete
 pcalc573 Inverse functions: Quadratic, square root
 pcalc572 Inverse functions: Cubic, cube root
 alge130 Inverse functions: Rational
 pcalc486 Graphing the inverse of a function given its graph
 pcalc487 Finding, evaluating, and interpreting an inverse function for a given linear relationship

Polynomial and Rational Functions

alge974 Finding the vertex, x-intercepts, and axis of symmetry from the graph of a parabola
 alge569 Graphing a parabola of the form $y = x^2 + bx + c$
 pcalc574 Graphing a parabola of the form $y = a(x-h)^2 + k$
 pcalc746 Graphing a parabola of the form $y = ax^2 + bx + c$: Integer coefficients
 pcalc747 Graphing a parabola of the form $y = ax^2 + bx + c$: Rational coefficients
 alge323 Finding the zeros of a quadratic function given its equation
 pcalc714 Using a graphing calculator to find the zeros of a quadratic function
 alge320 Writing a quadratic function given its zeros
 alge277 Finding the x-intercept(s) and the vertex of a parabola
 pcalc793 Using a graphing calculator to find the x-intercept(s) and vertex of a quadratic function
 alge319 Rewriting a quadratic function in standard form
 pcalc550 Rewriting a quadratic function to find its vertex and sketch its graph
 pcalc775 Finding the maximum or minimum of a quadratic function
 alge785 Word problem involving the maximum or minimum of a quadratic function
 pcalc551 Word problem involving optimizing area by using a quadratic function
 pcalc415 Domain and range from the graph of a quadratic function
 pcalc762 Range of a quadratic function
 pcalc680 Writing the equation of a quadratic function given its graph
 alge957 Solving a quadratic equation by graphing
 alge996 Comparing properties of quadratic functions given in different forms

alge702 Classifying the graph of a function
mstat102 Choosing a quadratic model and using it to make a prediction
pcalc546 Identifying polynomial functions
pcalc764 Finding zeros of a polynomial function written in factored form
pcalc547 Finding zeros and their multiplicities given a polynomial function written in factored form
pcalc766 Finding a polynomial of a given degree with given zeros: Real zeros
pcalc765 Finding x- and y-intercepts given a polynomial function
pcalc782 Determining the end behavior of the graph of a polynomial function
pcalc548 Determining end behavior and intercepts to graph a polynomial function
pcalc783 Matching graphs with polynomial functions
pcalc738 Inferring properties of a polynomial function from its graph
pcalc794 Using a graphing calculator to find local extrema of a polynomial function
pcalc115 Using a graphing calculator to solve a word problem involving a local extremum of a polynomial function
alge759 Dividing a polynomial by a monomial: Univariate
alge760 Dividing a polynomial by a monomial: Multivariate
alge761 Polynomial long division: Problem type 1
alge762 Polynomial long division: Problem type 2
alge763 Polynomial long division: Problem type 3
pcalc117 Synthetic division
pcalc786 Using the remainder theorem to evaluate a polynomial
pcalc787 The Factor Theorem
pcalc118 Remainder theorem: Advanced
alge985 Closure properties of integers and polynomials
pcalc741 Using a given zero to write a polynomial as a product of linear factors: Real zeros
pcalc758 Finding all possible rational zeros using the rational zeros theorem: Problem type 1
pcalc759 Finding all possible rational zeros using the rational zeros theorem: Problem type 2
pcalc788 Descartes' Rule of Signs
pcalc743 Using the rational zeros theorem to find all zeros of a polynomial: Rational zeros
pcalc744 Using the rational zeros theorem to find all zeros of a polynomial: Irrational zeros
pcalc795 Using a graphing calculator to find zeros of a polynomial function
pcalc704 Using a graphing calculator to solve a word problem involving a polynomial of degree 3
pcalc785 Multiplying expressions involving complex conjugates
pcalc767 Finding a polynomial of a given degree with given zeros: Complex zeros
pcalc742 Using a given zero to write a polynomial as a product of linear factors: Complex zeros
pcalc745 Using the rational zeros theorem to find all zeros of a polynomial: Complex zeros
pcalc703 Using the conjugate zeros theorem to find all zeros of a polynomial
pcalc705 Linear factors theorem and conjugate zeros theorem
pcalc552 Finding the intercepts, asymptotes, domain, and range from the graph of a rational function
pcalc917 Finding the asymptotes of a rational function: Constant over linear
pcalc918 Finding the asymptotes of a rational function: Linear over linear
pcalc790 Finding horizontal and vertical asymptotes of a rational function: Quadratic numerator or denominator
pcalc562 Finding the asymptotes of a rational function: Quadratic over linear
alge515 Graphing a rational function: Constant over linear
alge516 Graphing a rational function: Linear over linear
pcalc553 Transforming the graph of a rational function
pcalc109 Graphing a rational function: Quadratic over linear
pcalc792 Graphing rational functions with holes
pcalc791 Matching graphs with rational functions: Two vertical asymptotes
pcalc557 Graphing a rational function with more than one vertical asymptote
pcalc706 Writing the equation of a rational function given its graph
pcalc556 Using a graphing calculator to solve a word problem involving a local extremum of a rational function
alge784 Solving a quadratic inequality written in factored form
alge771 Solving a quadratic inequality
pcalc558 Solving a polynomial inequality: Problem type 1
pcalc560 Solving a polynomial inequality: Problem type 2
pcalc561 Solving a polynomial inequality: Problem type 3
pcalc559 Solving a polynomial inequality: Problem type 4
alge783 Solving a rational inequality: Problem type 1
pcalc677 Solving a rational inequality: Problem type 2
alge982 Identifying direct variation equations
alge938 Identifying direct variation from ordered pairs and writing equations

alge904 Writing a direct variation equation
 alge175 Word problem on direct variation
 alge828 Interpreting direct variation from a graph
 alge905 Writing an inverse variation equation
 alge903 Identifying direct and inverse variation equations
 alge902 Identifying direct and inverse variation from ordered pairs and writing equations
 alge176 Word problem on inverse variation
 alge220 Word problem on inverse proportions
 pcalc681 Writing an equation that models variation
 alge772 Word problem on combined variation

Exponential and Logarithmic Functions

alge971 Table for an exponential function
 pcalc488 Graphing an exponential function: $f(x)=bx$
 pcalc489 Graphing an exponential function: $f(x) = a(b)^x$
 pcalc567 Graphing an exponential function: $f(x)=b \cdot x$ or $f(x)=-bax$
 pcalc922 Translating the graph of an exponential function
 alge321 Finding domain and range from the graph of an exponential function
 pcalc797 The graph, domain, and range of an exponential function
 pcalc490 Transforming the graph of a natural exponential function
 pcalc103 Graphing an exponential function and its asymptote: $f(x) = a(e)^{x-b} + c$
 pcalc491 Using a calculator to evaluate exponential expressions
 alge830 Evaluating an exponential function that models a real-world situation
 pcalc555 Using a calculator to evaluate exponential expressions involving base e
 pcalc919 Evaluating an exponential function with base e that models a real-world situation
 arith853 Introduction to compound interest
 arith910 Calculating and comparing simple interest and compound interest
 alge177 Finding a final amount in a word problem on exponential growth or decay
 alge741 Finding the final amount in a word problem on compound interest
 alge966 Finding the initial amount and rate of change given an exponential function
 alge968 Writing an equation that models exponential growth or decay
 alge967 Writing an exponential function rule given a table of ordered pairs
 mstat103 Choosing an exponential model and using it to make a prediction
 alge993 Comparing linear, polynomial, and exponential functions
 pcalc492 Using a calculator to evaluate natural and common logarithmic expressions
 pcalc493 Converting between logarithmic and exponential equations
 pcalc494 Converting between natural logarithmic and exponential equations
 pcalc495 Evaluating logarithmic expressions
 alge233 Solving an equation of the form $\log_b a = c$
 pcalc923 Translating the graph of a logarithmic function
 alge788 Graphing a logarithmic function: Basic
 pcalc800 The graph, domain, and range of a logarithmic function
 pcalc801 Domain of a logarithmic function: Advanced
 pcalc104 Graphing a logarithmic function: Advanced
 pcalc708 Basic properties of logarithms
 pcalc511 Using properties of logarithms to evaluate expressions
 pcalc779 Expanding a logarithmic expression: Problem type 1
 pcalc521 Expanding a logarithmic expression: Problem type 2
 pcalc522 Expanding a logarithmic expression: Problem type 3
 alge787 Writing an expression as a single logarithm
 pcalc612 Change of base for logarithms: Problem type 1
 pcalc613 Change of base for logarithms: Problem type 2
 pcalc513 Solving a multi-step equation involving a single logarithm: Problem type 1
 pcalc510 Solving a multi-step equation involving a single logarithm: Problem type 2
 pcalc804 Solving a multi-step equation involving natural logarithms
 alge113 Solving an equation involving logarithms on both sides: Problem type 1
 pcalc805 Solving an equation involving logarithms on both sides: Problem type 2
 alge301 Solving an exponential equation by finding common bases: Linear exponents
 alge482 Solving an exponential equation by finding common bases: Linear and quadratic exponents

pcalc920 Solving an exponential equation by using logarithms: Decimal answers, basic
 pcalc921 Solving an exponential equation by using natural logarithms: Decimal answers
 pcalc523 Solving an exponential equation by using logarithms: Decimal answers, advanced
 alge111 Solving an exponential equation by using logarithms: Exact answers in logarithmic form
 pcalc802 Solving an exponential equation by using substitution and quadratic factoring
 alge178 Finding the time to reach a limit in a word problem on exponential growth or decay
 pcalc524 Finding the time in a word problem on compound interest
 pcalc508 Finding the time given an exponential function with base e that models a real-world situation
 pcalc525 Finding the final amount in a word problem on continuous compound interest
 pcalc527 Finding the initial amount in a word problem on continuous compound interest
 pcalc526 Finding the final amount in a word problem on continuous exponential growth or decay
 pcalc615 Finding the rate or time in a word problem on continuous exponential growth or decay
 pcalc528 Finding half-life or doubling time
 pcalc529 Writing and evaluating a function modeling continuous exponential growth or decay given doubling time or half-life
 pcalc530 Writing and evaluating a function modeling continuous exponential growth or decay given two outputs

Trigonometric Functions

pcalc001 Converting degrees-minutes-seconds to decimal degrees
 pcalc661 Converting a decimal degree to degrees-minutes-seconds
 pcalc002 Converting between degree and radian measure: Problem type 1
 pcalc621 Converting between degree and radian measure: Problem type 2
 pcalc006 Sketching an angle in standard position
 pcalc622 Coterminal angles
 pcalc005 Arc length and central angle measure
 pcalc623 Area of a sector of a circle
 pcalc624 Angular and linear speed
 pcalc627 Finding coordinates on the unit circle for special angles
 pcalc625 Finding a point on the unit circle given one coordinate
 pcalc629 Trigonometric functions and special angles: Problem type 1
 pcalc628 Finding trigonometric ratios from a point on the unit circle
 pcalc630 Trigonometric functions and special angles: Problem type 2
 pcalc631 Trigonometric functions and special angles: Problem type 3
 pcalc409 Evaluating expressions involving sine and cosine
 pcalc427 Even and odd properties of trigonometric functions
 pcalc616 Using a calculator to approximate sine, cosine, and tangent values
 pcalc408 Using a calculator to approximate cosecant, secant, and cotangent values
 pcalc410 Evaluating a sinusoidal function that models a real-world situation
 geom506 Special right triangles: Exact answers
 pcalc609 Sine, cosine, and tangent ratios: Numbers for side lengths
 pcalc600 Sine, cosine, and tangent ratios: Variables for side lengths
 pcalc606 Using the Pythagorean Theorem to find a trigonometric ratio
 pcalc008 Finding trigonometric ratios given a right triangle
 geom317 Understanding trigonometric ratios through similar right triangles
 geom316 Relationship between the sines and cosines of complementary angles
 geom318 Using similar right triangles to find trigonometric ratios
 pcalc607 Using a trigonometric ratio to find a side length in a right triangle
 pcalc610 Using trigonometry to find a length in a word problem with one right triangle
 pcalc608 Using a trigonometric ratio to find an angle measure in a right triangle
 pcalc611 Using trigonometry to find angles of elevation or depression in a word problem
 pcalc642 Solving a right triangle
 pcalc473 Using trigonometry to find a length in a word problem with two right triangles
 pcalc626 Reference angles: Problem type 1
 pcalc632 Reference angles: Problem type 2
 pcalc671 Determining the location of a terminal point given the signs of trigonometric values
 pcalc011 Finding values of trigonometric functions given information about an angle: Problem type 1
 pcalc012 Finding values of trigonometric functions given information about an angle: Problem type 2
 pcalc013 Finding values of trigonometric functions given information about an angle: Problem type 3
 pcalc426 Finding values of trigonometric functions given information about an angle: Problem type 4

pcalc445 Sketching the graph of $y=a*\sin(x)$ or $y=a*\cos(x)$
 pcalc446 Sketching the graph of $y=\sin(bx)$ or $y=\cos(bx)$
 pcalc447 Sketching the graph of $y=\sin(x)+d$ or $y=\cos(x)+d$
 pcalc448 Sketching the graph of $y=\sin(x+c)$ or $y=\cos(x+c)$
 pcalc107 Sketching the graph of $y=a*\sin(x+c)$ or $y=a*\cos(x+c)$
 pcalc106 Sketching the graph of $y=a*\sin(bx)$ or $y=a*\cos(bx)$
 pcalc014 Sketching the graph of $y=a*\sin(bx+c)$ or $y=a*\cos(bx+c)$
 pcalc438 Sketching the graph of $y=a*\sin(bx)+d$ or $y=a*\cos(bx)+d$
 pcalc633 Amplitude and period of sine and cosine functions
 pcalc634 Amplitude, period, and phase shift of sine and cosine functions
 pcalc635 Writing the equation of a sine or cosine function given its graph: Problem type 1
 pcalc636 Writing the equation of a sine or cosine function given its graph: Problem type 2
 pcalc640 Word problem involving a sine or cosine function: Problem type 1
 pcalc641 Word problem involving a sine or cosine function: Problem type 2
 pcalc474 Sketching a graph of a damped sine or cosine function
 pcalc428 Domains and ranges of trigonometric functions
 pcalc637 Matching graphs and equations for secant, cosecant, tangent, and cotangent functions
 pcalc017 Sketching the graph of a secant or cosecant function: Problem type 1
 pcalc638 Sketching the graph of a secant or cosecant function: Problem type 2
 pcalc105 Sketching the graph of a tangent or cotangent function: Problem type 1
 pcalc015 Sketching the graph of a tangent or cotangent function: Problem type 2
 pcalc016 Values of inverse trigonometric functions
 pcalc018 Composition of a trigonometric function with its inverse trigonometric function: Problem type 1
 pcalc419 Composition of a trigonometric function with its inverse trigonometric function: Problem type 2
 pcalc420 Composition of a trigonometric function with the inverse of another trigonometric function: Problem type 1
 pcalc421 Composition of a trigonometric function with the inverse of another trigonometric function: Problem type 2
 pcalc036 Composition of a trigonometric function with the inverse of another trigonometric function: Problem type 3
 pcalc423 Composition of trigonometric functions with variable expressions as inputs: Problem type 1
 pcalc422 Composition of trigonometric functions with variable expressions as inputs: Problem type 2
 pcalc418 Using a calculator to approximate inverse trigonometric values

Trigonometric Identities and Equations

pcalc648 Simplifying trigonometric expressions
 pcalc666 Using cofunction identities
 pcalc110 Verifying a trigonometric identity
 pcalc034 Proving trigonometric identities: Problem type 1
 pcalc404 Proving trigonometric identities: Problem type 2
 pcalc405 Proving trigonometric identities: Problem type 3
 pcalc429 Proving trigonometric identities: Problem type 4
 pcalc406 Proving trigonometric identities using odd and even properties
 pcalc029 Sum and difference identities: Problem type 1
 pcalc663 Sum and difference identities: Problem type 2
 pcalc664 Sum and difference identities: Problem type 3
 pcalc430 Sum and difference identities: Problem type 4
 pcalc431 Proving trigonometric identities using sum and difference properties: Problem type 1
 pcalc432 Proving trigonometric identities using sum and difference properties: Problem type 2
 pcalc030 Double-angle identities: Problem type 1
 pcalc667 Double-angle identities: Problem type 2
 pcalc434 Double-angle identities: Problem type 3
 pcalc437 Power-reducing identities
 pcalc662 Half-angle identities: Problem type 1
 pcalc665 Half-angle identities: Problem type 2
 pcalc124 Product-to-sum and sum-to-product identities: Problem type 1
 pcalc674 Product-to-sum and sum-to-product identities: Problem type 2
 pcalc402 Proving trigonometric identities using double-angle properties
 pcalc436 Proving trigonometric identities using sum-to-product formulas

pcalc650 Finding solutions in an interval for a basic equation involving sine or cosine
 pcalc651 Finding solutions in an interval for a basic tangent, cotangent, secant, or cosecant equation
 pcalc660 Solving a basic trigonometric equation using a calculator
 pcalc020 Solving a basic trigonometric equation involving sine or cosine
 pcalc021 Solving a basic trigonometric equation involving tangent, cotangent, secant, or cosecant
 pcalc670 Finding solutions in an interval for a trigonometric equation in factored form
 pcalc652 Finding solutions in an interval for a trigonometric equation with a squared function: Problem type 1
 pcalc653 Finding solutions in an interval for a trigonometric equation with a squared function: Problem type 2
 pcalc654 Finding solutions in an interval for a trigonometric equation using Pythagorean identities: Problem type 1
 pcalc424 Finding solutions in an interval for a trigonometric equation using Pythagorean identities: Problem type 2
 pcalc657 Finding solutions in an interval for an equation with sine and cosine using double-angle identities
 pcalc668 Solving a trigonometric equation modeling a real-world situation
 pcalc811 Using a graphing calculator to solve a trigonometric equation
 pcalc127 Using a graphing calculator to solve a trigonometric inequality
 pcalc022 Solving a trigonometric equation involving a squared function: Problem type 1
 pcalc023 Solving a trigonometric equation involving a squared function: Problem type 2
 pcalc024 Solving a trigonometric equation involving more than one function
 pcalc025 Solving a trigonometric equation involving an angle multiplied by a constant
 pcalc655 Finding solutions in an interval for a trigonometric equation with an angle multiplied by a constant
 pcalc656 Finding solutions in an interval for an equation with sine and cosine using sum and difference identities
 pcalc026 Solving a trigonometric equation using sum and difference identities
 pcalc027 Solving a trigonometric equation using double-angle identities
 pcalc028 Solving a trigonometric equation using half-angle identities

Additional Topics in Trigonometry

pcalc031 Solving a triangle with the law of sines: Problem type 1
 pcalc032 Solving a triangle with the law of sines: Problem type 2
 pcalc644 Solving a word problem using the law of sines
 geom320 Proving the law of sines
 pcalc033 Solving a triangle with the law of cosines
 geom409 Proving the law of cosines
 pcalc645 Solving a word problem using the law of cosines
 geom439 Using trigonometry to find the area of a right triangle
 pcalc646 Finding the area of a triangle using trigonometry
 geom319 Expressing the area of a triangle in terms of the sine of one of its angles
 pcalc647 Heron's formula
 vector028 Writing a position vector in $ai+bj$ form given its graph
 vector014 Writing a vector in $ai+bj$ form given its initial and terminal points
 vector013 Writing a vector in component form given its initial and terminal points
 vector015 Magnitude of a vector given in $ai+bj$ form
 pcalc060 Magnitude of a vector given in component form
 vector016 Vector addition and scalar multiplication: $ai+bj$ form
 vector017 Linear combination of vectors: $ai+bj$ form
 geom856 Vector addition and scalar multiplication: Component form
 vector008 Linear combination of vectors: Component form
 pcalc729 Unit vectors
 pcalc739 Multiplication of a vector by a scalar: Geometric approach
 geom857 Vector addition: Geometric approach
 vector007 Vector subtraction: Geometric approach
 vector002 Finding the magnitude and direction of a vector given its graph
 vector005 Finding the components of a vector given its graph
 vector019 Finding the direction angle of a vector given in $ai+bj$ form
 vector018 Writing a vector given its magnitude and direction angle
 vector020 Writing a vector to represent a force pushing or pulling an object
 vector021 Finding the magnitude and direction angle of the resultant force of two vectors
 vector011 Finding magnitudes of forces related to a sum of three vectors
 vector012 Finding magnitudes of forces related to an object suspended by cables

vector023 Dot product of vectors given in $ai+bj$ form
 vector009 Dot product of vectors given in component form
 pcalc730 Finding the angle between two vectors given in component form
 vector024 Classifying vector relationships by finding the angle between two vectors given in $ai + bj$ form
 vector010 Using the dot product to find perpendicular vectors
 vector006 Finding the component of a vector along another vector
 vector025 Decomposing a vector into two orthogonal vectors
 vector026 Finding the amount of work done given a force vector and a distance
 vector027 Finding magnitudes of forces related to an object on a ramp
 pcalc449 Plotting points in polar coordinates
 pcalc450 Multiple representations of polar coordinates
 pcalc056 Converting rectangular coordinates to polar coordinates: Special angles
 pcalc451 Converting rectangular coordinates to polar coordinates: Decimal answers
 pcalc057 Converting polar coordinates to rectangular coordinates
 pcalc058 Converting an equation written in rectangular form to one written in polar form
 pcalc452 Converting an equation written in polar form to one written in rectangular form: Problem type 1
 pcalc453 Converting an equation written in polar form to one written in rectangular form: Problem type 2
 pcalc454 Graphing a polar equation: Basic
 pcalc455 Graphing a polar equation: Circle
 pcalc456 Graphing a polar equation: Limacon
 pcalc457 Graphing a polar equation: Rose
 pcalc458 Graphing a polar equation: Lemniscate
 pcalc459 Matching polar equations with their graphs
 pcalc460 Identifying symmetries of graphs given their polar equations
 pcalc461 Plotting complex numbers
 pcalc462 Writing a complex number in standard form given its trigonometric form
 pcalc472 Writing a complex number in trigonometric form: Special angles
 pcalc052 Writing a complex number in trigonometric form: Decimal answers
 pcalc463 Multiplying and dividing complex numbers in trigonometric form
 pcalc464 De Moivre's Theorem: Answers in trigonometric form
 pcalc054 De Moivre's theorem: Answers in standard form
 pcalc807 Finding the n th roots of a number: Problem type 1
 pcalc808 Finding the n th roots of a number: Problem type 2

Systems of Equations and Matrices

alge075 Classifying systems of linear equations from graphs
 alge916 Solving a system of linear equations with fractional coefficients
 alge917 Solving a system of linear equations with decimal coefficients
 alge752 Solving a 2×2 system of linear equations that is inconsistent or consistent dependent
 alge077 Creating an inconsistent system of linear equations
 alge988 Identifying the operations used to create equivalent systems of equations
 pcalc099 Consistency and independence of a system of linear equations
 alge263 Interpreting the graphs of two functions
 alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations
 alge919 Solving a word problem using a system of linear equations of the form $Ax + By = C$
 alge918 Solving a word problem using a system of linear equations of the form $y = mx + b$
 alge184 Solving a value mixture problem using a system of linear equations
 alge192 Solving a percent mixture problem using a system of linear equations
 alge224 Solving a distance, rate, time problem using a system of linear equations
 alge172 Solving a tax rate or interest rate problem using a system of linear equations
 pcalc496 Introduction to solving a 3×3 system of linear equations
 alge753 Solving a 3×3 system of linear equations: Problem type 1
 pcalc497 Solving a 3×3 system of linear equations: Problem type 2
 pcalc498 Solving a 3×3 system of linear equations that is inconsistent or consistent dependent
 alge793 Solving a word problem using a 3×3 system of linear equations: Problem type 1
 pcalc549 Solving a word problem using a 3×3 system of linear equations: Problem type 2
 pcalc037 Scalar multiplication of a matrix
 pcalc038 Addition or subtraction of matrices
 pcalc740 Linear combination of matrices

pcalc507 Squaring and multiplying 2x2 matrices
 pcalc039 Multiplication of matrices: Basic
 pcalc710 Multiplication of matrices: Advanced
 pcalc503 Word problem involving multiplication of matrices
 pcalc504 Finding the inverse of a 2x2 matrix
 pcalc505 Finding the inverse of a 3x3 matrix
 pcalc042 Finding the determinant of a 2x2 matrix
 pcalc043 Finding the determinant of a 3x3 matrix
 pcalc564 Completing Gauss-Jordan elimination with a 2x2 matrix
 pcalc712 Gauss-Jordan elimination with a 2x2 matrix
 pcalc500 Writing solutions to 3x3 systems of linear equations from augmented matrices
 pcalc499 Completing Gauss-Jordan elimination with a 3x3 matrix
 pcalc046 Solving a system of linear equations given its augmented matrix
 pcalc502 Finding the inverse of a matrix to solve a 2x2 system of linear equations
 pcalc711 Using the inverse of a matrix to solve a 3x3 system of linear equations
 pcalc045 Using Cramer's rule to solve a 2x2 system of linear equations
 pcalc047 Using Cramer's rule to solve a 3x3 system of linear equations
 pcalc531 Introduction to partial fraction decomposition with distinct linear factors
 pcalc812 Partial fraction decomposition with distinct linear factors
 pcalc813 Partial fraction decomposition with repeated linear factors
 pcalc814 Partial fraction decomposition with an irreducible quadratic factor
 pcalc533 Partial fraction decomposition with repeated, irreducible quadratic factors
 alge994 Graphically solving a system of linear and quadratic equations
 pcalc716 Using a graphing calculator to solve a system of linear and quadratic equations: Basic
 pcalc796 Using a graphing calculator to solve a system of equations
 pcalc806 Using a graphing calculator to solve an exponential or logarithmic equation
 alge995 Solving a system of linear and quadratic equations
 pcalc098 Solving a system of nonlinear equations: Problem type 1
 pcalc534 Solving a system of nonlinear equations: Problem type 2
 pcalc535 Solving a word problem involving geometry using a system of nonlinear equations
 alge912 Identifying solutions to a linear inequality in two variables
 alge225 Graphing a linear inequality in the plane: Vertical or horizontal line
 alge720 Graphing a linear inequality in the plane: Slope-intercept form
 alge018 Graphing a linear inequality in the plane: Standard form
 alge315 Writing an inequality given its graph in the plane: Horizontal or vertical boundary line
 alge316 Writing an inequality given its graph in the plane: Slanted boundary line
 pcalc748 Graphing a quadratic inequality: Problem type 1
 pcalc749 Graphing a quadratic inequality: Problem type 2
 pcalc536 Graphing an inequality involving a circle
 alge079 Graphing a system of two linear inequalities: Basic
 alge921 Graphing a system of two linear inequalities: Advanced
 alge922 Graphing a system of three linear inequalities
 pcalc096 Graphing a system of nonlinear inequalities: Problem type 1
 alge729 Writing a multi-step inequality for a real-world situation
 pcalc093 Solving a word problem using a system of linear inequalities: Problem type 1
 pcalc537 Solving a word problem using a system of linear inequalities: Problem type 2
 pcalc095 Linear programming
 pcalc094 Solving a word problem using linear programming

Conic Sections

pcalc566 Graphing a parabola of the form $y^2 = ax$ or $x^2 = ay$
 pcalc575 Graphing a parabola of the form $x = a(y-k)^2 + h$ or $y = a(x-h)^2 + k$
 pcalc067 Graphing a parabola of the form $ay^2 + by + cx + d = 0$ or $ax^2 + bx + cy + d = 0$
 pcalc068 Writing an equation of a parabola given the vertex and the focus
 pcalc475 Writing an equation of a parabola given the focus and the directrix
 geom494 Deriving the equation of a parabola given its focus and directrix
 pcalc476 Finding the vertex, focus, directrix, and axis of symmetry of a parabola
 pcalc069 Finding the focus of a parabola of the form $ay^2 + by + cx + d = 0$ or $ax^2 + bx + cy + d = 0$
 pcalc477 Writing an equation of a parabola given its graph

pcalc478 Word problem involving a parabola
 pcalc734 Graphing an ellipse given its equation in standard form
 pcalc070 Graphing an ellipse centered at the origin: $Ax^2 + By^2 = C$
 pcalc071 Graphing an ellipse given its equation in general form
 pcalc479 Finding the center, vertices, and foci of an ellipse
 pcalc072 Finding the foci of an ellipse given its equation in general form
 pcalc074 Writing an equation of an ellipse given the center, an endpoint of an axis, and the length of the other axis
 pcalc073 Writing an equation of an ellipse given the foci and the major axis length
 pcalc097 Graphing a system of nonlinear inequalities: Problem type 2
 pcalc480 Word problem involving an ellipse
 pcalc735 Graphing a hyperbola given its equation in standard form
 pcalc075 Graphing a hyperbola centered at the origin: $Ax^2 - By^2 - C = 0$
 pcalc076 Graphing a hyperbola given its equation in general form
 pcalc481 Finding the center, vertices, foci, and asymptotes of a hyperbola
 pcalc077 Finding the foci of a hyperbola given its equation in general form
 pcalc078 Writing an equation of a hyperbola given the foci and the vertices
 pcalc482 Writing an equation of a hyperbola given the foci and the asymptotes: Basic
 pcalc079 Writing an equation of a hyperbola given the foci and the asymptotes: Advanced
 pcalc736 Classifying conics given their equations
 pcalc538 Completing a table and choosing a graph given a pair of parametric equations
 pcalc539 Writing the equation of a line and sketching its graph given its parametric equations
 pcalc540 Writing the equation of a parabola and sketching its graph given its parametric equations
 pcalc541 Writing the equation of a circle or ellipse and sketching its graph given its parametric equations
 pcalc542 Graphing a pair of parametric equations with a restricted domain: Line or parabola
 pcalc563 Graphing a pair of parametric equations with a restricted domain: Circle
 pcalc565 Graphing a pair of parametric equations with a restricted domain: Ellipse
 pcalc544 Completing pairs of parametric equations
 pcalc545 Word problem involving parametric equations for projectile motion: Problem type 1
 pcalc576 Word problem involving parametric equations for projectile motion: Problem type 2

Sequences, Series, and Probability

alge644 Finding the first terms of an arithmetic sequence using an explicit rule
 alge645 Finding the first terms of a geometric sequence using an explicit rule
 pcalc080 Finding the first terms of a sequence using an explicit rule with multiple occurrences of n
 alge906 Finding the next terms of an arithmetic sequence with integers
 alge908 Finding the first terms of a sequence using a recursive rule
 alge979 Identifying arithmetic sequences and finding the common difference
 alge931 Finding a specified term of an arithmetic sequence given the first terms
 pcalc085 Finding a specified term of an arithmetic sequence given the common difference and first term
 pcalc715 Finding a specified term of an arithmetic sequence given two terms of the sequence
 alge909 Writing an explicit rule for an arithmetic sequence
 alge910 Writing a recursive rule for an arithmetic sequence
 pcalc718 Sum of the first n terms of an arithmetic sequence
 alge907 Finding the next terms of a geometric sequence with signed numbers
 alge981 Identifying arithmetic and geometric sequences
 alge980 Identifying geometric sequences and finding the common ratio
 alge934 Finding a specified term of a geometric sequence given the first terms
 pcalc086 Finding a specified term of a geometric sequence given the common ratio and first term
 pcalc717 Finding a specified term of a geometric sequence given two terms of the sequence
 pcalc713 Arithmetic and geometric sequences: Identifying and writing an explicit rule
 alge911 Writing recursive rules for arithmetic and geometric sequences
 pcalc719 Sum of the first n terms of a geometric sequence
 pcalc720 Sum of an infinite geometric series
 alge965 Identifying linear, quadratic, and exponential functions given ordered pairs
 pcalc082 Factorial expressions
 mstat041 Interpreting a tree diagram
 mstat040 Introduction to the counting principle
 mstat015 Counting principle

mstat017 Computing permutations and combinations
 pcalc809 Introduction to permutations and combinations
 pcalc810 Permutations and combinations: Problem type 1
 pcalc089 Permutations and combinations: Problem type 2
 pcalc090 Permutations and combinations: Problem type 3
 pcalc087 Binomial formula
 mstat099 Determining a sample space and outcomes for a simple event
 mstat100 Determining a sample space and outcomes for a compound event
 mstat010 Probability of an event
 mstat046 Experimental and theoretical probability
 stat106 Outcomes and event probability
 mstat116 Probabilities of a permutation and a combination
 mstat011 Area as probability
 stat850 Probability of independent events
 stat851 Probability of dependent events
 stat117 Probabilities of draws with replacement
 stat118 Probabilities of draws without replacement
 mstat042 Interpreting a Venn diagram of 2 sets
 mstat043 Interpreting a Venn diagram of 3 sets
 stat119 Venn diagrams: Two events
 stat101 Venn diagrams: Word problems
 stat112 Probabilities involving two dice
 mstat115 Determining outcomes for compound events and complements of events
 mstat109 Using a Venn diagram to understand the addition rule for probability
 mstat108 Outcomes and event probability: Addition rule
 stat114 Probability of intersection or union: Word problems
 mstat104 Identifying independent events given values of probabilities
 stat115 Independent events: Basic
 stat120 Probability of union: Basic
 mstat110 Using a Venn diagram to understand the multiplication rule for probability
 mstat107 Outcomes and event probability: Conditional probability
 mstat105 Computing conditional probability using a two-way frequency table
 mstat106 Computing conditional probability to make an inference using a two-way frequency table
 stat116 Conditional probability: Basic
 stat109 Intersection and conditional probability
 stat174 Binomial problems: Basic
 stat155 Binomial problems: Advanced
 mstat114 Using a random number table to make a fair decision

Limits and Continuity

pcalc901 Estimating a limit numerically
 pcalc902 Finding limits from a graph
 pcalc905 Finding a limit by using the limit laws: Problem type 1
 pcalc904 Finding limits for a piecewise-defined function
 pcalc906 Finding a limit by using the limit laws: Problem type 2
 pcalc907 Finding a limit by using the limit laws: Problem type 3
 pcalc911 Squeeze Theorem
 pcalc903 Determining points of discontinuity from a graph
 pcalc914 Determining a parameter to make a function continuous
 pcalc915 Infinite limits and graphs
 pcalc910 Limits at infinity and graphs
 pcalc908 Limits at infinity and rational functions
 pcalc909 Infinite limits and rational functions
 pcalc913 Finding a limit of a trigonometric function by using continuity
 pcalc912 Finding a limit by using special trigonometric limits

B.17 STEM PreCalculus

Algebra and Geometry Review

arith687 Fractional position on a number line
arith605 Plotting rational numbers on a number line
arith691 Ordering integers
arith602 Estimating a square root
arith712 Ordering real numbers
alge001 Identifying numbers as integers or non-integers
alge002 Identifying numbers as rational or irrational
arith116 Signed fraction addition or subtraction: Basic
arith864 Signed fraction subtraction involving double negation
arith106 Signed fraction addition or subtraction: Advanced
arith811 Addition and subtraction of 3 fractions involving signs
arith822 Signed fraction multiplication: Basic
arith105 Signed fraction multiplication: Advanced
arith814 Signed fraction division
arith104 Operations with absolute value: Problem type 2
alge694 Computing the distance between two integers on a number line
arith702 Exponents and integers: Problem type 1
arith703 Exponents and integers: Problem type 2
arith704 Exponents and signed fractions
arith118 Order of operations with integers
arith600 Order of operations with integers and exponents
alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
alge004 Evaluating a quadratic expression: Integers
alge808 Evaluating a linear expression: Signed fraction multiplication with addition or subtraction
mstat065 Converting between temperatures in Fahrenheit and Celsius
alge187 Properties of addition
alge188 Properties of real numbers
alge604 Distributive property: Integer coefficients
alge608 Using distribution and combining like terms to simplify: Univariate
alge667 Identifying properties used to simplify an algebraic expression
alge609 Using distribution with double negation and combining like terms to simplify: Multivariate
alge821 Understanding the product rule of exponents
alge024 Introduction to the product rule of exponents
alge311 Product rule with positive exponents: Univariate
alge030 Product rule with positive exponents: Multivariate
arith029 Ordering numbers with positive exponents
alge826 Understanding the power rules of exponents
alge306 Introduction to the power of a power rule of exponents
alge305 Introduction to the power of a product rule of exponents
alge307 Power rules with positive exponents: Multivariate products
alge308 Power rules with positive exponents: Multivariate quotients
alge756 Power and product rules with positive exponents
alge451 Simplifying a ratio of multivariate monomials: Basic
alge827 Introduction to the quotient rule of exponents
alge452 Simplifying a ratio of univariate monomials
alge026 Quotient of expressions involving exponents
alge453 Simplifying a ratio of multivariate monomials: Advanced
alge927 Power and quotient rules with positive exponents
alge790 Evaluating expressions with exponents of zero
arith729 Evaluating an expression with a negative exponent: Whole number base
arith042 Evaluating an expression with a negative exponent: Positive fraction base
arith043 Evaluating an expression with a negative exponent: Negative integer base
arith024 Ordering numbers with negative exponents
alge791 Rewriting an algebraic expression without a negative exponent
alge961 Introduction to the product rule with negative exponents
alge028 Product rule with negative exponents
alge755 Quotient rule with negative exponents: Problem type 1

alge926 Quotient rule with negative exponents: Problem type 2
alge025 Power of a power rule with negative exponents
alge799 Power rules with negative exponents
alge928 Power and quotient rules with negative exponents: Problem type 1
alge929 Power and quotient rules with negative exponents: Problem type 2
alge757 Power, product, and quotient rules with negative exponents
arith036 Scientific notation with positive exponent
arith037 Scientific notation with negative exponent
scinot012 Converting between scientific notation and standard form in a real-world situation
scinot008 Multiplying numbers written in scientific notation: Basic
scinot009 Multiplying numbers written in scientific notation: Advanced
scinot019 Multiplying numbers written in decimal form or scientific notation in a real-world situation
scinot010 Dividing numbers written in scientific notation: Basic
scinot011 Dividing numbers written in scientific notation: Advanced
scinot013 Finding the scale factor between numbers given in scientific notation in a real-world situation
alge758 Degree and leading coefficient of a univariate polynomial
alge031 Degree of a multivariate polynomial
alge798 Simplifying a sum or difference of two univariate polynomials
alge029 Simplifying a sum or difference of three univariate polynomials
alge932 Simplifying a sum or difference of multivariate polynomials
alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
alge972 Multiplying a univariate polynomial by a monomial with a negative coefficient
alge835 Multiplying a multivariate polynomial by a monomial
alge033 Multiplying binomials with leading coefficients of 1
alge983 Multiplying binomials with leading coefficients greater than 1
alge765 Multiplying binomials in two variables
alge764 Multiplying conjugate binomials: Univariate
alge081 Multiplying conjugate binomials: Multivariate
alge032 Squaring a binomial: Univariate
alge068 Squaring a binomial: Multivariate
alge973 Multiplying binomials with negative coefficients
alge935 Multiplication involving binomials and trinomials in one variable
alge180 Multiplication involving binomials and trinomials in two variables
arith034 Prime numbers
arith035 Prime factorization
arith033 Greatest common factor of 2 numbers
alge605 Factoring a linear binomial
alge736 Introduction to the GCF of two monomials
alge930 Greatest common factor of three univariate monomials
alge037 Greatest common factor of two multivariate monomials
alge738 Factoring out a monomial from a polynomial: Univariate
alge739 Factoring out a monomial from a polynomial: Multivariate
alge949 Factoring out a binomial from a polynomial: GCF factoring, basic
alge923 Factoring a univariate polynomial by grouping: Problem type 1
alge950 Factoring a univariate polynomial by grouping: Problem type 2
alge951 Factoring a multivariate polynomial by grouping: Problem type 1
alge952 Factoring a multivariate polynomial by grouping: Problem type 2
alge039 Factoring a quadratic with leading coefficient 1
alge942 Factoring a quadratic in two variables with leading coefficient 1
alge936 Factoring out a constant before factoring a quadratic
alge939 Factoring a quadratic with leading coefficient greater than 1: Problem type 1
alge940 Factoring a quadratic with leading coefficient greater than 1: Problem type 2
alge941 Factoring a quadratic with leading coefficient greater than 1: Problem type 3
alge978 Factoring a quadratic by the ac-method
alge265 Factoring a quadratic in two variables with leading coefficient greater than 1
alge937 Factoring a quadratic with a negative leading coefficient
alge944 Factoring a perfect square trinomial with leading coefficient 1
alge945 Factoring a perfect square trinomial with leading coefficient greater than 1
alge946 Factoring a perfect square trinomial in two variables
alge290 Factoring a difference of squares in one variable: Basic
alge947 Factoring a difference of squares in one variable: Advanced
alge839 Factoring a difference of squares in two variables

alge948 Factoring a polynomial involving a GCF and a difference of squares: Univariate
alge833 Factoring a polynomial involving a GCF and a difference of squares: Multivariate
alge041 Factoring a product of a quadratic trinomial and a monomial
alge042 Factoring with repeated use of the difference of squares formula
alge044 Factoring a sum or difference of two cubes
pcalc577 Factoring out binomials from a polynomial: GCF factoring, advanced
pcalc578 Using substitution to factor polynomials
alge049 Restriction on a variable in a denominator: Linear
alge454 Simplifying a ratio of factored polynomials: Linear factors
alge455 Simplifying a ratio of factored polynomials: Factors with exponents
alge456 Simplifying a ratio of polynomials using GCF factoring
alge457 Simplifying a ratio of linear polynomials: 1, -1, and no simplification
alge458 Simplifying a ratio of polynomials by factoring a quadratic with leading coefficient 1
alge710 Simplifying a ratio of polynomials: Problem type 1
alge682 Simplifying a ratio of polynomials: Problem type 2
alge459 Simplifying a ratio of polynomials: Problem type 3
alge034 Simplifying a ratio of multivariate polynomials
alge053 Multiplying rational expressions involving multivariate monomials
alge460 Multiplying rational expressions made up of linear expressions
alge620 Multiplying rational expressions involving quadratics with leading coefficients of 1
alge461 Multiplying rational expressions involving quadratics with leading coefficients greater than 1
alge462 Multiplying rational expressions involving multivariate quadratics
alge054 Dividing rational expressions involving multivariate monomials
alge463 Dividing rational expressions involving linear expressions
alge766 Dividing rational expressions involving quadratics with leading coefficients of 1
alge464 Dividing rational expressions involving quadratics with leading coefficients greater than 1
alge465 Dividing rational expressions involving multivariate quadratics
alge466 Multiplication and division of 3 rational expressions
arith070 Least common multiple of 2 numbers
arith804 Least common multiple of 3 numbers
alge737 Introduction to the LCM of two monomials
alge055 Least common multiple of two monomials
alge427 Finding the LCD of rational expressions with linear denominators: Relatively prime
alge428 Finding the LCD of rational expressions with linear denominators: Common factors
alge429 Finding the LCD of rational expressions with quadratic denominators
alge430 Writing equivalent rational expressions with monomial denominators
alge431 Writing equivalent rational expressions with polynomial denominators
alge304 Writing equivalent rational expressions involving opposite factors
alge432 Introduction to adding fractions with variables and common denominators
alge433 Adding rational expressions with common denominators and monomial numerators
alge056 Adding rational expressions with common denominators and binomial numerators
alge434 Adding rational expressions with common denominators and GCF factoring
alge435 Adding rational expressions with common denominators and quadratic factoring
alge436 Adding rational expressions with different denominators and a single occurrence of a variable
alge437 Adding rational expressions with denominators ax and bx : Basic
alge438 Adding rational expressions with denominators ax and bx : Advanced
alge439 Adding rational expressions with denominators axn and bxm
alge440 Adding rational expressions with multivariate monomial denominators: Basic
alge226 Adding rational expressions with multivariate monomial denominators: Advanced
alge441 Adding rational expressions with linear denominators without common factors: Basic
alge442 Adding rational expressions with linear denominators without common factors: Advanced
alge443 Adding rational expressions with linear denominators with common factors: Basic
alge444 Adding rational expressions with linear denominators with common factors: Advanced
alge445 Adding rational expressions with denominators $ax-b$ and $b-ax$
alge661 Adding rational expressions involving different quadratic denominators
alge446 Adding 3 rational expressions with different quadratic denominators
arith695 Complex fraction without variables: Problem type 1
arith696 Complex fraction without variables: Problem type 2
alge470 Complex fraction involving univariate monomials
alge058 Complex fraction involving multivariate monomials
alge471 Complex fraction: GCF factoring
alge472 Complex fraction: Quadratic factoring

alge473 Complex fraction made of sums involving rational expressions: Problem type 1
alge474 Complex fraction made of sums involving rational expressions: Problem type 2
alge475 Complex fraction made of sums involving rational expressions: Problem type 3
alge476 Complex fraction made of sums involving rational expressions: Problem type 4
alge477 Complex fraction made of sums involving rational expressions: Problem type 5
alge478 Complex fraction made of sums involving rational expressions: Problem type 6
alge479 Complex fraction made of sums involving rational expressions: Multivariate
alge480 Complex fraction with negative exponents: Problem type 1
alge481 Complex fraction with negative exponents: Problem type 2
alge162 Complex fraction that contains a complex fraction
alge413 Finding all square roots of a number
arith601 Square root of a rational perfect square
arith760 Square roots of perfect squares with signs
arith761 Square roots of integers raised to even exponents
alge415 Introduction to simplifying a radical expression with an even exponent
alge264 Square root of a perfect square monomial
alge603 Introduction to solving an absolute value equation
alge537 Using absolute value to simplify square roots of perfect square monomials
arith094 Cube root of an integer
alge549 Finding n th roots of perfect n th powers with signs
arith768 Finding the n th root of a perfect n th power fraction
alge550 Finding the n th root of a perfect n th power monomial
alge538 Using absolute value to simplify higher radical expressions
alge812 Converting between radical form and exponent form
alge560 Rational exponents: Unit fraction exponents and whole number bases
alge561 Rational exponents: Unit fraction exponents and bases involving signs
alge250 Rational exponents: Non-unit fraction exponent with a whole number base
alge251 Rational exponents: Negative exponents and fractional bases
alge558 Rational exponents: Product rule
alge559 Rational exponents: Quotient rule
alge773 Rational exponents: Products and quotients with negative exponents
alge562 Rational exponents: Power of a power rule
alge249 Rational exponents: Powers of powers with negative exponents
arith093 Simplifying the square root of a whole number less than 100
arith762 Simplifying the square root of a whole number greater than 100
alge080 Simplifying a radical expression with an even exponent
alge520 Introduction to simplifying a radical expression with an odd exponent
alge521 Simplifying a radical expression with an odd exponent
alge275 Simplifying a radical expression with two variables
alge273 Simplifying a higher root of a whole number
alge551 Introduction to simplifying a higher radical expression
alge552 Simplifying a higher radical expression: Univariate
alge811 Simplifying a higher radical expression: Multivariate
arith767 Introduction to square root addition or subtraction
arith032 Square root addition or subtraction
alge533 Square root addition or subtraction with three terms
alge531 Introduction to simplifying a sum or difference of radical expressions: Univariate
alge532 Simplifying a sum or difference of radical expressions: Univariate
alge084 Simplifying a sum or difference of radical expressions: Multivariate
alge554 Simplifying a sum or difference of higher roots
alge555 Simplifying a sum or difference of higher radical expressions
arith764 Introduction to square root multiplication
arith765 Square root multiplication: Basic
arith039 Square root multiplication: Advanced
alge522 Introduction to simplifying a product of radical expressions: Univariate
alge523 Simplifying a product of radical expressions: Univariate
alge640 Simplifying a product of radical expressions: Multivariate
alge082 Simplifying a product of radical expressions: Multivariate, fractional expressions
alge556 Introduction to simplifying a product of higher roots
alge557 Simplifying a product of higher radical expressions
alge525 Introduction to simplifying a product involving square roots using the distributive property
alge526 Simplifying a product involving square roots using the distributive property: Basic

alge276 Simplifying a product involving square roots using the distributive property: Advanced
 alge774 Special products of radical expressions: Conjugates and squaring
 alge984 Classifying sums and products as rational or irrational
 arith766 Simplifying a quotient of square roots
 alge530 Simplifying a quotient involving a sum or difference with a square root
 alge527 Rationalizing a denominator: Quotient involving square roots
 alge528 Rationalizing a denominator: Square root of a fraction
 alge529 Rationalizing a denominator: Quotient involving a monomial
 alge534 Rationalizing a denominator using conjugates: Integer numerator
 alge535 Rationalizing a denominator using conjugates: Square root in numerator
 alge536 Rationalizing a denominator using conjugates: Variable in denominator
 alge564 Rationalizing a denominator: Quotient involving a higher radical
 alge775 Rationalizing a denominator: Quotient involving higher radicals and monomials
 alge563 Simplifying products or quotients of higher radicals with different indices: Univariate
 alge776 Simplifying products or quotients of higher radicals with different indices: Multivariate
 geom340 Area of a piecewise rectangular figure
 geom142 Word problem involving the area between two rectangles
 geom801 Area of a triangle
 geom022 Area of a parallelogram
 geom023 Area of a trapezoid
 geom016 Circumference of a circle
 geom301 Perimeter involving rectangles and circles
 geom802 Circumference and area of a circle
 geom477 Circumference and area of a circle: Exact answers in terms of pi
 geom302 Area involving rectangles and circles
 geom036 Word problem involving the area between two concentric circles
 geom214 Area involving inscribed figures
 geom311 Volume of a rectangular prism
 geom090 Volume of a triangular prism
 geom033 Volume of a pyramid
 geom035 Volume of a cylinder
 geom092 Word problem involving the rate of filling or emptying a cylinder
 geom622 Volume of a cone
 geom086 Volume of a cone: Exact answers in terms of pi
 geom841 Volume of a sphere
 geom031 Surface area of a cube or a rectangular prism
 geom091 Surface area of a triangular prism
 geom621 Surface area of a cylinder
 geom034 Surface area of a cylinder: Exact answers in terms of pi
 geom842 Surface area of a sphere
 alge407 Introduction to the Pythagorean Theorem
 geom044 Pythagorean Theorem
 alge408 Word problem involving the Pythagorean Theorem

Equations and Inequalities

alge836 Additive property of equality with signed fractions
 alge012 Multiplicative property of equality with signed fractions
 alge837 Solving a multi-step equation given in fractional form
 alge986 Identifying properties used to solve a linear equation
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
 alge420 Solving a linear equation with several occurrences of the variable: Fractional forms with monomial numerators
 alge208 Solving a two-step equation with signed fractions
 alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional

coefficients

alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators

alge742 Solving equations with zero, one, or infinitely many solutions

alge840 Solving a proportion of the form $(x+a)\div b = c\div d$

alge511 Solving for a variable in terms of other variables using addition or subtraction: Basic

alge512 Solving for a variable in terms of other variables using addition or subtraction: Advanced

alge513 Solving for a variable in terms of other variables using multiplication or division: Basic

alge514 Solving for a variable in terms of other variables using multiplication or division: Advanced

alge517 Solving for a variable in terms of other variables using addition or subtraction with division

alge518 Solving for a variable inside parentheses in terms of other variables

alge507 Solving for a variable in terms of other variables in a linear equation with fractions

alge016 Translating a sentence into a one-step equation

alge841 Translating a sentence into a multi-step equation

alge014 Solving a word problem with two unknowns using a linear equation

alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$

alge219 Solving a decimal word problem using a linear equation with the variable on both sides

alge704 Solving a fraction word problem using a linear equation with the variable on both sides

alge792 Solving a word problem with three unknowns using a linear equation

alge842 Solving a word problem involving consecutive integers

alge730 Writing a multi-step equation for a real-world situation

alge794 Solving a value mixture problem using a linear equation

alge823 Solving a one-step word problem using the formula $d = rt$

alge796 Solving a distance, rate, time problem using a linear equation

geom817 Finding a side length given the perimeter and side lengths with variables

geom143 Finding the perimeter or area of a rectangle given one of these values

geom838 Circumference ratios

geom530 Solving equations involving vertical angles

geom628 Finding angle measures of a triangle given angles with variables

stat803 Finding the value for a new score that will yield a given mean

arith852 Finding the multiplier to give a final amount after a percentage increase or decrease

arith847 Finding the sale price given the original price and percent discount

arith848 Finding the total cost including tax or markup

arith031 Finding the original price given the sale price and percent discount

arith854 Computing a percent mixture

alge795 Solving a percent mixture problem using a linear equation

arith232 Finding simple interest without a calculator

arith514 Converting a repeating decimal to a fraction

alge864 Solving an absolute value equation: Problem type 1

alge865 Solving an absolute value equation: Problem type 2

alge866 Solving an absolute value equation: Problem type 3

alge867 Solving an absolute value equation: Problem type 4

alge167 Solving an absolute value equation of the form $-ax+b = -cx+d$

alge845 Translating a sentence into a one-step inequality

alge846 Translating a sentence into a multi-step inequality

alge748 Writing an inequality for a real-world situation

alge017 Graphing a linear inequality on the number line

alge822 Writing an inequality given a graph on the number line

alge186 Translating a sentence into a compound inequality

alge166 Graphing a compound inequality on the number line

alge847 Writing a compound inequality given a graph on the number line

set001 Set builder notation

set004 Set builder and interval notation

set002 Union and intersection of finite sets

set005 Union and intersection of intervals

alge844 Identifying solutions to a two-step linear inequality in one variable

alge852 Additive property of inequality with signed fractions

alge964 Multiplicative property of inequality with signed fractions

alge855 Solving a two-step linear inequality: Problem type 1

alge856 Solving a two-step linear inequality: Problem type 2

alge857 Solving a two-step linear inequality with a fractional coefficient

alge977 Solving a linear inequality with multiple occurrences of the variable: Problem type 1

alge858 Solving a linear inequality with multiple occurrences of the variable: Problem type 2
 alge859 Solving a linear inequality with multiple occurrences of the variable: Problem type 3
 alge860 Solving inequalities with no solution or all real numbers as solutions
 alge746 Solving a compound linear inequality: Graph solution, basic
 alge747 Solving a compound linear inequality: Interval notation
 alge749 Solving a decimal word problem using a two-step linear inequality
 alge750 Solving a decimal word problem using a linear inequality with the variable on both sides
 alge868 Solving an absolute value inequality: Problem type 1
 alge943 Writing an absolute value inequality given a graph on the number line
 alge869 Solving an absolute value inequality: Problem type 2
 alge870 Solving an absolute value inequality: Problem type 3
 alge871 Solving an absolute value inequality: Problem type 4
 alge872 Solving an absolute value inequality: Problem type 5
 alge271 Solving a proportion of the form $a/(x+b) = c/x$
 alge060 Solving a rational equation that simplifies to linear: Denominator x
 alge205 Solving a rational equation that simplifies to linear: Denominator $x+a$
 alge769 Solving a rational equation that simplifies to linear: Denominators a , x , or ax
 alge421 Solving a rational equation that simplifies to linear: Denominators ax and bx
 alge422 Solving a rational equation that simplifies to linear: Like binomial denominators
 alge206 Solving a rational equation that simplifies to linear: Unlike binomial denominators
 alge508 Solving for a variable in terms of other variables in a rational equation: Problem type 1
 alge509 Solving for a variable in terms of other variables in a rational equation: Problem type 2
 alge510 Solving for a variable in terms of other variables in a rational equation: Problem type 3
 arith610 Word problem on proportions: Problem type 1
 arith611 Word problem on proportions: Problem type 2
 geom037 Similar polygons
 geom038 Similar right triangles
 geom337 Indirect measurement
 geom133 Ratio of volumes
 arith612 Word problem involving multiple rates
 alge770 Solving a work problem using a rational equation
 alge450 Solving a distance, rate, time problem using a rational equation
 alge059 Ordering fractions with variables
 alge778 Using i to rewrite square roots of negative numbers
 alge779 Simplifying a product and quotient involving square roots of negative numbers
 pcalc048 Adding or subtracting complex numbers
 pcalc049 Multiplying complex numbers
 pcalc050 Dividing complex numbers
 pcalc053 Simplifying a power of i
 alge681 Solving an equation written in factored form
 alge956 Finding the roots of a quadratic equation of the form $ax^2 + bx = 0$
 alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
 alge211 Solving a quadratic equation needing simplification
 alge046 Roots of a product of polynomials
 alge163 Writing a quadratic equation given the roots and the leading coefficient
 alge703 Solving a word problem using a quadratic equation with rational roots
 alge713 Using the Pythagorean Theorem and a quadratic equation to find side lengths of a right triangle
 alge962 Solving an equation of the form $x^2 = a$ using the square root property
 alge092 Solving a quadratic equation using the square root property: Exact answers, basic
 alge227 Solving a quadratic equation using the square root property: Exact answers, advanced
 alge094 Completing the square
 alge780 Solving a quadratic equation by completing the square: Exact answers
 alge095 Applying the quadratic formula: Exact answers
 alge963 Applying the quadratic formula: Decimal answers
 pcalc051 Solving a quadratic equation with complex roots
 alge214 Discriminant of a quadratic equation
 alge193 Discriminant of a quadratic equation with parameter
 alge524 Solving a word problem using a quadratic equation with irrational roots
 alge093 Solving an equation using the odd-root property: Problem type 1
 alge228 Solving an equation using the odd-root property: Problem type 2
 alge467 Restriction on a variable in a denominator: Quadratic

alge423 Solving a rational equation that simplifies to linear: Factorable quadratic denominator
 alge424 Solving a rational equation that simplifies to quadratic: Proportional form, basic
 alge425 Solving a rational equation that simplifies to quadratic: Denominator x
 alge212 Solving a rational equation that simplifies to quadratic: Binomial denominators, constant numerators
 alge062 Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators
 alge426 Solving a rational equation that simplifies to quadratic: Factorable quadratic denominator
 alge047 Solving a rational equation that simplifies to quadratic: Proportional form, advanced
 alge400 Introduction to solving a radical equation
 alge089 Solving a radical equation that simplifies to a linear equation: One radical, basic
 alge402 Solving a radical equation that simplifies to a linear equation: One radical, advanced
 alge090 Solving a radical equation that simplifies to a linear equation: Two radicals
 alge403 Solving a radical equation that simplifies to a quadratic equation: One radical, basic
 alge404 Solving a radical equation that simplifies to a quadratic equation: One radical, advanced
 alge411 Solving a radical equation with a quadratic expression under the radical
 alge405 Solving a radical equation with two radicals that simplifies to $\sqrt{x} = a$
 alge182 Solving a radical equation that simplifies to a quadratic equation: Two radicals
 alge412 Algebraic symbol manipulation with radicals
 alge542 Word problem involving radical equations: Basic
 alge409 Word problem involving radical equations: Advanced
 alge410 Solving an equation with a root index greater than 2: Problem type 1
 alge417 Solving an equation with a root index greater than 2: Problem type 2
 alge416 Solving an equation with exponent $1/a$: Problem type 1
 alge418 Solving an equation with exponent $1/a$: Problem type 2
 alge230 Solving an equation with positive rational exponent
 alge231 Solving an equation with negative rational exponent
 alge781 Solving an equation that can be written in quadratic form: Problem type 1
 alge782 Solving an equation that can be written in quadratic form: Problem type 2

Graphs and Functions

alge064 Reading a point in the coordinate plane
 alge067 Plotting a point in the coordinate plane
 arith405 Naming the quadrant or axis of a point given its coordinates
 arith406 Naming the quadrant or axis of a point given the signs of its coordinates
 geom437 Finding the area of a triangle or parallelogram in the coordinate plane
 alge850 Table for a linear equation
 alge132 Distance between two points in the plane: Exact answers
 alge324 Distance between two points in the plane: Decimal answers
 geom323 Identifying scalene, isosceles, and equilateral triangles given coordinates of their vertices
 alge191 Midpoint of a line segment in the plane
 alge414 Finding an endpoint of a line segment given the other endpoint and the midpoint
 alge873 Identifying solutions to a linear equation in two variables
 alge066 Finding a solution to a linear equation in two variables
 alge877 Graphing a linear equation of the form $y = mx$
 alge878 Graphing a line given its equation in slope-intercept form: Integer slope
 alge879 Graphing a line given its equation in slope-intercept form: Fractional slope
 alge880 Graphing a line given its equation in standard form
 alge198 Graphing a vertical or horizontal line
 alge884 Finding x - and y -intercepts given the graph of a line on a grid
 alge924 Finding x - and y -intercepts of a line given the equation: Basic
 alge210 Finding x - and y -intercepts of a line given the equation: Advanced
 alge197 Graphing a line given its x - and y -intercepts
 alge881 Graphing a line by first finding its x - and y -intercepts
 pcalc750 Finding intercepts of a nonlinear function given its graph
 pcalc678 Finding x - and y -intercepts of the graph of a nonlinear equation
 alge913 Graphing an absolute value equation of the form $y = A - |x - h|$
 alge954 Graphing a parabola of the form $y = ax^2$
 alge955 Graphing a parabola of the form $y = ax^2 + c$
 alge262 Graphing a cubic function of the form $y = ax^3$
 pcalc416 Determining if graphs have symmetry with respect to the x -axis, y -axis, or origin

pcalc679 Testing an equation for symmetry about the axes and origin
 alge875 Classifying slopes given graphs of lines
 alge886 Finding slope given the graph of a line on a grid
 alge887 Finding slope given two points on the line
 alge885 Finding the slope of horizontal and vertical lines
 alge888 Finding the coordinate that yields a given slope
 alge259 Graphing a line given its slope and y-intercept
 alge196 Graphing a line through a given point with a given slope
 alge876 Identifying linear equations: Advanced
 alge874 Identifying linear functions given ordered pairs
 alge891 Rewriting a linear equation in the form $Ax + By = C$
 alge889 Finding the slope and y-intercept of a line given its equation in the form $y = mx + b$
 alge890 Finding the slope and y-intercept of a line given its equation in the form $Ax + By = C$
 alge882 Graphing a line by first finding its slope and y-intercept
 alge258 Writing an equation of a line given its slope and y-intercept
 alge892 Writing an equation and graphing a line given its slope and y-intercept
 alge314 Finding the slope, y-intercept, and equation for a linear function given a table of values
 alge893 Writing an equation in slope-intercept form given the slope and a point
 alge318 Finding the slope and a point on a line given its equation in point-slope form
 alge883 Graphing a line given its equation in point-slope form
 alge894 Writing an equation in point-slope form given the slope and a point
 alge313 Writing an equation in standard form given the slope and a point
 alge070 Writing an equation of a line given the y-intercept and another point
 alge072 Writing the equation of the line through two given points
 alge073 Writing the equations of vertical and horizontal lines through a given point
 alge322 Comparing linear functions to the parent function $y=x$
 geom806 Finding slopes of lines parallel and perpendicular to a line given in slope-intercept form
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 alge895 Identifying parallel and perpendicular lines from equations
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 geom462 Identifying parallel and perpendicular lines from coordinates
 geom322 Identifying coordinates that give right triangles
 alge897 Writing and evaluating a function that models a real-world situation: Advanced
 alge654 Graphing ordered pairs and writing an equation from a table of values in context
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 alge817 Finding the initial amount and rate of change given a table for a linear function
 alge818 Finding the initial amount and rate of change given a graph of a linear function
 alge992 Combining functions to write a new function that models a real-world situation
 alge987 Comparing properties of linear functions given in different forms
 alge989 Interpreting the parameters of a linear function that models a real-world situation
 alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
 alge806 Application problem with a linear function: Finding a coordinate given two points
 alge991 Solving a linear equation by graphing
 mstat094 Constructing a scatter plot
 mstat030 Sketching the line of best fit
 mstat023 Scatter plots and correlation
 mstat068 Predictions from the line of best fit
 mstat067 Approximating the equation of a line of best fit and making predictions
 mstat069 Computing residuals
 mstat070 Interpreting residual plots
 mstat093 Classifying linear and nonlinear relationships from scatter plots
 mstat071 Linear relationship and the correlation coefficient
 mstat096 Identifying outliers and clustering in scatter plots
 mstat095 Finding outliers in a data set
 alge914 Identifying solutions to a system of linear equations
 alge725 Graphically solving a system of linear equations
 pcalc820 Using a graphing calculator to solve a system of linear equations: Basic
 pcalc821 Using a graphing calculator to solve a system of linear equations: Advanced
 alge317 Writing a system of linear equations given its graph
 alge751 Solving a system of linear equations using substitution
 alge915 Solving a system of linear equations using elimination with addition
 alge076 Solving a system of linear equations using elimination with multiplication and addition

geom496 Identifying the center and radius to graph a circle given its equation in standard form
 geom497 Identifying the center and radius to graph a circle given its equation in general form: Basic
 geom668 Identifying the center and radius to graph a circle given its equation in general form: Advanced
 geom499 Writing the equation of a circle centered at the origin given its radius or a point on the circle
 geom495 Writing an equation of a circle and identifying points that lie on the circle
 geom498 Writing an equation of a circle given its center and radius or diameter
 geom493 Deriving the equation of a circle using the Pythagorean Theorem
 pcalc065 Writing an equation of a circle given its center and a point on the circle
 pcalc066 Writing an equation of a circle given the endpoints of a diameter
 fun032 Identifying functions from relations
 fun010 Vertical line test
 fun001 Table for a linear function
 pcalc760 Evaluating functions: Linear and quadratic or cubic
 alge468 Evaluating a rational function: Problem type 1
 alge469 Evaluating a rational function: Problem type 2
 alge539 Table for a square root function
 alge546 Evaluating a cube root function
 pcalc682 Evaluating functions: Absolute value, rational, radical
 fun030 Evaluating a piecewise-defined function
 fun033 Variable expressions as inputs of functions: Problem type 1
 pcalc571 Variable expressions as inputs of functions: Problem type 2
 pcalc411 Variable expressions as inputs of functions: Problem type 3
 fun016 Domain and range from ordered pairs
 alge715 Domain of a rational function: Excluded values
 pcalc412 Domain of a rational function: Interval notation
 alge540 Domain of a square root function: Basic
 pcalc763 Domain of a square root function: Advanced
 alge547 Domains of higher root functions
 pcalc754 Finding the domain of a fractional function involving radicals
 pcalc924 Determining whether an equation defines a function: Basic
 pcalc757 Determining whether an equation defines a function: Advanced
 alge294 Finding outputs of a one-step function that models a real-world situation: Function notation
 alge295 Finding outputs of a two-step function with decimals that models a real-world situation: Function notation
 alge296 Finding inputs and outputs of a two-step function that models a real-world situation: Function notation
 alge990 Domain and range of a linear function that models a real-world situation
 pcalc471 Rewriting a multivariate function as a univariate function given a relationship between its variables
 pcalc753 Finding a difference quotient for a linear or quadratic function
 pcalc414 Finding a difference quotient for a rational function
 fun026 Finding an output of a function from its graph
 pcalc761 Finding inputs and outputs of a function from its graph
 fun007 Domain and range from the graph of a discrete relation
 alge312 Finding domain and range from a linear graph in context
 fun024 Domain and range from the graph of a continuous function
 fun025 Domain and range from the graph of a piecewise function
 alge999 Finding where a function is increasing, decreasing, or constant given the graph
 pcalc751 Finding where a function is increasing, decreasing, or constant given the graph: Interval notation
 pcalc752 Finding local maxima and minima of a function given the graph
 pcalc439 Finding the absolute maximum and minimum of a function given the graph
 pcalc417 Finding values and intervals where the graph of a function is zero, positive, or negative
 mstat018 Choosing a graph to fit a narrative: Basic
 mstat051 Choosing a graph to fit a narrative: Advanced
 alge896 Graphing an integer function and finding its range for a given domain
 alge570 Graphing a function of the form $f(x) = ax + b$: Integer slope
 alge571 Graphing a function of the form $f(x) = ax + b$: Fractional slope
 alge900 Graphing an absolute value equation in the plane: Basic
 alge168 Graphing an absolute value equation in the plane: Advanced
 alge572 Graphing a function of the form $f(x) = ax^2$
 alge573 Graphing a function of the form $f(x) = ax^2 + c$
 alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
 alge543 Graphing a square root function: Problem type 1
 alge544 Graphing a square root function: Problem type 2

alge545 Graphing a square root function: Problem type 3
 alge548 Graphing a cube root function
 pcalc443 Matching parent graphs with their equations
 fun031 Graphing a piecewise-defined function: Problem type 1
 pcalc444 Graphing a piecewise-defined function: Problem type 2
 pcalc568 Graphing a piecewise-defined function: Problem type 3
 pcalc114 Even and odd functions: Problem type 1
 pcalc440 Even and odd functions: Problem type 2
 pcalc768 Finding the average rate of change of a function
 alge998 Finding the average rate of change of a function given its graph
 pcalc442 Word problem involving average rate of change
 pcalc441 Writing the equation of a secant line
 pcalc467 Translating the graph of a parabola: One step
 pcalc465 Translating the graph of a parabola: Two steps
 alge723 How the leading coefficient affects the shape of a parabola
 pcalc468 Translating the graph of an absolute value function: One step
 alge899 Translating the graph of an absolute value function: Two steps
 alge901 How the leading coefficient affects the graph of an absolute value function
 alge185 Writing an equation for a function after a vertical translation
 pcalc469 Translating the graph of a function: One step
 pcalc770 Translating the graph of a function: Two steps
 pcalc569 Transforming the graph of a function by reflecting over an axis
 pcalc470 Transforming the graph of a function by shrinking or stretching
 pcalc570 Transforming the graph of a function using more than one transformation
 pcalc466 Transforming the graph of a quadratic, cubic, square root, or absolute value function
 fun020 Writing an equation for a function after a vertical and horizontal translation
 fun019 Sum, difference, and product of two functions
 alge786 Quotient of two functions: Basic
 pcalc413 Quotient of two functions: Advanced
 pcalc756 Combining functions: Advanced
 alge716 Introduction to the composition of two functions
 fun022 Composition of two functions: Basic
 pcalc484 Composition of a function with itself
 pcalc776 Expressing a function as a composition of two functions
 fun021 Composition of two functions: Domain and range
 alge129 Composition of two functions: Advanced
 pcalc483 Composition of two rational functions
 pcalc485 Word problem involving composition of two functions
 fun011 Horizontal line test
 pcalc777 Determining whether two functions are inverses of each other
 fun012 Inverse functions: Linear, discrete
 pcalc573 Inverse functions: Quadratic, square root
 pcalc572 Inverse functions: Cubic, cube root
 alge130 Inverse functions: Rational
 pcalc486 Graphing the inverse of a function given its graph
 pcalc487 Finding, evaluating, and interpreting an inverse function for a given linear relationship

Polynomial and Rational Functions

alge974 Finding the vertex, x-intercepts, and axis of symmetry from the graph of a parabola
 alge569 Graphing a parabola of the form $y = x^2 + bx + c$
 pcalc574 Graphing a parabola of the form $y = a(x-h)^2 + k$
 pcalc746 Graphing a parabola of the form $y = ax^2 + bx + c$: Integer coefficients
 pcalc747 Graphing a parabola of the form $y = ax^2 + bx + c$: Rational coefficients
 alge323 Finding the zeros of a quadratic function given its equation
 pcalc714 Using a graphing calculator to find the zeros of a quadratic function
 alge320 Writing a quadratic function given its zeros
 alge277 Finding the x-intercept(s) and the vertex of a parabola
 pcalc793 Using a graphing calculator to find the x-intercept(s) and vertex of a quadratic function
 alge319 Rewriting a quadratic function in standard form

pcalc550 Rewriting a quadratic function to find its vertex and sketch its graph
pcalc775 Finding the maximum or minimum of a quadratic function
alge785 Word problem involving the maximum or minimum of a quadratic function
pcalc551 Word problem involving optimizing area by using a quadratic function
pcalc415 Domain and range from the graph of a quadratic function
pcalc762 Range of a quadratic function
pcalc680 Writing the equation of a quadratic function given its graph
alge957 Solving a quadratic equation by graphing
alge996 Comparing properties of quadratic functions given in different forms
alge702 Classifying the graph of a function
mstat102 Choosing a quadratic model and using it to make a prediction
pcalc546 Identifying polynomial functions
pcalc764 Finding zeros of a polynomial function written in factored form
pcalc547 Finding zeros and their multiplicities given a polynomial function written in factored form
pcalc766 Finding a polynomial of a given degree with given zeros: Real zeros
pcalc765 Finding x- and y-intercepts given a polynomial function
pcalc782 Determining the end behavior of the graph of a polynomial function
pcalc548 Determining end behavior and intercepts to graph a polynomial function
pcalc783 Matching graphs with polynomial functions
pcalc738 Inferring properties of a polynomial function from its graph
pcalc794 Using a graphing calculator to find local extrema of a polynomial function
pcalc115 Using a graphing calculator to solve a word problem involving a local extremum of a polynomial function
alge759 Dividing a polynomial by a monomial: Univariate
alge760 Dividing a polynomial by a monomial: Multivariate
alge761 Polynomial long division: Problem type 1
alge762 Polynomial long division: Problem type 2
alge763 Polynomial long division: Problem type 3
pcalc117 Synthetic division
pcalc786 Using the remainder theorem to evaluate a polynomial
pcalc787 The Factor Theorem
pcalc118 Remainder theorem: Advanced
alge985 Closure properties of integers and polynomials
pcalc741 Using a given zero to write a polynomial as a product of linear factors: Real zeros
pcalc758 Finding all possible rational zeros using the rational zeros theorem: Problem type 1
pcalc759 Finding all possible rational zeros using the rational zeros theorem: Problem type 2
pcalc788 Descartes' Rule of Signs
pcalc743 Using the rational zeros theorem to find all zeros of a polynomial: Rational zeros
pcalc744 Using the rational zeros theorem to find all zeros of a polynomial: Irrational zeros
pcalc795 Using a graphing calculator to find zeros of a polynomial function
pcalc704 Using a graphing calculator to solve a word problem involving a polynomial of degree 3
pcalc785 Multiplying expressions involving complex conjugates
pcalc767 Finding a polynomial of a given degree with given zeros: Complex zeros
pcalc742 Using a given zero to write a polynomial as a product of linear factors: Complex zeros
pcalc745 Using the rational zeros theorem to find all zeros of a polynomial: Complex zeros
pcalc703 Using the conjugate zeros theorem to find all zeros of a polynomial
pcalc705 Linear factors theorem and conjugate zeros theorem
pcalc552 Finding the intercepts, asymptotes, domain, and range from the graph of a rational function
pcalc917 Finding the asymptotes of a rational function: Constant over linear
pcalc918 Finding the asymptotes of a rational function: Linear over linear
pcalc790 Finding horizontal and vertical asymptotes of a rational function: Quadratic numerator or denominator
pcalc562 Finding the asymptotes of a rational function: Quadratic over linear
alge515 Graphing a rational function: Constant over linear
alge516 Graphing a rational function: Linear over linear
pcalc553 Transforming the graph of a rational function
pcalc109 Graphing a rational function: Quadratic over linear
pcalc792 Graphing rational functions with holes
pcalc791 Matching graphs with rational functions: Two vertical asymptotes
pcalc557 Graphing a rational function with more than one vertical asymptote
pcalc706 Writing the equation of a rational function given its graph
pcalc556 Using a graphing calculator to solve a word problem involving a local extremum of a rational function
alge784 Solving a quadratic inequality written in factored form

alge771 Solving a quadratic inequality
 pcalc558 Solving a polynomial inequality: Problem type 1
 pcalc560 Solving a polynomial inequality: Problem type 2
 pcalc561 Solving a polynomial inequality: Problem type 3
 pcalc559 Solving a polynomial inequality: Problem type 4
 alge783 Solving a rational inequality: Problem type 1
 pcalc677 Solving a rational inequality: Problem type 2
 alge982 Identifying direct variation equations
 alge938 Identifying direct variation from ordered pairs and writing equations
 alge904 Writing a direct variation equation
 alge175 Word problem on direct variation
 alge828 Interpreting direct variation from a graph
 alge905 Writing an inverse variation equation
 alge903 Identifying direct and inverse variation equations
 alge902 Identifying direct and inverse variation from ordered pairs and writing equations
 alge176 Word problem on inverse variation
 alge220 Word problem on inverse proportions
 pcalc681 Writing an equation that models variation
 alge772 Word problem on combined variation

Exponential and Logarithmic Functions

alge971 Table for an exponential function
 pcalc488 Graphing an exponential function: $f(x)=bx$
 pcalc489 Graphing an exponential function: $f(x) = a(b)^x$
 pcalc567 Graphing an exponential function: $f(x)=b-x$ or $f(x)=-bax$
 pcalc922 Translating the graph of an exponential function
 alge321 Finding domain and range from the graph of an exponential function
 pcalc797 The graph, domain, and range of an exponential function
 pcalc490 Transforming the graph of a natural exponential function
 pcalc103 Graphing an exponential function and its asymptote: $f(x) = a(e)^x-b + c$
 pcalc491 Using a calculator to evaluate exponential expressions
 alge830 Evaluating an exponential function that models a real-world situation
 pcalc555 Using a calculator to evaluate exponential expressions involving base e
 pcalc919 Evaluating an exponential function with base e that models a real-world situation
 arith853 Introduction to compound interest
 arith910 Calculating and comparing simple interest and compound interest
 alge177 Finding a final amount in a word problem on exponential growth or decay
 alge741 Finding the final amount in a word problem on compound interest
 alge966 Finding the initial amount and rate of change given an exponential function
 alge968 Writing an equation that models exponential growth or decay
 alge967 Writing an exponential function rule given a table of ordered pairs
 mstat103 Choosing an exponential model and using it to make a prediction
 alge993 Comparing linear, polynomial, and exponential functions
 pcalc492 Using a calculator to evaluate natural and common logarithmic expressions
 pcalc493 Converting between logarithmic and exponential equations
 pcalc494 Converting between natural logarithmic and exponential equations
 pcalc495 Evaluating logarithmic expressions
 alge233 Solving an equation of the form $\log_b a = c$
 pcalc923 Translating the graph of a logarithmic function
 alge788 Graphing a logarithmic function: Basic
 pcalc800 The graph, domain, and range of a logarithmic function
 pcalc801 Domain of a logarithmic function: Advanced
 pcalc104 Graphing a logarithmic function: Advanced
 pcalc708 Basic properties of logarithms
 pcalc511 Using properties of logarithms to evaluate expressions
 pcalc779 Expanding a logarithmic expression: Problem type 1
 pcalc521 Expanding a logarithmic expression: Problem type 2
 pcalc522 Expanding a logarithmic expression: Problem type 3
 alge787 Writing an expression as a single logarithm

pcalc612 Change of base for logarithms: Problem type 1
 pcalc613 Change of base for logarithms: Problem type 2
 pcalc513 Solving a multi-step equation involving a single logarithm: Problem type 1
 pcalc510 Solving a multi-step equation involving a single logarithm: Problem type 2
 pcalc804 Solving a multi-step equation involving natural logarithms
 alge113 Solving an equation involving logarithms on both sides: Problem type 1
 pcalc805 Solving an equation involving logarithms on both sides: Problem type 2
 alge301 Solving an exponential equation by finding common bases: Linear exponents
 alge482 Solving an exponential equation by finding common bases: Linear and quadratic exponents
 pcalc920 Solving an exponential equation by using logarithms: Decimal answers, basic
 pcalc921 Solving an exponential equation by using natural logarithms: Decimal answers
 pcalc523 Solving an exponential equation by using logarithms: Decimal answers, advanced
 alge111 Solving an exponential equation by using logarithms: Exact answers in logarithmic form
 pcalc802 Solving an exponential equation by using substitution and quadratic factoring
 alge178 Finding the time to reach a limit in a word problem on exponential growth or decay
 pcalc524 Finding the time in a word problem on compound interest
 pcalc508 Finding the time given an exponential function with base e that models a real-world situation
 pcalc525 Finding the final amount in a word problem on continuous compound interest
 pcalc527 Finding the initial amount in a word problem on continuous compound interest
 pcalc526 Finding the final amount in a word problem on continuous exponential growth or decay
 pcalc615 Finding the rate or time in a word problem on continuous exponential growth or decay
 pcalc528 Finding half-life or doubling time
 pcalc529 Writing and evaluating a function modeling continuous exponential growth or decay given doubling time or half-life
 pcalc530 Writing and evaluating a function modeling continuous exponential growth or decay given two outputs

Trigonometric Functions

pcalc001 Converting degrees-minutes-seconds to decimal degrees
 pcalc661 Converting a decimal degree to degrees-minutes-seconds
 pcalc002 Converting between degree and radian measure: Problem type 1
 pcalc621 Converting between degree and radian measure: Problem type 2
 pcalc006 Sketching an angle in standard position
 pcalc622 Coterminal angles
 pcalc005 Arc length and central angle measure
 pcalc623 Area of a sector of a circle
 pcalc624 Angular and linear speed
 pcalc627 Finding coordinates on the unit circle for special angles
 pcalc625 Finding a point on the unit circle given one coordinate
 pcalc629 Trigonometric functions and special angles: Problem type 1
 pcalc628 Finding trigonometric ratios from a point on the unit circle
 pcalc630 Trigonometric functions and special angles: Problem type 2
 pcalc631 Trigonometric functions and special angles: Problem type 3
 pcalc409 Evaluating expressions involving sine and cosine
 pcalc427 Even and odd properties of trigonometric functions
 pcalc616 Using a calculator to approximate sine, cosine, and tangent values
 pcalc408 Using a calculator to approximate cosecant, secant, and cotangent values
 pcalc410 Evaluating a sinusoidal function that models a real-world situation
 geom506 Special right triangles: Exact answers
 pcalc609 Sine, cosine, and tangent ratios: Numbers for side lengths
 pcalc600 Sine, cosine, and tangent ratios: Variables for side lengths
 pcalc606 Using the Pythagorean Theorem to find a trigonometric ratio
 pcalc008 Finding trigonometric ratios given a right triangle
 geom317 Understanding trigonometric ratios through similar right triangles
 geom316 Relationship between the sines and cosines of complementary angles
 geom318 Using similar right triangles to find trigonometric ratios
 pcalc607 Using a trigonometric ratio to find a side length in a right triangle
 pcalc610 Using trigonometry to find a length in a word problem with one right triangle
 pcalc608 Using a trigonometric ratio to find an angle measure in a right triangle
 pcalc611 Using trigonometry to find angles of elevation or depression in a word problem

pcalc642 Solving a right triangle
 pcalc473 Using trigonometry to find a length in a word problem with two right triangles
 pcalc626 Reference angles: Problem type 1
 pcalc632 Reference angles: Problem type 2
 pcalc671 Determining the location of a terminal point given the signs of trigonometric values
 pcalc011 Finding values of trigonometric functions given information about an angle: Problem type 1
 pcalc012 Finding values of trigonometric functions given information about an angle: Problem type 2
 pcalc013 Finding values of trigonometric functions given information about an angle: Problem type 3
 pcalc426 Finding values of trigonometric functions given information about an angle: Problem type 4
 pcalc445 Sketching the graph of $y=a*\sin(x)$ or $y=a*\cos(x)$
 pcalc446 Sketching the graph of $y=\sin(bx)$ or $y=\cos(bx)$
 pcalc447 Sketching the graph of $y=\sin(x)+d$ or $y=\cos(x)+d$
 pcalc448 Sketching the graph of $y=\sin(x+c)$ or $y=\cos(x+c)$
 pcalc107 Sketching the graph of $y=a*\sin(x+c)$ or $y=a*\cos(x+c)$
 pcalc106 Sketching the graph of $y=a*\sin(bx)$ or $y=a*\cos(bx)$
 pcalc014 Sketching the graph of $y=a*\sin(bx+c)$ or $y=a*\cos(bx+c)$
 pcalc438 Sketching the graph of $y=a*\sin(bx)+d$ or $y=a*\cos(bx)+d$
 pcalc633 Amplitude and period of sine and cosine functions
 pcalc634 Amplitude, period, and phase shift of sine and cosine functions
 pcalc635 Writing the equation of a sine or cosine function given its graph: Problem type 1
 pcalc636 Writing the equation of a sine or cosine function given its graph: Problem type 2
 pcalc640 Word problem involving a sine or cosine function: Problem type 1
 pcalc641 Word problem involving a sine or cosine function: Problem type 2
 pcalc474 Sketching a graph of a damped sine or cosine function
 pcalc428 Domains and ranges of trigonometric functions
 pcalc637 Matching graphs and equations for secant, cosecant, tangent, and cotangent functions
 pcalc017 Sketching the graph of a secant or cosecant function: Problem type 1
 pcalc638 Sketching the graph of a secant or cosecant function: Problem type 2
 pcalc105 Sketching the graph of a tangent or cotangent function: Problem type 1
 pcalc015 Sketching the graph of a tangent or cotangent function: Problem type 2
 pcalc016 Values of inverse trigonometric functions
 pcalc018 Composition of a trigonometric function with its inverse trigonometric function: Problem type 1
 pcalc419 Composition of a trigonometric function with its inverse trigonometric function: Problem type 2
 pcalc420 Composition of a trigonometric function with the inverse of another trigonometric function: Problem type 1
 pcalc421 Composition of a trigonometric function with the inverse of another trigonometric function: Problem type 2
 pcalc036 Composition of a trigonometric function with the inverse of another trigonometric function: Problem type 3
 pcalc423 Composition of trigonometric functions with variable expressions as inputs: Problem type 1
 pcalc422 Composition of trigonometric functions with variable expressions as inputs: Problem type 2
 pcalc418 Using a calculator to approximate inverse trigonometric values

Trigonometric Identities and Equations

pcalc648 Simplifying trigonometric expressions
 pcalc666 Using cofunction identities
 pcalc110 Verifying a trigonometric identity
 pcalc034 Proving trigonometric identities: Problem type 1
 pcalc404 Proving trigonometric identities: Problem type 2
 pcalc405 Proving trigonometric identities: Problem type 3
 pcalc429 Proving trigonometric identities: Problem type 4
 pcalc406 Proving trigonometric identities using odd and even properties
 pcalc029 Sum and difference identities: Problem type 1
 pcalc663 Sum and difference identities: Problem type 2
 pcalc664 Sum and difference identities: Problem type 3
 pcalc430 Sum and difference identities: Problem type 4
 pcalc431 Proving trigonometric identities using sum and difference properties: Problem type 1
 pcalc432 Proving trigonometric identities using sum and difference properties: Problem type 2
 pcalc030 Double-angle identities: Problem type 1

pcalc667 Double-angle identities: Problem type 2
 pcalc434 Double-angle identities: Problem type 3
 pcalc437 Power-reducing identities
 pcalc662 Half-angle identities: Problem type 1
 pcalc665 Half-angle identities: Problem type 2
 pcalc124 Product-to-sum and sum-to-product identities: Problem type 1
 pcalc674 Product-to-sum and sum-to-product identities: Problem type 2
 pcalc402 Proving trigonometric identities using double-angle properties
 pcalc436 Proving trigonometric identities using sum-to-product formulas
 pcalc650 Finding solutions in an interval for a basic equation involving sine or cosine
 pcalc651 Finding solutions in an interval for a basic tangent, cotangent, secant, or cosecant equation
 pcalc660 Solving a basic trigonometric equation using a calculator
 pcalc020 Solving a basic trigonometric equation involving sine or cosine
 pcalc021 Solving a basic trigonometric equation involving tangent, cotangent, secant, or cosecant
 pcalc670 Finding solutions in an interval for a trigonometric equation in factored form
 pcalc652 Finding solutions in an interval for a trigonometric equation with a squared function: Problem type 1
 pcalc653 Finding solutions in an interval for a trigonometric equation with a squared function: Problem type 2
 pcalc654 Finding solutions in an interval for a trigonometric equation using Pythagorean identities: Problem type 1
 pcalc424 Finding solutions in an interval for a trigonometric equation using Pythagorean identities: Problem type 2
 pcalc657 Finding solutions in an interval for an equation with sine and cosine using double-angle identities
 pcalc668 Solving a trigonometric equation modeling a real-world situation
 pcalc811 Using a graphing calculator to solve a trigonometric equation
 pcalc127 Using a graphing calculator to solve a trigonometric inequality
 pcalc022 Solving a trigonometric equation involving a squared function: Problem type 1
 pcalc023 Solving a trigonometric equation involving a squared function: Problem type 2
 pcalc024 Solving a trigonometric equation involving more than one function
 pcalc025 Solving a trigonometric equation involving an angle multiplied by a constant
 pcalc655 Finding solutions in an interval for a trigonometric equation with an angle multiplied by a constant
 pcalc656 Finding solutions in an interval for an equation with sine and cosine using sum and difference identities
 pcalc026 Solving a trigonometric equation using sum and difference identities
 pcalc027 Solving a trigonometric equation using double-angle identities
 pcalc028 Solving a trigonometric equation using half-angle identities

Additional Topics in Trigonometry

pcalc031 Solving a triangle with the law of sines: Problem type 1
 pcalc032 Solving a triangle with the law of sines: Problem type 2
 pcalc644 Solving a word problem using the law of sines
 geom320 Proving the law of sines
 pcalc033 Solving a triangle with the law of cosines
 geom409 Proving the law of cosines
 pcalc645 Solving a word problem using the law of cosines
 geom439 Using trigonometry to find the area of a right triangle
 pcalc646 Finding the area of a triangle using trigonometry
 geom319 Expressing the area of a triangle in terms of the sine of one of its angles
 pcalc647 Heron's formula
 vector028 Writing a position vector in $ai+bj$ form given its graph
 vector014 Writing a vector in $ai+bj$ form given its initial and terminal points
 vector013 Writing a vector in component form given its initial and terminal points
 vector015 Magnitude of a vector given in $ai+bj$ form
 pcalc060 Magnitude of a vector given in component form
 vector016 Vector addition and scalar multiplication: $ai+bj$ form
 vector017 Linear combination of vectors: $ai+bj$ form
 geom856 Vector addition and scalar multiplication: Component form
 vector008 Linear combination of vectors: Component form
 pcalc729 Unit vectors
 pcalc739 Multiplication of a vector by a scalar: Geometric approach
 geom857 Vector addition: Geometric approach

vector007 Vector subtraction: Geometric approach
 vector002 Finding the magnitude and direction of a vector given its graph
 vector005 Finding the components of a vector given its graph
 vector019 Finding the direction angle of a vector given in $ai+bj$ form
 vector018 Writing a vector given its magnitude and direction angle
 vector020 Writing a vector to represent a force pushing or pulling an object
 vector021 Finding the magnitude and direction angle of the resultant force of two vectors
 vector011 Finding magnitudes of forces related to a sum of three vectors
 vector012 Finding magnitudes of forces related to an object suspended by cables
 vector023 Dot product of vectors given in $ai+bj$ form
 vector009 Dot product of vectors given in component form
 pcalc730 Finding the angle between two vectors given in component form
 vector024 Classifying vector relationships by finding the angle between two vectors given in $ai + bj$ form
 vector010 Using the dot product to find perpendicular vectors
 vector006 Finding the component of a vector along another vector
 vector025 Decomposing a vector into two orthogonal vectors
 vector026 Finding the amount of work done given a force vector and a distance
 vector027 Finding magnitudes of forces related to an object on a ramp
 pcalc449 Plotting points in polar coordinates
 pcalc450 Multiple representations of polar coordinates
 pcalc056 Converting rectangular coordinates to polar coordinates: Special angles
 pcalc451 Converting rectangular coordinates to polar coordinates: Decimal answers
 pcalc057 Converting polar coordinates to rectangular coordinates
 pcalc058 Converting an equation written in rectangular form to one written in polar form
 pcalc452 Converting an equation written in polar form to one written in rectangular form: Problem type 1
 pcalc453 Converting an equation written in polar form to one written in rectangular form: Problem type 2
 pcalc454 Graphing a polar equation: Basic
 pcalc455 Graphing a polar equation: Circle
 pcalc456 Graphing a polar equation: Limacon
 pcalc457 Graphing a polar equation: Rose
 pcalc458 Graphing a polar equation: Lemniscate
 pcalc459 Matching polar equations with their graphs
 pcalc460 Identifying symmetries of graphs given their polar equations
 pcalc461 Plotting complex numbers
 pcalc462 Writing a complex number in standard form given its trigonometric form
 pcalc472 Writing a complex number in trigonometric form: Special angles
 pcalc052 Writing a complex number in trigonometric form: Decimal answers
 pcalc463 Multiplying and dividing complex numbers in trigonometric form
 pcalc464 De Moivre's Theorem: Answers in trigonometric form
 pcalc054 De Moivre's theorem: Answers in standard form
 pcalc807 Finding the n th roots of a number: Problem type 1
 pcalc808 Finding the n th roots of a number: Problem type 2

Systems of Equations and Matrices

alge075 Classifying systems of linear equations from graphs
 alge916 Solving a system of linear equations with fractional coefficients
 alge917 Solving a system of linear equations with decimal coefficients
 alge752 Solving a 2×2 system of linear equations that is inconsistent or consistent dependent
 alge077 Creating an inconsistent system of linear equations
 alge988 Identifying the operations used to create equivalent systems of equations
 pcalc099 Consistency and independence of a system of linear equations
 alge263 Interpreting the graphs of two functions
 alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations
 alge919 Solving a word problem using a system of linear equations of the form $Ax + By = C$
 alge918 Solving a word problem using a system of linear equations of the form $y = mx + b$
 alge184 Solving a value mixture problem using a system of linear equations
 alge192 Solving a percent mixture problem using a system of linear equations
 alge224 Solving a distance, rate, time problem using a system of linear equations
 alge172 Solving a tax rate or interest rate problem using a system of linear equations

pcalc496 Introduction to solving a 3x3 system of linear equations
 alge753 Solving a 3x3 system of linear equations: Problem type 1
 pcalc497 Solving a 3x3 system of linear equations: Problem type 2
 pcalc498 Solving a 3x3 system of linear equations that is inconsistent or consistent dependent
 alge793 Solving a word problem using a 3x3 system of linear equations: Problem type 1
 pcalc549 Solving a word problem using a 3x3 system of linear equations: Problem type 2
 pcalc037 Scalar multiplication of a matrix
 pcalc038 Addition or subtraction of matrices
 pcalc740 Linear combination of matrices
 pcalc507 Squaring and multiplying 2x2 matrices
 pcalc039 Multiplication of matrices: Basic
 pcalc710 Multiplication of matrices: Advanced
 pcalc503 Word problem involving multiplication of matrices
 pcalc504 Finding the inverse of a 2x2 matrix
 pcalc505 Finding the inverse of a 3x3 matrix
 pcalc042 Finding the determinant of a 2x2 matrix
 pcalc043 Finding the determinant of a 3x3 matrix
 pcalc564 Completing Gauss-Jordan elimination with a 2x2 matrix
 pcalc712 Gauss-Jordan elimination with a 2x2 matrix
 pcalc500 Writing solutions to 3x3 systems of linear equations from augmented matrices
 pcalc499 Completing Gauss-Jordan elimination with a 3x3 matrix
 pcalc046 Solving a system of linear equations given its augmented matrix
 pcalc502 Finding the inverse of a matrix to solve a 2x2 system of linear equations
 pcalc711 Using the inverse of a matrix to solve a 3x3 system of linear equations
 pcalc045 Using Cramer's rule to solve a 2x2 system of linear equations
 pcalc047 Using Cramer's rule to solve a 3x3 system of linear equations
 pcalc531 Introduction to partial fraction decomposition with distinct linear factors
 pcalc812 Partial fraction decomposition with distinct linear factors
 pcalc813 Partial fraction decomposition with repeated linear factors
 pcalc814 Partial fraction decomposition with an irreducible quadratic factor
 pcalc533 Partial fraction decomposition with repeated, irreducible quadratic factors
 alge994 Graphically solving a system of linear and quadratic equations
 pcalc716 Using a graphing calculator to solve a system of linear and quadratic equations: Basic
 pcalc796 Using a graphing calculator to solve a system of equations
 pcalc806 Using a graphing calculator to solve an exponential or logarithmic equation
 alge995 Solving a system of linear and quadratic equations
 pcalc098 Solving a system of nonlinear equations: Problem type 1
 pcalc534 Solving a system of nonlinear equations: Problem type 2
 pcalc535 Solving a word problem involving geometry using a system of nonlinear equations
 alge912 Identifying solutions to a linear inequality in two variables
 alge225 Graphing a linear inequality in the plane: Vertical or horizontal line
 alge720 Graphing a linear inequality in the plane: Slope-intercept form
 alge018 Graphing a linear inequality in the plane: Standard form
 alge315 Writing an inequality given its graph in the plane: Horizontal or vertical boundary line
 alge316 Writing an inequality given its graph in the plane: Slanted boundary line
 pcalc748 Graphing a quadratic inequality: Problem type 1
 pcalc749 Graphing a quadratic inequality: Problem type 2
 pcalc536 Graphing an inequality involving a circle
 alge079 Graphing a system of two linear inequalities: Basic
 alge921 Graphing a system of two linear inequalities: Advanced
 alge922 Graphing a system of three linear inequalities
 pcalc096 Graphing a system of nonlinear inequalities: Problem type 1
 alge729 Writing a multi-step inequality for a real-world situation
 pcalc093 Solving a word problem using a system of linear inequalities: Problem type 1
 pcalc537 Solving a word problem using a system of linear inequalities: Problem type 2
 pcalc095 Linear programming
 pcalc094 Solving a word problem using linear programming

Conic Sections

pcalc566 Graphing a parabola of the form $y^2 = ax$ or $x^2 = ay$

pcalc575 Graphing a parabola of the form $x=a(y-k)^2+h$ or $y=a(x-h)^2+k$
 pcalc067 Graphing a parabola of the form $ay^2 + by + cx + d = 0$ or $ax^2 + bx + cy + d = 0$
 pcalc068 Writing an equation of a parabola given the vertex and the focus
 pcalc475 Writing an equation of a parabola given the focus and the directrix
 geom494 Deriving the equation of a parabola given its focus and directrix
 pcalc476 Finding the vertex, focus, directrix, and axis of symmetry of a parabola
 pcalc069 Finding the focus of a parabola of the form $ay^2 + by + cx + d = 0$ or $ax^2 + bx + cy + d = 0$
 pcalc477 Writing an equation of a parabola given its graph
 pcalc478 Word problem involving a parabola
 pcalc734 Graphing an ellipse given its equation in standard form
 pcalc070 Graphing an ellipse centered at the origin: $Ax^2 + By^2 = C$
 pcalc071 Graphing an ellipse given its equation in general form
 pcalc479 Finding the center, vertices, and foci of an ellipse
 pcalc072 Finding the foci of an ellipse given its equation in general form
 pcalc074 Writing an equation of an ellipse given the center, an endpoint of an axis, and the length of the other axis
 pcalc073 Writing an equation of an ellipse given the foci and the major axis length
 pcalc097 Graphing a system of nonlinear inequalities: Problem type 2
 pcalc480 Word problem involving an ellipse
 pcalc735 Graphing a hyperbola given its equation in standard form
 pcalc075 Graphing a hyperbola centered at the origin: $Ax^2 - By^2 - C = 0$
 pcalc076 Graphing a hyperbola given its equation in general form
 pcalc481 Finding the center, vertices, foci, and asymptotes of a hyperbola
 pcalc077 Finding the foci of a hyperbola given its equation in general form
 pcalc078 Writing an equation of a hyperbola given the foci and the vertices
 pcalc482 Writing an equation of a hyperbola given the foci and the asymptotes: Basic
 pcalc079 Writing an equation of a hyperbola given the foci and the asymptotes: Advanced
 pcalc736 Classifying conics given their equations
 pcalc538 Completing a table and choosing a graph given a pair of parametric equations
 pcalc539 Writing the equation of a line and sketching its graph given its parametric equations
 pcalc540 Writing the equation of a parabola and sketching its graph given its parametric equations
 pcalc541 Writing the equation of a circle or ellipse and sketching its graph given its parametric equations
 pcalc542 Graphing a pair of parametric equations with a restricted domain: Line or parabola
 pcalc563 Graphing a pair of parametric equations with a restricted domain: Circle
 pcalc565 Graphing a pair of parametric equations with a restricted domain: Ellipse
 pcalc544 Completing pairs of parametric equations
 pcalc545 Word problem involving parametric equations for projectile motion: Problem type 1
 pcalc576 Word problem involving parametric equations for projectile motion: Problem type 2

Sequences, Series, and Probability

alge644 Finding the first terms of an arithmetic sequence using an explicit rule
 alge645 Finding the first terms of a geometric sequence using an explicit rule
 pcalc080 Finding the first terms of a sequence using an explicit rule with multiple occurrences of n
 alge906 Finding the next terms of an arithmetic sequence with integers
 alge908 Finding the first terms of a sequence using a recursive rule
 alge979 Identifying arithmetic sequences and finding the common difference
 alge931 Finding a specified term of an arithmetic sequence given the first terms
 pcalc085 Finding a specified term of an arithmetic sequence given the common difference and first term
 pcalc715 Finding a specified term of an arithmetic sequence given two terms of the sequence
 alge909 Writing an explicit rule for an arithmetic sequence
 alge910 Writing a recursive rule for an arithmetic sequence
 pcalc718 Sum of the first n terms of an arithmetic sequence
 alge907 Finding the next terms of a geometric sequence with signed numbers
 alge981 Identifying arithmetic and geometric sequences
 alge980 Identifying geometric sequences and finding the common ratio
 alge934 Finding a specified term of a geometric sequence given the first terms
 pcalc086 Finding a specified term of a geometric sequence given the common ratio and first term
 pcalc717 Finding a specified term of a geometric sequence given two terms of the sequence
 pcalc713 Arithmetic and geometric sequences: Identifying and writing an explicit rule

alge911 Writing recursive rules for arithmetic and geometric sequences
 pcalc719 Sum of the first n terms of a geometric sequence
 pcalc720 Sum of an infinite geometric series
 alge965 Identifying linear, quadratic, and exponential functions given ordered pairs
 pcalc082 Factorial expressions
 mstat041 Interpreting a tree diagram
 mstat040 Introduction to the counting principle
 mstat015 Counting principle
 mstat017 Computing permutations and combinations
 pcalc809 Introduction to permutations and combinations
 pcalc810 Permutations and combinations: Problem type 1
 pcalc089 Permutations and combinations: Problem type 2
 pcalc090 Permutations and combinations: Problem type 3
 pcalc087 Binomial formula
 mstat099 Determining a sample space and outcomes for a simple event
 mstat100 Determining a sample space and outcomes for a compound event
 mstat010 Probability of an event
 mstat046 Experimental and theoretical probability
 stat106 Outcomes and event probability
 mstat116 Probabilities of a permutation and a combination
 mstat011 Area as probability
 stat850 Probability of independent events
 stat851 Probability of dependent events
 stat117 Probabilities of draws with replacement
 stat118 Probabilities of draws without replacement
 mstat042 Interpreting a Venn diagram of 2 sets
 mstat043 Interpreting a Venn diagram of 3 sets
 stat119 Venn diagrams: Two events
 stat101 Venn diagrams: Word problems
 stat112 Probabilities involving two dice
 mstat115 Determining outcomes for compound events and complements of events
 mstat109 Using a Venn diagram to understand the addition rule for probability
 mstat108 Outcomes and event probability: Addition rule
 stat114 Probability of intersection or union: Word problems
 mstat104 Identifying independent events given values of probabilities
 stat115 Independent events: Basic
 stat120 Probability of union: Basic
 mstat110 Using a Venn diagram to understand the multiplication rule for probability
 mstat107 Outcomes and event probability: Conditional probability
 mstat105 Computing conditional probability using a two-way frequency table
 mstat106 Computing conditional probability to make an inference using a two-way frequency table
 stat116 Conditional probability: Basic
 stat109 Intersection and conditional probability
 stat174 Binomial problems: Basic
 stat155 Binomial problems: Advanced
 mstat114 Using a random number table to make a fair decision

Limits and Continuity

pcalc901 Estimating a limit numerically
 pcalc902 Finding limits from a graph
 pcalc905 Finding a limit by using the limit laws: Problem type 1
 pcalc904 Finding limits for a piecewise-defined function
 pcalc906 Finding a limit by using the limit laws: Problem type 2
 pcalc907 Finding a limit by using the limit laws: Problem type 3
 pcalc911 Squeeze Theorem
 pcalc903 Determining points of discontinuity from a graph
 pcalc914 Determining a parameter to make a function continuous
 pcalc915 Infinite limits and graphs
 pcalc910 Limits at infinity and graphs

pcalc908 Limits at infinity and rational functions
 pcalc909 Infinite limits and rational functions
 pcalc913 Finding a limit of a trigonometric function by using continuity
 pcalc912 Finding a limit by using special trigonometric limits

B.18 Trigonometry

Algebra and Geometry Review

arith687 Fractional position on a number line
 arith605 Plotting rational numbers on a number line
 arith691 Ordering integers
 arith602 Estimating a square root
 arith712 Ordering real numbers
 alge001 Identifying numbers as integers or non-integers
 alge002 Identifying numbers as rational or irrational
 arith116 Signed fraction addition or subtraction: Basic
 arith864 Signed fraction subtraction involving double negation
 arith106 Signed fraction addition or subtraction: Advanced
 arith811 Addition and subtraction of 3 fractions involving signs
 arith822 Signed fraction multiplication: Basic
 arith105 Signed fraction multiplication: Advanced
 arith814 Signed fraction division
 arith104 Operations with absolute value: Problem type 2
 alge694 Computing the distance between two integers on a number line
 arith702 Exponents and integers: Problem type 1
 arith703 Exponents and integers: Problem type 2
 arith704 Exponents and signed fractions
 arith118 Order of operations with integers
 arith600 Order of operations with integers and exponents
 alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge004 Evaluating a quadratic expression: Integers
 alge808 Evaluating a linear expression: Signed fraction multiplication with addition or subtraction
 mstat065 Converting between temperatures in Fahrenheit and Celsius
 alge187 Properties of addition
 alge188 Properties of real numbers
 alge604 Distributive property: Integer coefficients
 alge608 Using distribution and combining like terms to simplify: Univariate
 alge667 Identifying properties used to simplify an algebraic expression
 alge609 Using distribution with double negation and combining like terms to simplify: Multivariate
 alge821 Understanding the product rule of exponents
 alge024 Introduction to the product rule of exponents
 alge311 Product rule with positive exponents: Univariate
 alge030 Product rule with positive exponents: Multivariate
 alge826 Understanding the power rules of exponents
 alge306 Introduction to the power of a power rule of exponents
 alge305 Introduction to the power of a product rule of exponents
 alge307 Power rules with positive exponents: Multivariate products
 alge308 Power rules with positive exponents: Multivariate quotients
 alge756 Power and product rules with positive exponents
 alge451 Simplifying a ratio of multivariate monomials: Basic
 alge827 Introduction to the quotient rule of exponents
 alge452 Simplifying a ratio of univariate monomials
 alge026 Quotient of expressions involving exponents
 alge453 Simplifying a ratio of multivariate monomials: Advanced
 alge927 Power and quotient rules with positive exponents
 alge790 Evaluating expressions with exponents of zero
 arith729 Evaluating an expression with a negative exponent: Whole number base

arith042 Evaluating an expression with a negative exponent: Positive fraction base
arith043 Evaluating an expression with a negative exponent: Negative integer base
alge791 Rewriting an algebraic expression without a negative exponent
alge961 Introduction to the product rule with negative exponents
alge028 Product rule with negative exponents
alge755 Quotient rule with negative exponents: Problem type 1
alge926 Quotient rule with negative exponents: Problem type 2
alge025 Power of a power rule with negative exponents
alge799 Power rules with negative exponents
alge928 Power and quotient rules with negative exponents: Problem type 1
alge929 Power and quotient rules with negative exponents: Problem type 2
alge757 Power, product, and quotient rules with negative exponents
arith036 Scientific notation with positive exponent
arith037 Scientific notation with negative exponent
scinot012 Converting between scientific notation and standard form in a real-world situation
scinot008 Multiplying numbers written in scientific notation: Basic
scinot009 Multiplying numbers written in scientific notation: Advanced
scinot019 Multiplying numbers written in decimal form or scientific notation in a real-world situation
scinot010 Dividing numbers written in scientific notation: Basic
scinot011 Dividing numbers written in scientific notation: Advanced
scinot013 Finding the scale factor between numbers given in scientific notation in a real-world situation
alge758 Degree and leading coefficient of a univariate polynomial
alge031 Degree of a multivariate polynomial
alge798 Simplifying a sum or difference of two univariate polynomials
alge029 Simplifying a sum or difference of three univariate polynomials
alge932 Simplifying a sum or difference of multivariate polynomials
alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
alge972 Multiplying a univariate polynomial by a monomial with a negative coefficient
alge835 Multiplying a multivariate polynomial by a monomial
alge033 Multiplying binomials with leading coefficients of 1
alge983 Multiplying binomials with leading coefficients greater than 1
alge765 Multiplying binomials in two variables
alge764 Multiplying conjugate binomials: Univariate
alge081 Multiplying conjugate binomials: Multivariate
alge032 Squaring a binomial: Univariate
alge068 Squaring a binomial: Multivariate
alge973 Multiplying binomials with negative coefficients
alge935 Multiplication involving binomials and trinomials in one variable
alge180 Multiplication involving binomials and trinomials in two variables
arith034 Prime numbers
arith035 Prime factorization
arith033 Greatest common factor of 2 numbers
alge605 Factoring a linear binomial
alge736 Introduction to the GCF of two monomials
alge930 Greatest common factor of three univariate monomials
alge037 Greatest common factor of two multivariate monomials
alge738 Factoring out a monomial from a polynomial: Univariate
alge739 Factoring out a monomial from a polynomial: Multivariate
alge949 Factoring out a binomial from a polynomial: GCF factoring, basic
alge923 Factoring a univariate polynomial by grouping: Problem type 1
alge950 Factoring a univariate polynomial by grouping: Problem type 2
alge951 Factoring a multivariate polynomial by grouping: Problem type 1
alge952 Factoring a multivariate polynomial by grouping: Problem type 2
alge039 Factoring a quadratic with leading coefficient 1
alge942 Factoring a quadratic in two variables with leading coefficient 1
alge936 Factoring out a constant before factoring a quadratic
alge939 Factoring a quadratic with leading coefficient greater than 1: Problem type 1
alge940 Factoring a quadratic with leading coefficient greater than 1: Problem type 2
alge941 Factoring a quadratic with leading coefficient greater than 1: Problem type 3
alge978 Factoring a quadratic by the ac-method
alge265 Factoring a quadratic in two variables with leading coefficient greater than 1
alge937 Factoring a quadratic with a negative leading coefficient

alge944 Factoring a perfect square trinomial with leading coefficient 1
alge945 Factoring a perfect square trinomial with leading coefficient greater than 1
alge946 Factoring a perfect square trinomial in two variables
alge290 Factoring a difference of squares in one variable: Basic
alge947 Factoring a difference of squares in one variable: Advanced
alge839 Factoring a difference of squares in two variables
alge948 Factoring a polynomial involving a GCF and a difference of squares: Univariate
alge833 Factoring a polynomial involving a GCF and a difference of squares: Multivariate
alge041 Factoring a product of a quadratic trinomial and a monomial
alge042 Factoring with repeated use of the difference of squares formula
alge044 Factoring a sum or difference of two cubes
pcalc577 Factoring out binomials from a polynomial: GCF factoring, advanced
pcalc578 Using substitution to factor polynomials
alge049 Restriction on a variable in a denominator: Linear
alge454 Simplifying a ratio of factored polynomials: Linear factors
alge455 Simplifying a ratio of factored polynomials: Factors with exponents
alge456 Simplifying a ratio of polynomials using GCF factoring
alge457 Simplifying a ratio of linear polynomials: 1, -1, and no simplification
alge458 Simplifying a ratio of polynomials by factoring a quadratic with leading coefficient 1
alge710 Simplifying a ratio of polynomials: Problem type 1
alge682 Simplifying a ratio of polynomials: Problem type 2
alge459 Simplifying a ratio of polynomials: Problem type 3
alge034 Simplifying a ratio of multivariate polynomials
alge053 Multiplying rational expressions involving multivariate monomials
alge460 Multiplying rational expressions made up of linear expressions
alge620 Multiplying rational expressions involving quadratics with leading coefficients of 1
alge461 Multiplying rational expressions involving quadratics with leading coefficients greater than 1
alge462 Multiplying rational expressions involving multivariate quadratics
alge054 Dividing rational expressions involving multivariate monomials
alge463 Dividing rational expressions involving linear expressions
alge766 Dividing rational expressions involving quadratics with leading coefficients of 1
alge464 Dividing rational expressions involving quadratics with leading coefficients greater than 1
alge465 Dividing rational expressions involving multivariate quadratics
alge466 Multiplication and division of 3 rational expressions
arith070 Least common multiple of 2 numbers
arith804 Least common multiple of 3 numbers
alge737 Introduction to the LCM of two monomials
alge055 Least common multiple of two monomials
alge427 Finding the LCD of rational expressions with linear denominators: Relatively prime
alge428 Finding the LCD of rational expressions with linear denominators: Common factors
alge429 Finding the LCD of rational expressions with quadratic denominators
alge430 Writing equivalent rational expressions with monomial denominators
alge431 Writing equivalent rational expressions with polynomial denominators
alge304 Writing equivalent rational expressions involving opposite factors
alge432 Introduction to adding fractions with variables and common denominators
alge433 Adding rational expressions with common denominators and monomial numerators
alge056 Adding rational expressions with common denominators and binomial numerators
alge434 Adding rational expressions with common denominators and GCF factoring
alge435 Adding rational expressions with common denominators and quadratic factoring
alge436 Adding rational expressions with different denominators and a single occurrence of a variable
alge437 Adding rational expressions with denominators ax and bx : Basic
alge438 Adding rational expressions with denominators ax and bx : Advanced
alge439 Adding rational expressions with denominators axn and bxm
alge440 Adding rational expressions with multivariate monomial denominators: Basic
alge226 Adding rational expressions with multivariate monomial denominators: Advanced
alge441 Adding rational expressions with linear denominators without common factors: Basic
alge442 Adding rational expressions with linear denominators without common factors: Advanced
alge443 Adding rational expressions with linear denominators with common factors: Basic
alge444 Adding rational expressions with linear denominators with common factors: Advanced
alge445 Adding rational expressions with denominators $ax-b$ and $b-ax$
alge661 Adding rational expressions involving different quadratic denominators
alge446 Adding 3 rational expressions with different quadratic denominators

arith695 Complex fraction without variables: Problem type 1
arith696 Complex fraction without variables: Problem type 2
alge470 Complex fraction involving univariate monomials
alge058 Complex fraction involving multivariate monomials
alge471 Complex fraction: GCF factoring
alge472 Complex fraction: Quadratic factoring
alge473 Complex fraction made of sums involving rational expressions: Problem type 1
alge474 Complex fraction made of sums involving rational expressions: Problem type 2
alge475 Complex fraction made of sums involving rational expressions: Problem type 3
alge476 Complex fraction made of sums involving rational expressions: Problem type 4
alge477 Complex fraction made of sums involving rational expressions: Problem type 5
alge478 Complex fraction made of sums involving rational expressions: Problem type 6
alge413 Finding all square roots of a number
arith601 Square root of a rational perfect square
arith760 Square roots of perfect squares with signs
arith761 Square roots of integers raised to even exponents
alge415 Introduction to simplifying a radical expression with an even exponent
alge264 Square root of a perfect square monomial
alge603 Introduction to solving an absolute value equation
alge537 Using absolute value to simplify square roots of perfect square monomials
arith094 Cube root of an integer
alge549 Finding n th roots of perfect n th powers with signs
arith768 Finding the n th root of a perfect n th power fraction
alge550 Finding the n th root of a perfect n th power monomial
alge538 Using absolute value to simplify higher radical expressions
alge812 Converting between radical form and exponent form
alge560 Rational exponents: Unit fraction exponents and whole number bases
alge561 Rational exponents: Unit fraction exponents and bases involving signs
alge250 Rational exponents: Non-unit fraction exponent with a whole number base
alge251 Rational exponents: Negative exponents and fractional bases
alge558 Rational exponents: Product rule
alge559 Rational exponents: Quotient rule
alge773 Rational exponents: Products and quotients with negative exponents
alge562 Rational exponents: Power of a power rule
alge249 Rational exponents: Powers of powers with negative exponents
arith093 Simplifying the square root of a whole number less than 100
arith762 Simplifying the square root of a whole number greater than 100
alge080 Simplifying a radical expression with an even exponent
alge520 Introduction to simplifying a radical expression with an odd exponent
alge521 Simplifying a radical expression with an odd exponent
alge275 Simplifying a radical expression with two variables
alge273 Simplifying a higher root of a whole number
alge551 Introduction to simplifying a higher radical expression
alge552 Simplifying a higher radical expression: Univariate
alge811 Simplifying a higher radical expression: Multivariate
arith767 Introduction to square root addition or subtraction
arith032 Square root addition or subtraction
alge533 Square root addition or subtraction with three terms
alge531 Introduction to simplifying a sum or difference of radical expressions: Univariate
alge532 Simplifying a sum or difference of radical expressions: Univariate
alge084 Simplifying a sum or difference of radical expressions: Multivariate
alge554 Simplifying a sum or difference of higher roots
alge555 Simplifying a sum or difference of higher radical expressions
arith764 Introduction to square root multiplication
arith765 Square root multiplication: Basic
arith039 Square root multiplication: Advanced
alge522 Introduction to simplifying a product of radical expressions: Univariate
alge523 Simplifying a product of radical expressions: Univariate
alge640 Simplifying a product of radical expressions: Multivariate
alge082 Simplifying a product of radical expressions: Multivariate, fractional expressions
alge556 Introduction to simplifying a product of higher roots
alge557 Simplifying a product of higher radical expressions

alge525 Introduction to simplifying a product involving square roots using the distributive property
 alge526 Simplifying a product involving square roots using the distributive property: Basic
 alge276 Simplifying a product involving square roots using the distributive property: Advanced
 alge774 Special products of radical expressions: Conjugates and squaring
 alge984 Classifying sums and products as rational or irrational
 arith766 Simplifying a quotient of square roots
 alge530 Simplifying a quotient involving a sum or difference with a square root
 alge527 Rationalizing a denominator: Quotient involving square roots
 alge528 Rationalizing a denominator: Square root of a fraction
 alge529 Rationalizing a denominator: Quotient involving a monomial
 alge534 Rationalizing a denominator using conjugates: Integer numerator
 alge535 Rationalizing a denominator using conjugates: Square root in numerator
 alge536 Rationalizing a denominator using conjugates: Variable in denominator
 alge564 Rationalizing a denominator: Quotient involving a higher radical
 alge775 Rationalizing a denominator: Quotient involving higher radicals and monomials
 alge563 Simplifying products or quotients of higher radicals with different indices: Univariate
 alge776 Simplifying products or quotients of higher radicals with different indices: Multivariate
 geom340 Area of a piecewise rectangular figure
 geom142 Word problem involving the area between two rectangles
 geom801 Area of a triangle
 geom022 Area of a parallelogram
 geom023 Area of a trapezoid
 geom016 Circumference of a circle
 geom301 Perimeter involving rectangles and circles
 geom802 Circumference and area of a circle
 geom477 Circumference and area of a circle: Exact answers in terms of pi
 geom302 Area involving rectangles and circles
 geom036 Word problem involving the area between two concentric circles
 geom214 Area involving inscribed figures
 geom311 Volume of a rectangular prism
 geom090 Volume of a triangular prism
 geom033 Volume of a pyramid
 geom035 Volume of a cylinder
 geom092 Word problem involving the rate of filling or emptying a cylinder
 geom622 Volume of a cone
 geom086 Volume of a cone: Exact answers in terms of pi
 geom841 Volume of a sphere
 geom031 Surface area of a cube or a rectangular prism
 geom091 Surface area of a triangular prism
 geom621 Surface area of a cylinder
 geom034 Surface area of a cylinder: Exact answers in terms of pi
 geom842 Surface area of a sphere
 alge407 Introduction to the Pythagorean Theorem
 geom044 Pythagorean Theorem
 alge408 Word problem involving the Pythagorean Theorem

Equations and Inequalities

alge836 Additive property of equality with signed fractions
 alge012 Multiplicative property of equality with signed fractions
 alge837 Solving a multi-step equation given in fractional form
 alge986 Identifying properties used to solve a linear equation
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
 alge420 Solving a linear equation with several occurrences of the variable: Fractional forms with monomial numerators

alge208 Solving a two-step equation with signed fractions
 alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
 alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
 alge742 Solving equations with zero, one, or infinitely many solutions
 alge840 Solving a proportion of the form $(x+a)\div b = c\div d$
 alge511 Solving for a variable in terms of other variables using addition or subtraction: Basic
 alge512 Solving for a variable in terms of other variables using addition or subtraction: Advanced
 alge513 Solving for a variable in terms of other variables using multiplication or division: Basic
 alge514 Solving for a variable in terms of other variables using multiplication or division: Advanced
 alge517 Solving for a variable in terms of other variables using addition or subtraction with division
 alge518 Solving for a variable inside parentheses in terms of other variables
 alge507 Solving for a variable in terms of other variables in a linear equation with fractions
 alge016 Translating a sentence into a one-step equation
 alge841 Translating a sentence into a multi-step equation
 alge014 Solving a word problem with two unknowns using a linear equation
 alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
 alge219 Solving a decimal word problem using a linear equation with the variable on both sides
 alge704 Solving a fraction word problem using a linear equation with the variable on both sides
 alge792 Solving a word problem with three unknowns using a linear equation
 alge842 Solving a word problem involving consecutive integers
 alge730 Writing a multi-step equation for a real-world situation
 alge794 Solving a value mixture problem using a linear equation
 alge823 Solving a one-step word problem using the formula $d = rt$
 alge796 Solving a distance, rate, time problem using a linear equation
 geom143 Finding the perimeter or area of a rectangle given one of these values
 geom838 Circumference ratios
 geom628 Finding angle measures of a triangle given angles with variables
 arith852 Finding the multiplier to give a final amount after a percentage increase or decrease
 arith847 Finding the sale price given the original price and percent discount
 arith848 Finding the total cost including tax or markup
 arith031 Finding the original price given the sale price and percent discount
 arith854 Computing a percent mixture
 alge795 Solving a percent mixture problem using a linear equation
 arith232 Finding simple interest without a calculator
 alge864 Solving an absolute value equation: Problem type 1
 alge865 Solving an absolute value equation: Problem type 2
 alge866 Solving an absolute value equation: Problem type 3
 alge867 Solving an absolute value equation: Problem type 4
 alge167 Solving an absolute value equation of the form $-ax+b = -cx+d$
 alge845 Translating a sentence into a one-step inequality
 alge846 Translating a sentence into a multi-step inequality
 alge748 Writing an inequality for a real-world situation
 alge017 Graphing a linear inequality on the number line
 alge822 Writing an inequality given a graph on the number line
 alge186 Translating a sentence into a compound inequality
 alge166 Graphing a compound inequality on the number line
 alge847 Writing a compound inequality given a graph on the number line
 set001 Set builder notation
 set004 Set builder and interval notation
 set002 Union and intersection of finite sets
 set005 Union and intersection of intervals
 alge844 Identifying solutions to a two-step linear inequality in one variable
 alge852 Additive property of inequality with signed fractions
 alge964 Multiplicative property of inequality with signed fractions
 alge855 Solving a two-step linear inequality: Problem type 1
 alge856 Solving a two-step linear inequality: Problem type 2
 alge857 Solving a two-step linear inequality with a fractional coefficient
 alge977 Solving a linear inequality with multiple occurrences of the variable: Problem type 1
 alge858 Solving a linear inequality with multiple occurrences of the variable: Problem type 2
 alge859 Solving a linear inequality with multiple occurrences of the variable: Problem type 3

alge860 Solving inequalities with no solution or all real numbers as solutions
 alge746 Solving a compound linear inequality: Graph solution, basic
 alge747 Solving a compound linear inequality: Interval notation
 alge749 Solving a decimal word problem using a two-step linear inequality
 alge750 Solving a decimal word problem using a linear inequality with the variable on both sides
 alge868 Solving an absolute value inequality: Problem type 1
 alge943 Writing an absolute value inequality given a graph on the number line
 alge869 Solving an absolute value inequality: Problem type 2
 alge870 Solving an absolute value inequality: Problem type 3
 alge871 Solving an absolute value inequality: Problem type 4
 alge872 Solving an absolute value inequality: Problem type 5
 alge271 Solving a proportion of the form $a/(x+b) = c/x$
 alge060 Solving a rational equation that simplifies to linear: Denominator x
 alge205 Solving a rational equation that simplifies to linear: Denominator $x+a$
 alge769 Solving a rational equation that simplifies to linear: Denominators a , x , or ax
 alge421 Solving a rational equation that simplifies to linear: Denominators ax and bx
 alge422 Solving a rational equation that simplifies to linear: Like binomial denominators
 alge206 Solving a rational equation that simplifies to linear: Unlike binomial denominators
 alge508 Solving for a variable in terms of other variables in a rational equation: Problem type 1
 alge509 Solving for a variable in terms of other variables in a rational equation: Problem type 2
 alge510 Solving for a variable in terms of other variables in a rational equation: Problem type 3
 arith610 Word problem on proportions: Problem type 1
 arith611 Word problem on proportions: Problem type 2
 geom037 Similar polygons
 geom038 Similar right triangles
 geom337 Indirect measurement
 arith612 Word problem involving multiple rates
 alge770 Solving a work problem using a rational equation
 alge450 Solving a distance, rate, time problem using a rational equation
 alge778 Using i to rewrite square roots of negative numbers
 alge779 Simplifying a product and quotient involving square roots of negative numbers
 pcalc048 Adding or subtracting complex numbers
 pcalc049 Multiplying complex numbers
 pcalc050 Dividing complex numbers
 pcalc053 Simplifying a power of i
 alge681 Solving an equation written in factored form
 alge956 Finding the roots of a quadratic equation of the form $ax^2 + bx = 0$
 alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
 alge211 Solving a quadratic equation needing simplification
 alge046 Roots of a product of polynomials
 alge163 Writing a quadratic equation given the roots and the leading coefficient
 alge703 Solving a word problem using a quadratic equation with rational roots
 alge713 Using the Pythagorean Theorem and a quadratic equation to find side lengths of a right triangle
 alge962 Solving an equation of the form $x^2 = a$ using the square root property
 alge092 Solving a quadratic equation using the square root property: Exact answers, basic
 alge227 Solving a quadratic equation using the square root property: Exact answers, advanced
 alge094 Completing the square
 alge780 Solving a quadratic equation by completing the square: Exact answers
 alge095 Applying the quadratic formula: Exact answers
 alge963 Applying the quadratic formula: Decimal answers
 pcalc051 Solving a quadratic equation with complex roots
 alge214 Discriminant of a quadratic equation
 alge193 Discriminant of a quadratic equation with parameter
 alge524 Solving a word problem using a quadratic equation with irrational roots
 alge093 Solving an equation using the odd-root property: Problem type 1
 alge228 Solving an equation using the odd-root property: Problem type 2
 alge784 Solving a quadratic inequality written in factored form
 alge771 Solving a quadratic inequality
 alge467 Restriction on a variable in a denominator: Quadratic
 alge423 Solving a rational equation that simplifies to linear: Factorable quadratic denominator
 alge424 Solving a rational equation that simplifies to quadratic: Proportional form, basic

alge425 Solving a rational equation that simplifies to quadratic: Denominator x
 alge212 Solving a rational equation that simplifies to quadratic: Binomial denominators, constant numerators
 alge062 Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators
 alge426 Solving a rational equation that simplifies to quadratic: Factorable quadratic denominator
 alge047 Solving a rational equation that simplifies to quadratic: Proportional form, advanced
 alge400 Introduction to solving a radical equation
 alge089 Solving a radical equation that simplifies to a linear equation: One radical, basic
 alge402 Solving a radical equation that simplifies to a linear equation: One radical, advanced
 alge090 Solving a radical equation that simplifies to a linear equation: Two radicals
 alge403 Solving a radical equation that simplifies to a quadratic equation: One radical, basic
 alge404 Solving a radical equation that simplifies to a quadratic equation: One radical, advanced
 alge411 Solving a radical equation with a quadratic expression under the radical
 alge405 Solving a radical equation with two radicals that simplifies to $\sqrt{x} = a$
 alge182 Solving a radical equation that simplifies to a quadratic equation: Two radicals
 alge412 Algebraic symbol manipulation with radicals
 alge542 Word problem involving radical equations: Basic
 alge409 Word problem involving radical equations: Advanced
 alge410 Solving an equation with a root index greater than 2: Problem type 1
 alge417 Solving an equation with a root index greater than 2: Problem type 2
 alge416 Solving an equation with exponent $1/a$: Problem type 1
 alge418 Solving an equation with exponent $1/a$: Problem type 2
 alge230 Solving an equation with positive rational exponent
 alge231 Solving an equation with negative rational exponent
 alge781 Solving an equation that can be written in quadratic form: Problem type 1
 alge782 Solving an equation that can be written in quadratic form: Problem type 2

Graphs and Functions

alge064 Reading a point in the coordinate plane
 alge067 Plotting a point in the coordinate plane
 arith405 Naming the quadrant or axis of a point given its coordinates
 arith406 Naming the quadrant or axis of a point given the signs of its coordinates
 geom437 Finding the area of a triangle or parallelogram in the coordinate plane
 alge850 Table for a linear equation
 alge132 Distance between two points in the plane: Exact answers
 alge324 Distance between two points in the plane: Decimal answers
 geom323 Identifying scalene, isosceles, and equilateral triangles given coordinates of their vertices
 alge191 Midpoint of a line segment in the plane
 alge414 Finding an endpoint of a line segment given the other endpoint and the midpoint
 alge873 Identifying solutions to a linear equation in two variables
 alge066 Finding a solution to a linear equation in two variables
 alge877 Graphing a linear equation of the form $y = mx$
 alge878 Graphing a line given its equation in slope-intercept form: Integer slope
 alge879 Graphing a line given its equation in slope-intercept form: Fractional slope
 alge880 Graphing a line given its equation in standard form
 alge198 Graphing a vertical or horizontal line
 alge884 Finding x - and y -intercepts given the graph of a line on a grid
 alge924 Finding x - and y -intercepts of a line given the equation: Basic
 alge210 Finding x - and y -intercepts of a line given the equation: Advanced
 alge197 Graphing a line given its x - and y -intercepts
 alge881 Graphing a line by first finding its x - and y -intercepts
 pcalc750 Finding intercepts of a nonlinear function given its graph
 pcalc678 Finding x - and y -intercepts of the graph of a nonlinear equation
 alge913 Graphing an absolute value equation of the form $y = A - |x - h| + k$
 alge954 Graphing a parabola of the form $y = ax^2$
 alge955 Graphing a parabola of the form $y = ax^2 + c$
 alge262 Graphing a cubic function of the form $y = ax^3$
 pcalc416 Determining if graphs have symmetry with respect to the x -axis, y -axis, or origin
 pcalc679 Testing an equation for symmetry about the axes and origin
 alge875 Classifying slopes given graphs of lines

alge886 Finding slope given the graph of a line on a grid
 alge887 Finding slope given two points on the line
 alge885 Finding the slope of horizontal and vertical lines
 alge888 Finding the coordinate that yields a given slope
 alge259 Graphing a line given its slope and y-intercept
 alge196 Graphing a line through a given point with a given slope
 alge876 Identifying linear equations: Advanced
 alge874 Identifying linear functions given ordered pairs
 alge891 Rewriting a linear equation in the form $Ax + By = C$
 alge889 Finding the slope and y-intercept of a line given its equation in the form $y = mx + b$
 alge890 Finding the slope and y-intercept of a line given its equation in the form $Ax + By = C$
 alge882 Graphing a line by first finding its slope and y-intercept
 alge258 Writing an equation of a line given its slope and y-intercept
 alge892 Writing an equation and graphing a line given its slope and y-intercept
 alge314 Finding the slope, y-intercept, and equation for a linear function given a table of values
 alge893 Writing an equation in slope-intercept form given the slope and a point
 alge318 Finding the slope and a point on a line given its equation in point-slope form
 alge883 Graphing a line given its equation in point-slope form
 alge894 Writing an equation in point-slope form given the slope and a point
 alge313 Writing an equation in standard form given the slope and a point
 alge070 Writing an equation of a line given the y-intercept and another point
 alge072 Writing the equation of the line through two given points
 alge073 Writing the equations of vertical and horizontal lines through a given point
 alge322 Comparing linear functions to the parent function $y=x$
 geom806 Finding slopes of lines parallel and perpendicular to a line given in slope-intercept form
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 alge895 Identifying parallel and perpendicular lines from equations
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 geom462 Identifying parallel and perpendicular lines from coordinates
 geom322 Identifying coordinates that give right triangles
 alge897 Writing and evaluating a function that models a real-world situation: Advanced
 alge654 Graphing ordered pairs and writing an equation from a table of values in context
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 alge817 Finding the initial amount and rate of change given a table for a linear function
 alge818 Finding the initial amount and rate of change given a graph of a linear function
 alge992 Combining functions to write a new function that models a real-world situation
 alge987 Comparing properties of linear functions given in different forms
 alge989 Interpreting the parameters of a linear function that models a real-world situation
 alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
 alge806 Application problem with a linear function: Finding a coordinate given two points
 alge914 Identifying solutions to a system of linear equations
 alge725 Graphically solving a system of linear equations
 pcalc820 Using a graphing calculator to solve a system of linear equations: Basic
 pcalc821 Using a graphing calculator to solve a system of linear equations: Advanced
 alge317 Writing a system of linear equations given its graph
 alge751 Solving a system of linear equations using substitution
 alge915 Solving a system of linear equations using elimination with addition
 alge076 Solving a system of linear equations using elimination with multiplication and addition
 alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations
 geom496 Identifying the center and radius to graph a circle given its equation in standard form
 geom497 Identifying the center and radius to graph a circle given its equation in general form: Basic
 geom668 Identifying the center and radius to graph a circle given its equation in general form: Advanced
 geom499 Writing the equation of a circle centered at the origin given its radius or a point on the circle
 geom495 Writing an equation of a circle and identifying points that lie on the circle
 geom498 Writing an equation of a circle given its center and radius or diameter
 geom493 Deriving the equation of a circle using the Pythagorean Theorem
 pcalc065 Writing an equation of a circle given its center and a point on the circle
 pcalc066 Writing an equation of a circle given the endpoints of a diameter
 fun032 Identifying functions from relations
 fun010 Vertical line test
 fun001 Table for a linear function
 pcalc760 Evaluating functions: Linear and quadratic or cubic

alge468 Evaluating a rational function: Problem type 1
 alge469 Evaluating a rational function: Problem type 2
 alge539 Table for a square root function
 alge546 Evaluating a cube root function
 pcalc682 Evaluating functions: Absolute value, rational, radical
 alge971 Table for an exponential function
 fun030 Evaluating a piecewise-defined function
 fun033 Variable expressions as inputs of functions: Problem type 1
 pcalc571 Variable expressions as inputs of functions: Problem type 2
 pcalc411 Variable expressions as inputs of functions: Problem type 3
 fun016 Domain and range from ordered pairs
 alge715 Domain of a rational function: Excluded values
 pcalc412 Domain of a rational function: Interval notation
 alge540 Domain of a square root function: Basic
 pcalc763 Domain of a square root function: Advanced
 alge547 Domains of higher root functions
 pcalc754 Finding the domain of a fractional function involving radicals
 pcalc924 Determining whether an equation defines a function: Basic
 pcalc757 Determining whether an equation defines a function: Advanced
 alge294 Finding outputs of a one-step function that models a real-world situation: Function notation
 alge295 Finding outputs of a two-step function with decimals that models a real-world situation: Function notation
 alge296 Finding inputs and outputs of a two-step function that models a real-world situation: Function notation
 alge990 Domain and range of a linear function that models a real-world situation
 pcalc471 Rewriting a multivariate function as a univariate function given a relationship between its variables
 pcalc753 Finding a difference quotient for a linear or quadratic function
 pcalc414 Finding a difference quotient for a rational function
 fun026 Finding an output of a function from its graph
 pcalc761 Finding inputs and outputs of a function from its graph
 fun007 Domain and range from the graph of a discrete relation
 alge312 Finding domain and range from a linear graph in context
 fun024 Domain and range from the graph of a continuous function
 fun025 Domain and range from the graph of a piecewise function
 alge999 Finding where a function is increasing, decreasing, or constant given the graph
 pcalc751 Finding where a function is increasing, decreasing, or constant given the graph: Interval notation
 pcalc752 Finding local maxima and minima of a function given the graph
 pcalc439 Finding the absolute maximum and minimum of a function given the graph
 pcalc417 Finding values and intervals where the graph of a function is zero, positive, or negative
 mstat018 Choosing a graph to fit a narrative: Basic
 mstat051 Choosing a graph to fit a narrative: Advanced
 alge896 Graphing an integer function and finding its range for a given domain
 alge570 Graphing a function of the form $f(x) = ax + b$: Integer slope
 alge571 Graphing a function of the form $f(x) = ax + b$: Fractional slope
 alge900 Graphing an absolute value equation in the plane: Basic
 alge168 Graphing an absolute value equation in the plane: Advanced
 alge572 Graphing a function of the form $f(x) = ax^2$
 alge573 Graphing a function of the form $f(x) = ax^2 + c$
 alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
 alge543 Graphing a square root function: Problem type 1
 alge544 Graphing a square root function: Problem type 2
 alge545 Graphing a square root function: Problem type 3
 alge548 Graphing a cube root function
 pcalc488 Graphing an exponential function: $f(x)=bx$
 pcalc443 Matching parent graphs with their equations
 fun031 Graphing a piecewise-defined function: Problem type 1
 pcalc444 Graphing a piecewise-defined function: Problem type 2
 pcalc568 Graphing a piecewise-defined function: Problem type 3
 pcalc114 Even and odd functions: Problem type 1
 pcalc440 Even and odd functions: Problem type 2
 pcalc768 Finding the average rate of change of a function
 alge998 Finding the average rate of change of a function given its graph
 pcalc442 Word problem involving average rate of change

pcalc441 Writing the equation of a secant line
 pcalc467 Translating the graph of a parabola: One step
 pcalc465 Translating the graph of a parabola: Two steps
 alge723 How the leading coefficient affects the shape of a parabola
 pcalc468 Translating the graph of an absolute value function: One step
 alge899 Translating the graph of an absolute value function: Two steps
 alge901 How the leading coefficient affects the graph of an absolute value function
 alge185 Writing an equation for a function after a vertical translation
 pcalc469 Translating the graph of a function: One step
 pcalc770 Translating the graph of a function: Two steps
 pcalc569 Transforming the graph of a function by reflecting over an axis
 pcalc470 Transforming the graph of a function by shrinking or stretching
 pcalc570 Transforming the graph of a function using more than one transformation
 pcalc466 Transforming the graph of a quadratic, cubic, square root, or absolute value function
 fun020 Writing an equation for a function after a vertical and horizontal translation
 fun019 Sum, difference, and product of two functions
 alge786 Quotient of two functions: Basic
 pcalc413 Quotient of two functions: Advanced
 pcalc756 Combining functions: Advanced
 alge716 Introduction to the composition of two functions
 fun022 Composition of two functions: Basic
 pcalc484 Composition of a function with itself
 pcalc776 Expressing a function as a composition of two functions
 fun021 Composition of two functions: Domain and range
 alge129 Composition of two functions: Advanced
 pcalc483 Composition of two rational functions
 pcalc485 Word problem involving composition of two functions
 fun011 Horizontal line test
 pcalc777 Determining whether two functions are inverses of each other
 fun012 Inverse functions: Linear, discrete
 pcalc573 Inverse functions: Quadratic, square root
 pcalc572 Inverse functions: Cubic, cube root
 alge130 Inverse functions: Rational
 pcalc486 Graphing the inverse of a function given its graph
 pcalc487 Finding, evaluating, and interpreting an inverse function for a given linear relationship
 alge974 Finding the vertex, x-intercepts, and axis of symmetry from the graph of a parabola
 alge569 Graphing a parabola of the form $y = x^2 + bx + c$
 pcalc574 Graphing a parabola of the form $y = a(x-h)^2 + k$
 pcalc746 Graphing a parabola of the form $y = ax^2 + bx + c$: Integer coefficients
 pcalc747 Graphing a parabola of the form $y = ax^2 + bx + c$: Rational coefficients
 alge323 Finding the zeros of a quadratic function given its equation
 pcalc714 Using a graphing calculator to find the zeros of a quadratic function
 alge320 Writing a quadratic function given its zeros
 alge277 Finding the x-intercept(s) and the vertex of a parabola
 pcalc793 Using a graphing calculator to find the x-intercept(s) and vertex of a quadratic function
 alge319 Rewriting a quadratic function in standard form
 pcalc550 Rewriting a quadratic function to find its vertex and sketch its graph
 pcalc775 Finding the maximum or minimum of a quadratic function
 alge785 Word problem involving the maximum or minimum of a quadratic function
 pcalc551 Word problem involving optimizing area by using a quadratic function
 pcalc415 Domain and range from the graph of a quadratic function
 pcalc762 Range of a quadratic function
 pcalc680 Writing the equation of a quadratic function given its graph
 pcalc764 Finding zeros of a polynomial function written in factored form
 pcalc765 Finding x- and y-intercepts given a polynomial function
 pcalc794 Using a graphing calculator to find local extrema of a polynomial function
 pcalc795 Using a graphing calculator to find zeros of a polynomial function

Trigonometric Functions

pcalc001 Converting degrees-minutes-seconds to decimal degrees

pcalc661 Converting a decimal degree to degrees-minutes-seconds
 pcalc002 Converting between degree and radian measure: Problem type 1
 pcalc621 Converting between degree and radian measure: Problem type 2
 pcalc006 Sketching an angle in standard position
 pcalc622 Coterminal angles
 pcalc005 Arc length and central angle measure
 pcalc623 Area of a sector of a circle
 pcalc624 Angular and linear speed
 pcalc627 Finding coordinates on the unit circle for special angles
 pcalc625 Finding a point on the unit circle given one coordinate
 pcalc629 Trigonometric functions and special angles: Problem type 1
 pcalc628 Finding trigonometric ratios from a point on the unit circle
 pcalc630 Trigonometric functions and special angles: Problem type 2
 pcalc631 Trigonometric functions and special angles: Problem type 3
 pcalc409 Evaluating expressions involving sine and cosine
 pcalc427 Even and odd properties of trigonometric functions
 pcalc616 Using a calculator to approximate sine, cosine, and tangent values
 pcalc408 Using a calculator to approximate cosecant, secant, and cotangent values
 pcalc410 Evaluating a sinusoidal function that models a real-world situation
 geom506 Special right triangles: Exact answers
 pcalc609 Sine, cosine, and tangent ratios: Numbers for side lengths
 pcalc600 Sine, cosine, and tangent ratios: Variables for side lengths
 pcalc606 Using the Pythagorean Theorem to find a trigonometric ratio
 pcalc008 Finding trigonometric ratios given a right triangle
 geom317 Understanding trigonometric ratios through similar right triangles
 geom316 Relationship between the sines and cosines of complementary angles
 geom318 Using similar right triangles to find trigonometric ratios
 pcalc607 Using a trigonometric ratio to find a side length in a right triangle
 pcalc610 Using trigonometry to find a length in a word problem with one right triangle
 pcalc608 Using a trigonometric ratio to find an angle measure in a right triangle
 pcalc611 Using trigonometry to find angles of elevation or depression in a word problem
 pcalc642 Solving a right triangle
 pcalc473 Using trigonometry to find a length in a word problem with two right triangles
 pcalc626 Reference angles: Problem type 1
 pcalc632 Reference angles: Problem type 2
 pcalc671 Determining the location of a terminal point given the signs of trigonometric values
 pcalc011 Finding values of trigonometric functions given information about an angle: Problem type 1
 pcalc012 Finding values of trigonometric functions given information about an angle: Problem type 2
 pcalc013 Finding values of trigonometric functions given information about an angle: Problem type 3
 pcalc426 Finding values of trigonometric functions given information about an angle: Problem type 4

Trigonometric Graphs

pcalc445 Sketching the graph of $y=a*\sin(x)$ or $y=a*\cos(x)$
 pcalc446 Sketching the graph of $y=\sin(bx)$ or $y=\cos(bx)$
 pcalc447 Sketching the graph of $y=\sin(x)+d$ or $y=\cos(x)+d$
 pcalc448 Sketching the graph of $y=\sin(x+c)$ or $y=\cos(x+c)$
 pcalc107 Sketching the graph of $y=a*\sin(x+c)$ or $y=a*\cos(x+c)$
 pcalc106 Sketching the graph of $y=a*\sin(bx)$ or $y=a*\cos(bx)$
 pcalc014 Sketching the graph of $y=a*\sin(bx+c)$ or $y=a*\cos(bx+c)$
 pcalc438 Sketching the graph of $y=a*\sin(bx)+d$ or $y=a*\cos(bx)+d$
 pcalc633 Amplitude and period of sine and cosine functions
 pcalc634 Amplitude, period, and phase shift of sine and cosine functions
 pcalc635 Writing the equation of a sine or cosine function given its graph: Problem type 1
 pcalc636 Writing the equation of a sine or cosine function given its graph: Problem type 2
 pcalc640 Word problem involving a sine or cosine function: Problem type 1
 pcalc641 Word problem involving a sine or cosine function: Problem type 2
 pcalc474 Sketching a graph of a damped sine or cosine function
 pcalc428 Domains and ranges of trigonometric functions
 pcalc637 Matching graphs and equations for secant, cosecant, tangent, and cotangent functions

pcalc017 Sketching the graph of a secant or cosecant function: Problem type 1
 pcalc638 Sketching the graph of a secant or cosecant function: Problem type 2
 pcalc105 Sketching the graph of a tangent or cotangent function: Problem type 1
 pcalc015 Sketching the graph of a tangent or cotangent function: Problem type 2

Trigonometric Identities and Equations

pcalc016 Values of inverse trigonometric functions
 pcalc018 Composition of a trigonometric function with its inverse trigonometric function: Problem type 1
 pcalc419 Composition of a trigonometric function with its inverse trigonometric function: Problem type 2
 pcalc420 Composition of a trigonometric function with the inverse of another trigonometric function: Problem type 1
 pcalc421 Composition of a trigonometric function with the inverse of another trigonometric function: Problem type 2
 pcalc036 Composition of a trigonometric function with the inverse of another trigonometric function: Problem type 3
 pcalc423 Composition of trigonometric functions with variable expressions as inputs: Problem type 1
 pcalc422 Composition of trigonometric functions with variable expressions as inputs: Problem type 2
 pcalc418 Using a calculator to approximate inverse trigonometric values
 pcalc648 Simplifying trigonometric expressions
 pcalc666 Using cofunction identities
 pcalc110 Verifying a trigonometric identity
 pcalc034 Proving trigonometric identities: Problem type 1
 pcalc404 Proving trigonometric identities: Problem type 2
 pcalc405 Proving trigonometric identities: Problem type 3
 pcalc429 Proving trigonometric identities: Problem type 4
 pcalc406 Proving trigonometric identities using odd and even properties
 pcalc029 Sum and difference identities: Problem type 1
 pcalc663 Sum and difference identities: Problem type 2
 pcalc664 Sum and difference identities: Problem type 3
 pcalc430 Sum and difference identities: Problem type 4
 pcalc431 Proving trigonometric identities using sum and difference properties: Problem type 1
 pcalc432 Proving trigonometric identities using sum and difference properties: Problem type 2
 pcalc030 Double-angle identities: Problem type 1
 pcalc667 Double-angle identities: Problem type 2
 pcalc434 Double-angle identities: Problem type 3
 pcalc437 Power-reducing identities
 pcalc662 Half-angle identities: Problem type 1
 pcalc665 Half-angle identities: Problem type 2
 pcalc124 Product-to-sum and sum-to-product identities: Problem type 1
 pcalc674 Product-to-sum and sum-to-product identities: Problem type 2
 pcalc402 Proving trigonometric identities using double-angle properties
 pcalc436 Proving trigonometric identities using sum-to-product formulas
 pcalc650 Finding solutions in an interval for a basic equation involving sine or cosine
 pcalc651 Finding solutions in an interval for a basic tangent, cotangent, secant, or cosecant equation
 pcalc660 Solving a basic trigonometric equation using a calculator
 pcalc020 Solving a basic trigonometric equation involving sine or cosine
 pcalc021 Solving a basic trigonometric equation involving tangent, cotangent, secant, or cosecant
 pcalc670 Finding solutions in an interval for a trigonometric equation in factored form
 pcalc652 Finding solutions in an interval for a trigonometric equation with a squared function: Problem type 1
 pcalc653 Finding solutions in an interval for a trigonometric equation with a squared function: Problem type 2
 pcalc654 Finding solutions in an interval for a trigonometric equation using Pythagorean identities: Problem type 1
 pcalc424 Finding solutions in an interval for a trigonometric equation using Pythagorean identities: Problem type 2
 pcalc657 Finding solutions in an interval for an equation with sine and cosine using double-angle identities
 pcalc668 Solving a trigonometric equation modeling a real-world situation
 pcalc811 Using a graphing calculator to solve a trigonometric equation
 pcalc127 Using a graphing calculator to solve a trigonometric inequality
 pcalc022 Solving a trigonometric equation involving a squared function: Problem type 1

pcalc023 Solving a trigonometric equation involving a squared function: Problem type 2
 pcalc024 Solving a trigonometric equation involving more than one function
 pcalc025 Solving a trigonometric equation involving an angle multiplied by a constant
 pcalc655 Finding solutions in an interval for a trigonometric equation with an angle multiplied by a constant
 pcalc656 Finding solutions in an interval for an equation with sine and cosine using sum and difference identities
 pcalc026 Solving a trigonometric equation using sum and difference identities
 pcalc027 Solving a trigonometric equation using double-angle identities
 pcalc028 Solving a trigonometric equation using half-angle identities

Triangles and Vectors

pcalc031 Solving a triangle with the law of sines: Problem type 1
 pcalc032 Solving a triangle with the law of sines: Problem type 2
 pcalc644 Solving a word problem using the law of sines
 geom320 Proving the law of sines
 pcalc033 Solving a triangle with the law of cosines
 geom409 Proving the law of cosines
 pcalc645 Solving a word problem using the law of cosines
 geom439 Using trigonometry to find the area of a right triangle
 pcalc646 Finding the area of a triangle using trigonometry
 geom319 Expressing the area of a triangle in terms of the sine of one of its angles
 pcalc647 Heron's formula
 vector028 Writing a position vector in $ai+bj$ form given its graph
 vector014 Writing a vector in $ai+bj$ form given its initial and terminal points
 vector013 Writing a vector in component form given its initial and terminal points
 vector015 Magnitude of a vector given in $ai+bj$ form
 pcalc060 Magnitude of a vector given in component form
 vector016 Vector addition and scalar multiplication: $ai+bj$ form
 vector017 Linear combination of vectors: $ai+bj$ form
 geom856 Vector addition and scalar multiplication: Component form
 vector008 Linear combination of vectors: Component form
 pcalc729 Unit vectors
 pcalc739 Multiplication of a vector by a scalar: Geometric approach
 geom857 Vector addition: Geometric approach
 vector007 Vector subtraction: Geometric approach
 vector002 Finding the magnitude and direction of a vector given its graph
 vector005 Finding the components of a vector given its graph
 vector019 Finding the direction angle of a vector given in $ai+bj$ form
 vector018 Writing a vector given its magnitude and direction angle
 vector020 Writing a vector to represent a force pushing or pulling an object
 vector021 Finding the magnitude and direction angle of the resultant force of two vectors
 vector011 Finding magnitudes of forces related to a sum of three vectors
 vector012 Finding magnitudes of forces related to an object suspended by cables
 vector023 Dot product of vectors given in $ai+bj$ form
 vector009 Dot product of vectors given in component form
 pcalc730 Finding the angle between two vectors given in component form
 vector024 Classifying vector relationships by finding the angle between two vectors given in $ai + bj$ form
 vector010 Using the dot product to find perpendicular vectors
 vector006 Finding the component of a vector along another vector
 vector025 Decomposing a vector into two orthogonal vectors
 vector026 Finding the amount of work done given a force vector and a distance
 vector027 Finding magnitudes of forces related to an object on a ramp

Polar Coordinates and Complex Numbers

pcalc449 Plotting points in polar coordinates
 pcalc450 Multiple representations of polar coordinates
 pcalc056 Converting rectangular coordinates to polar coordinates: Special angles

pcalc451 Converting rectangular coordinates to polar coordinates: Decimal answers
 pcalc057 Converting polar coordinates to rectangular coordinates
 pcalc058 Converting an equation written in rectangular form to one written in polar form
 pcalc452 Converting an equation written in polar form to one written in rectangular form: Problem type 1
 pcalc453 Converting an equation written in polar form to one written in rectangular form: Problem type 2
 pcalc454 Graphing a polar equation: Basic
 pcalc455 Graphing a polar equation: Circle
 pcalc456 Graphing a polar equation: Limacon
 pcalc457 Graphing a polar equation: Rose
 pcalc458 Graphing a polar equation: Lemniscate
 pcalc459 Matching polar equations with their graphs
 pcalc460 Identifying symmetries of graphs given their polar equations
 pcalc461 Plotting complex numbers
 pcalc462 Writing a complex number in standard form given its trigonometric form
 pcalc472 Writing a complex number in trigonometric form: Special angles
 pcalc052 Writing a complex number in trigonometric form: Decimal answers
 pcalc463 Multiplying and dividing complex numbers in trigonometric form
 pcalc464 De Moivre's Theorem: Answers in trigonometric form
 pcalc054 De Moivre's theorem: Answers in standard form
 pcalc807 Finding the n th roots of a number: Problem type 1
 pcalc808 Finding the n th roots of a number: Problem type 2

Conic Sections

pcalc566 Graphing a parabola of the form $y^2 = ax$ or $x^2 = ay$
 pcalc575 Graphing a parabola of the form $x = a(y-k)^2 + h$ or $y = a(x-h)^2 + k$
 pcalc067 Graphing a parabola of the form $ay^2 + by + cx + d = 0$ or $ax^2 + bx + cy + d = 0$
 pcalc068 Writing an equation of a parabola given the vertex and the focus
 pcalc475 Writing an equation of a parabola given the focus and the directrix
 geom494 Deriving the equation of a parabola given its focus and directrix
 pcalc476 Finding the vertex, focus, directrix, and axis of symmetry of a parabola
 pcalc069 Finding the focus of a parabola of the form $ay^2 + by + cx + d = 0$ or $ax^2 + bx + cy + d = 0$
 pcalc477 Writing an equation of a parabola given its graph
 pcalc478 Word problem involving a parabola
 pcalc734 Graphing an ellipse given its equation in standard form
 pcalc070 Graphing an ellipse centered at the origin: $Ax^2 + By^2 = C$
 pcalc071 Graphing an ellipse given its equation in general form
 pcalc479 Finding the center, vertices, and foci of an ellipse
 pcalc072 Finding the foci of an ellipse given its equation in general form
 pcalc074 Writing an equation of an ellipse given the center, an endpoint of an axis, and the length of the other axis
 pcalc073 Writing an equation of an ellipse given the foci and the major axis length
 pcalc480 Word problem involving an ellipse
 pcalc735 Graphing a hyperbola given its equation in standard form
 pcalc075 Graphing a hyperbola centered at the origin: $Ax^2 - By^2 - C = 0$
 pcalc076 Graphing a hyperbola given its equation in general form
 pcalc481 Finding the center, vertices, foci, and asymptotes of a hyperbola
 pcalc077 Finding the foci of a hyperbola given its equation in general form
 pcalc078 Writing an equation of a hyperbola given the foci and the vertices
 pcalc482 Writing an equation of a hyperbola given the foci and the asymptotes: Basic
 pcalc079 Writing an equation of a hyperbola given the foci and the asymptotes: Advanced
 pcalc736 Classifying conics given their equations
 pcalc538 Completing a table and choosing a graph given a pair of parametric equations
 pcalc539 Writing the equation of a line and sketching its graph given its parametric equations
 pcalc540 Writing the equation of a parabola and sketching its graph given its parametric equations
 pcalc541 Writing the equation of a circle or ellipse and sketching its graph given its parametric equations
 pcalc542 Graphing a pair of parametric equations with a restricted domain: Line or parabola
 pcalc563 Graphing a pair of parametric equations with a restricted domain: Circle
 pcalc565 Graphing a pair of parametric equations with a restricted domain: Ellipse
 pcalc544 Completing pairs of parametric equations

- pcalc545 Word problem involving parametric equations for projectile motion: Problem type 1
 pcalc576 Word problem involving parametric equations for projectile motion: Problem type 2

Exponential and Logarithmic Functions

- pcalc489 Graphing an exponential function: $f(x) = a(b)^x$
 pcalc567 Graphing an exponential function: $f(x)=b-x$ or $f(x)=-bax$
 pcalc922 Translating the graph of an exponential function
 alge321 Finding domain and range from the graph of an exponential function
 pcalc797 The graph, domain, and range of an exponential function
 pcalc490 Transforming the graph of a natural exponential function
 pcalc103 Graphing an exponential function and its asymptote: $f(x) = a(e)^x - b + c$
 pcalc491 Using a calculator to evaluate exponential expressions
 alge830 Evaluating an exponential function that models a real-world situation
 pcalc555 Using a calculator to evaluate exponential expressions involving base e
 pcalc919 Evaluating an exponential function with base e that models a real-world situation
 arith853 Introduction to compound interest
 arith910 Calculating and comparing simple interest and compound interest
 alge177 Finding a final amount in a word problem on exponential growth or decay
 alge741 Finding the final amount in a word problem on compound interest
 alge966 Finding the initial amount and rate of change given an exponential function
 alge968 Writing an equation that models exponential growth or decay
 alge967 Writing an exponential function rule given a table of ordered pairs
 alge993 Comparing linear, polynomial, and exponential functions
 pcalc492 Using a calculator to evaluate natural and common logarithmic expressions
 pcalc493 Converting between logarithmic and exponential equations
 pcalc494 Converting between natural logarithmic and exponential equations
 pcalc495 Evaluating logarithmic expressions
 alge233 Solving an equation of the form $\log_b a = c$
 pcalc923 Translating the graph of a logarithmic function
 alge788 Graphing a logarithmic function: Basic
 pcalc800 The graph, domain, and range of a logarithmic function
 pcalc801 Domain of a logarithmic function: Advanced
 pcalc104 Graphing a logarithmic function: Advanced
 pcalc708 Basic properties of logarithms
 pcalc511 Using properties of logarithms to evaluate expressions
 pcalc779 Expanding a logarithmic expression: Problem type 1
 pcalc521 Expanding a logarithmic expression: Problem type 2
 pcalc522 Expanding a logarithmic expression: Problem type 3
 alge787 Writing an expression as a single logarithm
 pcalc612 Change of base for logarithms: Problem type 1
 pcalc613 Change of base for logarithms: Problem type 2
 pcalc513 Solving a multi-step equation involving a single logarithm: Problem type 1
 pcalc510 Solving a multi-step equation involving a single logarithm: Problem type 2
 pcalc804 Solving a multi-step equation involving natural logarithms
 alge113 Solving an equation involving logarithms on both sides: Problem type 1
 pcalc805 Solving an equation involving logarithms on both sides: Problem type 2
 alge301 Solving an exponential equation by finding common bases: Linear exponents
 alge482 Solving an exponential equation by finding common bases: Linear and quadratic exponents
 pcalc920 Solving an exponential equation by using logarithms: Decimal answers, basic
 pcalc921 Solving an exponential equation by using natural logarithms: Decimal answers
 pcalc523 Solving an exponential equation by using logarithms: Decimal answers, advanced
 alge111 Solving an exponential equation by using logarithms: Exact answers in logarithmic form
 pcalc802 Solving an exponential equation by using substitution and quadratic factoring
 pcalc806 Using a graphing calculator to solve an exponential or logarithmic equation
 alge178 Finding the time to reach a limit in a word problem on exponential growth or decay
 pcalc524 Finding the time in a word problem on compound interest
 pcalc508 Finding the time given an exponential function with base e that models a real-world situation
 pcalc525 Finding the final amount in a word problem on continuous compound interest
 pcalc526 Finding the final amount in a word problem on continuous exponential growth or decay

pcalc527 Finding the initial amount in a word problem on continuous compound interest
 pcalc615 Finding the rate or time in a word problem on continuous exponential growth or decay
 pcalc528 Finding half-life or doubling time
 pcalc529 Writing and evaluating a function modeling continuous exponential growth or decay given doubling time or half-life
 pcalc530 Writing and evaluating a function modeling continuous exponential growth or decay given two outputs

B.19 Intro. to Statistics

Mathematical Readiness

arith048 Order of operations with whole numbers
 arith051 Order of operations with whole numbers and grouping symbols
 arith220 Decimal place value: Hundreds to ten thousandths
 arith221 Rounding decimals
 arith226 Converting between percentages and decimals
 arith030 Finding a percentage of a whole number without a calculator: Basic
 arith069 Writing a ratio as a percentage without a calculator
 arith090 Converting a percentage to a fraction in simplest form
 arith002 Converting a fraction to a percentage: Denominator of 20, 25, or 50
 stat022 Summation of indexed data
 alge006 Solving a two-step equation with integers
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge256 Y-intercept of a line
 alge257 X- and y-intercepts of a line given the equation in standard form
 alge070 Writing an equation of a line given the y-intercept and another point
 alge197 Graphing a line given its x- and y-intercepts
 alge194 Graphing a line given its equation in slope-intercept form
 alge196 Graphing a line through a given point with a given slope

Descriptive Statistics

stat904 Interpreting pie charts
 stat901 Computations from pie charts
 stat844 Double bar charts
 stat702 Histograms for grouped data
 stat703 Frequency polygons for grouped data
 stat717 Interpreting relative frequency histograms
 stat718 Cumulative distributions and ogives
 stat164 Comparing means without calculation
 stat165 Comparing standard deviations without calculation
 stat023 Box-and-whisker plots
 stat831 Interpreting a stem-and-leaf display
 stat827 Using back-to-back stem-and-leaf displays to compare data sets
 stat706 Mean, median, and mode: Computations
 stat902 Rejecting unreasonable claims based on average statistics
 stat007 Weighted mean: Tabular data
 stat719 Estimating the mean of grouped data
 stat009 Percentiles
 stat021 Population standard deviation
 stat011 Sample standard deviation
 stat729 Estimating the standard deviation of grouped data

stat730 Chebyshev's theorem and the empirical rule
 stat798 Mean, median, and mode: Comparisons
 stat025 Transforming the mean and standard deviation of a data set
 stat905 Making reasonable inferences based on proportion statistics

Probability

stat782 Factorial expressions
 stat788 Combinations
 stat789 Permutations
 stat790 Permutations, combinations, and the multiplication principle for counting
 stat117 Probabilities of draws with replacement
 stat118 Probabilities of draws without replacement
 stat119 Venn diagrams: Two events
 stat100 Venn diagrams: Three events
 stat101 Venn diagrams: Word problems
 stat106 Outcomes and event probability
 stat226 Die rolling
 stat114 Probability of intersection or union: Word problems
 stat115 Independent events: Basic
 stat120 Probability of union: Basic
 stat104 Mutually exclusive events: Two events
 stat102 Mutually exclusive events: Three events
 stat850 Probability of independent events
 stat105 Independent events: Two events
 stat103 Independent events: Three events
 stat113 The curious die
 stat020 Calculating relative frequencies in a contingency table
 stat116 Conditional probability: Basic
 stat851 Probability of dependent events
 stat109 Intersection and conditional probability
 stat107 Conditional probability: Mutually exclusive events
 stat108 Conditional probability: Independent events
 stat756 Tree diagrams for conditional probabilities
 stat110 Law of total probabilities
 stat111 Bayes' theorem

Random Variables and Distributions

stat777 Classification of variables and levels of measurement
 stat142 Discrete versus continuous variables
 stat151 Discrete probability distribution: Basic
 stat143 Discrete probability distribution: Word problems
 stat149 Cumulative distribution function
 stat150 Expectation and variance of a random variable
 stat153 Rules for expectation and variance of random variables
 stat145 Marginal distributions of two discrete random variables
 stat146 Joint distributions of dependent or independent random variables
 stat147 Probabilities of two random variables given their joint distribution
 stat148 Conditional probabilities of two random variables given their joint distribution
 stat156 Binomial problems: Mean and standard deviation
 stat174 Binomial problems: Basic
 stat155 Binomial problems: Advanced
 stat157 Standard normal probabilities
 stat760 Standard normal values: Basic
 stat160 Standard normal values: Advanced
 stat159 Normal versus standard normal density curves
 stat161 Normal distribution raw scores

stat162 Mean and deviation of a normal distribution
 stat163 Normal distribution: Word problems
 stat173 t distribution
 stat170 Chi-square distribution
 stat171 F distribution
 stat187 Normal approximation to binomial
 stat185 Central limit theorem: Sample mean
 stat186 Central limit theorem: Sample sum
 stat188 Central limit theorem: Sample proportion

Confidence Intervals and Hypothesis Testing

stat200 Selecting a distribution for inferences on the population mean
 stat201 Confidence interval for the population mean: Use of the standard normal
 stat202 Confidence interval for the population mean: Use of the t distribution
 stat203 Confidence interval for a population proportion
 stat204 Confidence interval for the population standard deviation
 stat205 Confidence interval for the difference of population means: Use of the standard normal
 stat206 Confidence interval for the difference of population means: Use of the t distribution
 stat207 Confidence interval for the difference of population proportions
 stat208 Confidence interval for the ratio of population variances
 stat755 Choosing an appropriate sample size
 stat190 Type I and Type II errors
 stat192 Type I and Type II errors and power
 stat194 Effect size, sample size, and power
 stat300 Determining null and alternative hypotheses
 stat301 Hypothesis test for the population mean: Z test
 stat302 Hypothesis test for the population mean: t test
 stat303 Hypothesis test for a population proportion
 stat304 Hypothesis test for the population variance or standard deviation
 stat305 Hypothesis test for the difference of population means: Z test
 stat309 Hypothesis test for the difference of population means: Paired comparisons
 stat306 Hypothesis test for the difference of population means: t test
 stat307 Hypothesis test for the difference of population proportions
 stat308 Hypothesis test for the ratio of population variances

Regression and Correlation

stat339 Sketching the least-squares regression line
 stat333 Linear relationship and the sample correlation coefficient
 stat340 Predictions from the least-squares regression line
 stat930 Computing the sample correlation coefficient and the coefficients for the least-squares regression line
 stat931 Explained and unexplained variation and the least-squares regression line
 stat325 Confidence intervals and prediction intervals from simple linear regression
 stat947 Hypothesis tests for the correlation coefficient and the slope of the least-squares regression line
 stat400 Interpreting the regression coefficients
 stat401 Identifying degrees of freedom
 stat402 ANOVA table: Problem type 1
 stat403 ANOVA table: Problem type 2
 stat404 F test of a multiple regression model
 stat405 t test of a multiple regression model

ANOVA, Chi-square and Nonparametric Tests

stat422 ANOVA: Mean squares and the common population variance
 stat423 ANOVA: Degrees of freedom and the F statistic

stat424 ANOVA: Hypothesis tests and the ANOVA table
 stat430 One-way, repeated-measures ANOVA
 stat442 Interpreting group means from a factorial design
 stat443 Two-way, independent-samples ANOVA
 stat440 Selecting among t tests and ANOVA tests
 stat319 Contingency tables: Expected frequencies
 stat320 Chi-square goodness-of-fit test
 stat321 Chi-square test of independence
 stat326 Sign test
 stat327 Wilcoxon signed-ranks test

Quality Control

stat500 Trend lines for yearly data
 stat501 Seasonal indexes: Multiplicative model
 stat502 Moving averages
 stat503 Ratio-to-moving-average method
 stat504 Exponential smoothing
 stat505 Regression with seasonal indicators
 stat600 Interpreting a control chart
 stat601 R charts
 stat602 \bar{x} -bar charts
 stat603 p charts
 stat604 c charts
 stat605 Acceptance sampling
 stat606 Estimating sigma from an R chart

B.20 Prep. for Beginning Algebra

Arithmetic and Geometry

arith233 Introduction to exponents
 arith692 Writing expressions using exponents
 arith681 Introduction to order of operations
 arith048 Order of operations with whole numbers
 arith051 Order of operations with whole numbers and grouping symbols
 arith693 Order of operations with whole numbers and exponents: Basic
 arith056 Factors
 arith034 Prime numbers
 arith035 Prime factorization
 arith033 Greatest common factor of 2 numbers
 arith070 Least common multiple of 2 numbers
 arith016 Square root of a perfect square
 arith687 Fractional position on a number line
 arith667 Plotting fractions on a number line
 arith212 Equivalent fractions
 arith067 Simplifying a fraction
 arith044 Ordering fractions with the same denominator
 arith092 Using a common denominator to order fractions
 arith618 Addition or subtraction of fractions with the same denominator
 arith664 Introduction to addition or subtraction of fractions with different denominators
 arith230 Addition or subtraction of fractions with different denominators
 arith100 Fractional part of a circle
 arith079 Product of a unit fraction and a whole number
 arith086 Product of a fraction and a whole number: Problem type 1

arith119 Introduction to fraction multiplication
arith053 Fraction multiplication
arith088 The reciprocal of a number
arith694 Division involving a whole number and a fraction
arith022 Fraction division
arith697 Mixed arithmetic operations with fractions
arith015 Writing an improper fraction as a mixed number
arith619 Writing a mixed number as an improper fraction
arith084 Addition of mixed numbers with the same denominator and carry
arith216 Subtraction of mixed numbers with the same denominator and borrowing
arith085 Addition or subtraction of mixed numbers with different denominators
arith020 Mixed number multiplication: Problem type 1
arith068 Mixed number division
arith110 Decimal place value: Tenths and hundredths
arith221 Rounding decimals
arith608 Ordering decimals
arith624 Addition of aligned decimals
arith013 Decimal addition with 3 numbers
arith625 Subtraction of aligned decimals
arith082 Multiplication of a decimal by a power of ten
arith017 Multiplication of a decimal by a whole number
arith055 Decimal multiplication: Problem type 1
arith083 Division of a decimal by a power of ten
arith081 Division of a decimal by a whole number
arith019 Division of a decimal by a 2-digit decimal
arith222 Converting a fraction to a terminating decimal
arith089 Converting a fraction to a repeating decimal
arith223 Converting a mixed number to a decimal
arith087 Converting a decimal to a proper fraction in simplest form: Advanced
arith626 Word problem with one decimal operation: Problem type 1
arith627 Word problem with one decimal operation: Problem type 2
arith224 Word problem with decimal addition and multiplication
geom339 Perimeter of a polygon
geom300 Perimeter of a square or a rectangle
geom221 Finding the missing length in a figure
geom019 Area of a square or a rectangle
geom340 Area of a piecewise rectangular figure
geom801 Area of a triangle
geom022 Area of a parallelogram
geom802 Circumference and area of a circle
geom036 Word problem involving the area between two concentric circles
geom302 Area involving rectangles and circles
geom311 Volume of a rectangular prism
geom035 Volume of a cylinder

Real Numbers and Algebraic Expressions

arith691 Ordering integers
arith699 Writing a signed number for a real-world situation
alge286 Plotting integers on a number line
arith200 Integer addition: Problem type 1
arith108 Integer addition: Problem type 2
arith688 Integer subtraction: Problem type 1
arith689 Integer subtraction: Problem type 2
arith690 Integer subtraction: Problem type 3
arith701 Word problem with addition or subtraction of integers
arith116 Signed fraction addition or subtraction: Basic
arith106 Signed fraction addition or subtraction: Advanced
arith117 Signed decimal addition and subtraction
arith234 Signed decimal addition and subtraction with 3 numbers

arith231 Integer multiplication and division
 arith800 Multiplication of 3 or 4 integers
 arith822 Signed fraction multiplication: Basic
 arith105 Signed fraction multiplication: Advanced
 arith702 Exponents and integers: Problem type 1
 arith703 Exponents and integers: Problem type 2
 arith704 Exponents and signed fractions
 arith118 Order of operations with integers
 arith600 Order of operations with integers and exponents
 alge731 Evaluating an algebraic expression: Whole numbers with two operations
 alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge004 Evaluating a quadratic expression: Integers
 arith071 Absolute value of a number
 arith104 Operations with absolute value: Problem type 2
 alge001 Identifying numbers as integers or non-integers
 alge002 Identifying numbers as rational or irrational
 alge187 Properties of addition
 alge188 Properties of real numbers
 alge606 Distributive property: Whole number coefficients
 alge604 Distributive property: Integer coefficients
 alge700 Combining like terms: Whole number coefficients
 alge607 Combining like terms: Integer coefficients

Linear Equations and Inequalities

alge009 Additive property of equality with whole numbers
 alge801 Additive property of equality with fractions and mixed numbers
 alge800 Additive property of equality with decimals
 alge010 Additive property of equality with integers
 alge266 Additive property of equality with a negative coefficient
 alge008 Multiplicative property of equality with whole numbers
 alge820 Multiplicative property of equality with fractions
 alge825 Multiplicative property of equality with decimals
 alge797 Multiplicative property of equality with integers
 alge012 Multiplicative property of equality with signed fractions
 alge803 Using two steps to solve an equation with whole numbers
 alge006 Solving a two-step equation with integers
 alge208 Solving a two-step equation with signed fractions
 alge824 Solving a two-step equation with signed decimals
 alge200 Solving an equation to find the value of an expression
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge742 Solving equations with zero, one, or infinitely many solutions
 alge810 Introduction to algebraic symbol manipulation
 alge733 Writing a one-step expression for a real-world situation
 alge291 Translating a phrase into a two-step expression
 alge016 Translating a sentence into a one-step equation
 alge802 Solving a fraction word problem using a linear equation of the form $Ax = B$
 alge014 Solving a word problem with two unknowns using a linear equation
 alge219 Solving a decimal word problem using a linear equation with the variable on both sides
 alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
 alge704 Solving a fraction word problem using a linear equation with the variable on both sides
 alge792 Solving a word problem with three unknowns using a linear equation
 alge794 Solving a value mixture problem using a linear equation
 geom001 Finding an angle measure of a triangle given two angles
 geom530 Solving equations involving vertical angles
 geom817 Finding a side length given the perimeter and side lengths with variables
 geom217 Finding the side length of a rectangle given its perimeter or area

alge015 Translating a sentence by using an inequality symbol
 alge017 Graphing a linear inequality on the number line
 alge822 Writing an inequality given a graph on the number line
 alge019 Solving a linear inequality: Problem type 1
 alge020 Solving a linear inequality: Problem type 2
 alge021 Solving a linear inequality: Problem type 3
 alge745 Solving a linear inequality: Problem type 5
 alge748 Writing an inequality for a real-world situation
 alge749 Solving a decimal word problem using a two-step linear inequality

Percents and Proportions

arith226 Converting between percentages and decimals
 arith090 Converting a percentage to a fraction in simplest form
 arith002 Converting a fraction to a percentage: Denominator of 20, 25, or 50
 arith069 Writing a ratio as a percentage without a calculator
 mstat049 Computing a percentage from a table of values
 arith030 Finding a percentage of a whole number without a calculator: Basic
 arith698 Applying the percent equation
 arith074 Finding the sale price without a calculator given the original price and percent discount
 arith031 Finding the original price given the sale price and percent discount
 arith225 Finding the percentage increase or decrease: Advanced
 stat801 Computations from a circle graph
 arith232 Finding simple interest without a calculator
 alge272 Solving a proportion of the form $x/a = b/c$
 arith064 Solving a word problem on proportions using a unit rate
 arith610 Word problem on proportions: Problem type 1
 arith228 Word problem on unit rates associated with ratios of whole numbers: Decimal answers
 alge823 Solving a one-step word problem using the formula $d = rt$
 alge218 Solving a word problem involving rates and time conversion
 unit034 Converting between metric and U.S. Customary unit systems

Lines and Functions

set001 Set builder notation
 alge850 Table for a linear equation
 fun001 Table for a linear function
 alge064 Reading a point in the coordinate plane
 alge067 Plotting a point in the coordinate plane
 alge066 Finding a solution to a linear equation in two variables
 alge197 Graphing a line given its x - and y -intercepts
 alge194 Graphing a line given its equation in slope-intercept form
 alge198 Graphing a vertical or horizontal line
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 mstat007 Interpreting a line graph
 alge684 Finding slope given the graph of a line on a grid
 alge685 Finding slope given two points on the line

B.21 Prep. for Intermediate Algebra

Real Numbers

arith687 Fractional position on a number line
 arith667 Plotting fractions on a number line

arith067 Simplifying a fraction
arith092 Using a common denominator to order fractions
arith230 Addition or subtraction of fractions with different denominators
arith086 Product of a fraction and a whole number: Problem type 1
arith053 Fraction multiplication
arith022 Fraction division
arith100 Fractional part of a circle
arith697 Mixed arithmetic operations with fractions
arith110 Decimal place value: Tenths and hundredths
arith221 Rounding decimals
arith608 Ordering decimals
arith226 Converting between percentages and decimals
arith698 Applying the percent equation
arith069 Writing a ratio as a percentage without a calculator
mstat049 Computing a percentage from a table of values
arith074 Finding the sale price without a calculator given the original price and percent discount
arith031 Finding the original price given the sale price and percent discount
arith225 Finding the percentage increase or decrease: Advanced
stat801 Computations from a circle graph
arith232 Finding simple interest without a calculator
arith228 Word problem on unit rates associated with ratios of whole numbers: Decimal answers
alge823 Solving a one-step word problem using the formula $d = rt$
alge218 Solving a word problem involving rates and time conversion
alge272 Solving a proportion of the form $x/a = b/c$
arith610 Word problem on proportions: Problem type 1
arith200 Integer addition: Problem type 1
arith108 Integer addition: Problem type 2
arith688 Integer subtraction: Problem type 1
arith689 Integer subtraction: Problem type 2
arith690 Integer subtraction: Problem type 3
arith116 Signed fraction addition or subtraction: Basic
arith106 Signed fraction addition or subtraction: Advanced
arith117 Signed decimal addition and subtraction
arith234 Signed decimal addition and subtraction with 3 numbers
arith231 Integer multiplication and division
arith800 Multiplication of 3 or 4 integers
arith822 Signed fraction multiplication: Basic
arith105 Signed fraction multiplication: Advanced
arith702 Exponents and integers: Problem type 1
arith703 Exponents and integers: Problem type 2
arith704 Exponents and signed fractions
arith118 Order of operations with integers
arith600 Order of operations with integers and exponents
alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
alge004 Evaluating a quadratic expression: Integers
arith071 Absolute value of a number
arith104 Operations with absolute value: Problem type 2
alge001 Identifying numbers as integers or non-integers
alge002 Identifying numbers as rational or irrational
alge187 Properties of addition
alge188 Properties of real numbers
alge606 Distributive property: Whole number coefficients
alge604 Distributive property: Integer coefficients
alge607 Combining like terms: Integer coefficients
alge663 Combining like terms: Advanced
alge293 Combining like terms in a quadratic expression
set001 Set builder notation
set002 Union and intersection of finite sets
set004 Set builder and interval notation

alge010 Additive property of equality with integers
 alge266 Additive property of equality with a negative coefficient
 alge797 Multiplicative property of equality with integers
 alge825 Multiplicative property of equality with decimals
 alge820 Multiplicative property of equality with fractions
 alge012 Multiplicative property of equality with signed fractions
 alge006 Solving a two-step equation with integers
 alge208 Solving a two-step equation with signed fractions
 alge200 Solving an equation to find the value of an expression
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
 alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
 alge742 Solving equations with zero, one, or infinitely many solutions
 alge810 Introduction to algebraic symbol manipulation
 alge743 Algebraic symbol manipulation: Problem type 1
 alge744 Algebraic symbol manipulation: Problem type 2
 alge733 Writing a one-step expression for a real-world situation
 alge291 Translating a phrase into a two-step expression
 alge016 Translating a sentence into a one-step equation
 alge802 Solving a fraction word problem using a linear equation of the form $Ax = B$
 alge014 Solving a word problem with two unknowns using a linear equation
 alge219 Solving a decimal word problem using a linear equation with the variable on both sides
 alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
 alge704 Solving a fraction word problem using a linear equation with the variable on both sides
 alge792 Solving a word problem with three unknowns using a linear equation
 alge794 Solving a value mixture problem using a linear equation
 alge795 Solving a percent mixture problem using a linear equation
 alge796 Solving a distance, rate, time problem using a linear equation
 stat803 Finding the value for a new score that will yield a given mean
 alge015 Translating a sentence by using an inequality symbol
 alge017 Graphing a linear inequality on the number line
 alge822 Writing an inequality given a graph on the number line
 alge166 Graphing a compound inequality on the number line
 alge019 Solving a linear inequality: Problem type 1
 alge020 Solving a linear inequality: Problem type 2
 alge021 Solving a linear inequality: Problem type 3
 alge207 Solving a linear inequality: Problem type 4
 alge745 Solving a linear inequality: Problem type 5
 alge746 Solving a compound linear inequality: Graph solution, basic
 alge747 Solving a compound linear inequality: Interval notation
 alge748 Writing an inequality for a real-world situation
 alge749 Solving a decimal word problem using a two-step linear inequality
 alge750 Solving a decimal word problem using a linear inequality with the variable on both sides
 alge270 Solving an absolute value equation of the form $a-x = b$ or $-x+a = b$
 alge103 Solving an absolute value equation of the form $-ax+b = c$
 alge170 Solving an absolute value inequality: Basic

Functions, Lines, and Systems

fun001 Table for a linear function
 pcalc760 Evaluating functions: Linear and quadratic or cubic
 fun033 Variable expressions as inputs of functions: Problem type 1
 fun032 Identifying functions from relations

fun010 Vertical line test
 fun016 Domain and range from ordered pairs
 fun024 Domain and range from the graph of a continuous function
 alge064 Reading a point in the coordinate plane
 alge067 Plotting a point in the coordinate plane
 alge850 Table for a linear equation
 alge066 Finding a solution to a linear equation in two variables
 alge216 Determining whether given points lie on one, both, or neither of 2 lines given equations
 alge197 Graphing a line given its x- and y-intercepts
 alge194 Graphing a line given its equation in slope-intercept form
 alge195 Graphing a line given its equation in standard form
 alge196 Graphing a line through a given point with a given slope
 alge198 Graphing a vertical or horizontal line
 alge225 Graphing a linear inequality in the plane: Vertical or horizontal line
 alge720 Graphing a linear inequality in the plane: Slope-intercept form
 alge252 Graphing a parabola of the form $y = ax^2$
 alge262 Graphing a cubic function of the form $y = ax^3$
 alge168 Graphing an absolute value equation in the plane: Advanced
 alge069 Finding the y-intercept of a line given its equation
 alge210 Finding x- and y-intercepts of a line given the equation: Advanced
 alge684 Finding slope given the graph of a line on a grid
 alge685 Finding slope given two points on the line
 alge631 Finding the slope of a line given its equation
 alge070 Writing an equation of a line given the y-intercept and another point
 alge071 Writing the equation of a line given the slope and a point on the line
 alge072 Writing the equation of the line through two given points
 alge073 Writing the equations of vertical and horizontal lines through a given point
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 mstat007 Interpreting a line graph
 alge263 Interpreting the graphs of two functions
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
 alge806 Application problem with a linear function: Finding a coordinate given two points
 alge725 Graphically solving a system of linear equations
 alge751 Solving a system of linear equations using substitution
 alge076 Solving a system of linear equations using elimination with multiplication and addition
 alge752 Solving a 2x2 system of linear equations that is inconsistent or consistent dependent
 alge753 Solving a 3x3 system of linear equations: Problem type 1
 alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations
 alge184 Solving a value mixture problem using a system of linear equations
 alge224 Solving a distance, rate, time problem using a system of linear equations
 alge192 Solving a percent mixture problem using a system of linear equations
 alge172 Solving a tax rate or interest rate problem using a system of linear equations
 alge793 Solving a word problem using a 3x3 system of linear equations: Problem type 1

Exponents, Polynomials, and Radicals

alge790 Evaluating expressions with exponents of zero
 arith042 Evaluating an expression with a negative exponent: Positive fraction base
 arith043 Evaluating an expression with a negative exponent: Negative integer base
 alge791 Rewriting an algebraic expression without a negative exponent
 alge024 Introduction to the product rule of exponents
 alge030 Product rule with positive exponents: Multivariate
 alge028 Product rule with negative exponents
 alge827 Introduction to the quotient rule of exponents
 alge026 Quotient of expressions involving exponents
 alge755 Quotient rule with negative exponents: Problem type 1
 alge754 Introduction to the power rules of exponents
 alge027 Power rules with positive exponents

alge025 Power of a power rule with negative exponents
 alge799 Power rules with negative exponents
 alge756 Power and product rules with positive exponents
 arith036 Scientific notation with positive exponent
 arith037 Scientific notation with negative exponent
 scinot002 Multiplying and dividing numbers written in scientific notation
 alge798 Simplifying a sum or difference of two univariate polynomials
 alge029 Simplifying a sum or difference of three univariate polynomials
 alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
 alge033 Multiplying binomials with leading coefficients of 1
 alge764 Multiplying conjugate binomials: Univariate
 alge032 Squaring a binomial: Univariate
 alge736 Introduction to the GCF of two monomials
 alge738 Factoring out a monomial from a polynomial: Univariate
 alge705 Factoring a quadratic with leading coefficient 1
 alge040 Factoring a quadratic with leading coefficient greater than 1
 alge624 Factoring a difference of squares
 alge681 Solving an equation written in factored form
 alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
 arith016 Square root of a perfect square
 arith601 Square root of a rational perfect square
 arith094 Cube root of an integer
 arith602 Estimating a square root
 arith093 Simplifying the square root of a whole number less than 100
 alge264 Square root of a perfect square monomial
 alge080 Simplifying a radical expression with an even exponent
 arith032 Square root addition or subtraction
 arith039 Square root multiplication: Advanced
 alge086 Rationalizing the denominator of a radical expression

Geometry

geom300 Perimeter of a square or a rectangle
 geom019 Area of a square or a rectangle
 geom801 Area of a triangle
 geom022 Area of a parallelogram
 geom802 Circumference and area of a circle
 geom311 Volume of a rectangular prism
 geom035 Volume of a cylinder
 geom031 Surface area of a cube or a rectangular prism
 geom034 Surface area of a cylinder: Exact answers in terms of pi
 geom001 Finding an angle measure of a triangle given two angles
 geom908 Finding an angle measure for a triangle with an extended side
 geom530 Solving equations involving vertical angles
 geom037 Similar polygons
 geom817 Finding a side length given the perimeter and side lengths with variables
 geom217 Finding the side length of a rectangle given its perimeter or area
 geom143 Finding the perimeter or area of a rectangle given one of these values
 geom340 Area of a piecewise rectangular figure
 geom301 Perimeter involving rectangles and circles
 geom302 Area involving rectangles and circles
 geom036 Word problem involving the area between two concentric circles

B.22 Prep. for College Algebra

Real Numbers

arith067 Simplifying a fraction
 arith092 Using a common denominator to order fractions
 arith230 Addition or subtraction of fractions with different denominators
 arith053 Fraction multiplication
 arith022 Fraction division
 arith100 Fractional part of a circle
 arith226 Converting between percentages and decimals
 arith698 Applying the percent equation
 arith074 Finding the sale price without a calculator given the original price and percent discount
 arith031 Finding the original price given the sale price and percent discount
 arith225 Finding the percentage increase or decrease: Advanced
 arith232 Finding simple interest without a calculator
 arith228 Word problem on unit rates associated with ratios of whole numbers: Decimal answers
 alge272 Solving a proportion of the form $x/a = b/c$
 arith610 Word problem on proportions: Problem type 1
 arith611 Word problem on proportions: Problem type 2
 arith108 Integer addition: Problem type 2
 arith690 Integer subtraction: Problem type 3
 arith116 Signed fraction addition or subtraction: Basic
 arith106 Signed fraction addition or subtraction: Advanced
 arith234 Signed decimal addition and subtraction with 3 numbers
 arith231 Integer multiplication and division
 arith822 Signed fraction multiplication: Basic
 arith105 Signed fraction multiplication: Advanced
 arith702 Exponents and integers: Problem type 1
 arith703 Exponents and integers: Problem type 2
 arith704 Exponents and signed fractions
 arith600 Order of operations with integers and exponents
 alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge004 Evaluating a quadratic expression: Integers
 arith071 Absolute value of a number
 arith104 Operations with absolute value: Problem type 2
 alge001 Identifying numbers as integers or non-integers
 alge002 Identifying numbers as rational or irrational
 alge187 Properties of addition
 alge188 Properties of real numbers

Equations and Inequalities

alge010 Additive property of equality with integers
 alge012 Multiplicative property of equality with signed fractions
 alge006 Solving a two-step equation with integers
 alge208 Solving a two-step equation with signed fractions
 alge200 Solving an equation to find the value of an expression
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
 alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
 alge742 Solving equations with zero, one, or infinitely many solutions
 alge743 Algebraic symbol manipulation: Problem type 1
 alge744 Algebraic symbol manipulation: Problem type 2
 alge733 Writing a one-step expression for a real-world situation
 alge291 Translating a phrase into a two-step expression
 alge016 Translating a sentence into a one-step equation

alge014 Solving a word problem with two unknowns using a linear equation
 alge219 Solving a decimal word problem using a linear equation with the variable on both sides
 alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
 alge704 Solving a fraction word problem using a linear equation with the variable on both sides
 alge794 Solving a value mixture problem using a linear equation
 alge795 Solving a percent mixture problem using a linear equation
 alge796 Solving a distance, rate, time problem using a linear equation
 alge792 Solving a word problem with three unknowns using a linear equation
 alge017 Graphing a linear inequality on the number line
 alge166 Graphing a compound inequality on the number line
 alge019 Solving a linear inequality: Problem type 1
 alge020 Solving a linear inequality: Problem type 2
 alge021 Solving a linear inequality: Problem type 3
 alge207 Solving a linear inequality: Problem type 4
 alge746 Solving a compound linear inequality: Graph solution, basic
 alge747 Solving a compound linear inequality: Interval notation
 alge729 Writing a multi-step inequality for a real-world situation
 alge749 Solving a decimal word problem using a two-step linear inequality
 alge750 Solving a decimal word problem using a linear inequality with the variable on both sides
 alge270 Solving an absolute value equation of the form $a-x = b$ or $-x+a = b$
 alge103 Solving an absolute value equation of the form $-ax+b = c$
 alge170 Solving an absolute value inequality: Basic

Exponents and Polynomials

alge790 Evaluating expressions with exponents of zero
 arith042 Evaluating an expression with a negative exponent: Positive fraction base
 arith043 Evaluating an expression with a negative exponent: Negative integer base
 arith029 Ordering numbers with positive exponents
 arith024 Ordering numbers with negative exponents
 alge791 Rewriting an algebraic expression without a negative exponent
 alge024 Introduction to the product rule of exponents
 alge030 Product rule with positive exponents: Multivariate
 alge028 Product rule with negative exponents
 alge026 Quotient of expressions involving exponents
 alge755 Quotient rule with negative exponents: Problem type 1
 alge754 Introduction to the power rules of exponents
 alge027 Power rules with positive exponents
 alge025 Power of a power rule with negative exponents
 alge799 Power rules with negative exponents
 alge756 Power and product rules with positive exponents
 alge757 Power, product, and quotient rules with negative exponents
 arith036 Scientific notation with positive exponent
 arith037 Scientific notation with negative exponent
 scinot002 Multiplying and dividing numbers written in scientific notation
 alge758 Degree and leading coefficient of a univariate polynomial
 alge031 Degree of a multivariate polynomial
 alge663 Combining like terms: Advanced
 alge798 Simplifying a sum or difference of two univariate polynomials
 alge029 Simplifying a sum or difference of three univariate polynomials
 alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
 alge835 Multiplying a multivariate polynomial by a monomial
 alge033 Multiplying binomials with leading coefficients of 1
 alge764 Multiplying conjugate binomials: Univariate
 alge032 Squaring a binomial: Univariate
 alge180 Multiplication involving binomials and trinomials in two variables
 alge736 Introduction to the GCF of two monomials
 alge037 Greatest common factor of two multivariate monomials
 alge738 Factoring out a monomial from a polynomial: Univariate
 alge739 Factoring out a monomial from a polynomial: Multivariate

alge705 Factoring a quadratic with leading coefficient 1
 alge040 Factoring a quadratic with leading coefficient greater than 1
 alge041 Factoring a product of a quadratic trinomial and a monomial
 alge624 Factoring a difference of squares
 alge038 Factoring a polynomial by grouping: Problem type 1
 alge042 Factoring with repeated use of the difference of squares formula
 alge044 Factoring a sum or difference of two cubes
 alge681 Solving an equation written in factored form
 alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
 alge211 Solving a quadratic equation needing simplification
 alge781 Solving an equation that can be written in quadratic form: Problem type 1
 alge092 Solving a quadratic equation using the square root property: Exact answers, basic
 alge227 Solving a quadratic equation using the square root property: Exact answers, advanced
 alge094 Completing the square
 alge780 Solving a quadratic equation by completing the square: Exact answers
 alge095 Applying the quadratic formula: Exact answers
 alge214 Discriminant of a quadratic equation
 alge703 Solving a word problem using a quadratic equation with rational roots
 alge524 Solving a word problem using a quadratic equation with irrational roots
 alge784 Solving a quadratic inequality written in factored form
 alge771 Solving a quadratic inequality

Lines and Systems

alge067 Plotting a point in the coordinate plane
 alge066 Finding a solution to a linear equation in two variables
 alge216 Determining whether given points lie on one, both, or neither of 2 lines given equations
 alge197 Graphing a line given its x- and y-intercepts
 alge194 Graphing a line given its equation in slope-intercept form
 alge195 Graphing a line given its equation in standard form
 alge196 Graphing a line through a given point with a given slope
 alge198 Graphing a vertical or horizontal line
 alge069 Finding the y-intercept of a line given its equation
 alge210 Finding x- and y-intercepts of a line given the equation: Advanced
 alge684 Finding slope given the graph of a line on a grid
 alge685 Finding slope given two points on the line
 alge631 Finding the slope of a line given its equation
 alge070 Writing an equation of a line given the y-intercept and another point
 alge071 Writing the equation of a line given the slope and a point on the line
 alge072 Writing the equation of the line through two given points
 alge073 Writing the equations of vertical and horizontal lines through a given point
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
 alge806 Application problem with a linear function: Finding a coordinate given two points
 alge018 Graphing a linear inequality in the plane: Standard form
 alge225 Graphing a linear inequality in the plane: Vertical or horizontal line
 alge720 Graphing a linear inequality in the plane: Slope-intercept form
 alge725 Graphically solving a system of linear equations
 alge751 Solving a system of linear equations using substitution
 alge076 Solving a system of linear equations using elimination with multiplication and addition
 alge753 Solving a 3x3 system of linear equations: Problem type 1
 alge752 Solving a 2x2 system of linear equations that is inconsistent or consistent dependent
 alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations
 alge184 Solving a value mixture problem using a system of linear equations
 alge224 Solving a distance, rate, time problem using a system of linear equations
 alge192 Solving a percent mixture problem using a system of linear equations
 alge172 Solving a tax rate or interest rate problem using a system of linear equations

alge793 Solving a word problem using a 3x3 system of linear equations: Problem type 1
 alge263 Interpreting the graphs of two functions
 alge079 Graphing a system of two linear inequalities: Basic

Functions and Graphs

set001 Set builder notation
 set002 Union and intersection of finite sets
 set004 Set builder and interval notation
 fun032 Identifying functions from relations
 fun010 Vertical line test
 pcalc760 Evaluating functions: Linear and quadratic or cubic
 pcalc682 Evaluating functions: Absolute value, rational, radical
 fun030 Evaluating a piecewise-defined function
 fun033 Variable expressions as inputs of functions: Problem type 1
 fun016 Domain and range from ordered pairs
 pcalc761 Finding inputs and outputs of a function from its graph
 pcalc750 Finding intercepts of a nonlinear function given its graph
 pcalc751 Finding where a function is increasing, decreasing, or constant given the graph: Interval notation
 pcalc752 Finding local maxima and minima of a function given the graph
 pcalc764 Finding zeros of a polynomial function written in factored form
 fun024 Domain and range from the graph of a continuous function
 alge185 Writing an equation for a function after a vertical translation
 fun020 Writing an equation for a function after a vertical and horizontal translation
 pcalc769 Translating the graph of a function: One step
 pcalc770 Translating the graph of a function: Two steps
 pcalc771 Transforming the graph of a function by reflecting over an axis
 pcalc772 Transforming the graph of a function by shrinking or stretching
 alge277 Finding the x-intercept(s) and the vertex of a parabola
 alge252 Graphing a parabola of the form $y = ax^2$
 alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
 pcalc746 Graphing a parabola of the form $y = ax^2 + bx + c$: Integer coefficients
 alge702 Classifying the graph of a function
 alge262 Graphing a cubic function of the form $y = ax^3$
 alge168 Graphing an absolute value equation in the plane: Advanced
 fun019 Sum, difference, and product of two functions
 alge786 Quotient of two functions: Basic
 fun022 Composition of two functions: Basic
 fun011 Horizontal line test
 pcalc777 Determining whether two functions are inverses of each other
 fun012 Inverse functions: Linear, discrete

Rational Expressions

alge715 Domain of a rational function: Excluded values
 alge710 Simplifying a ratio of polynomials: Problem type 1
 alge682 Simplifying a ratio of polynomials: Problem type 2
 alge034 Simplifying a ratio of multivariate polynomials
 alge059 Ordering fractions with variables
 alge053 Multiplying rational expressions involving multivariate monomials
 alge620 Multiplying rational expressions involving quadratics with leading coefficients of 1
 alge054 Dividing rational expressions involving multivariate monomials
 alge766 Dividing rational expressions involving quadratics with leading coefficients of 1
 alge737 Introduction to the LCM of two monomials
 alge055 Least common multiple of two monomials
 alge056 Adding rational expressions with common denominators and binomial numerators
 alge057 Adding rational expressions with different denominators: ax, bx
 alge226 Adding rational expressions with multivariate monomial denominators: Advanced

alge622 Adding rational expressions with different denominators: $x+a$, $x+b$
 arith695 Complex fraction without variables: Problem type 1
 arith696 Complex fraction without variables: Problem type 2
 alge058 Complex fraction involving multivariate monomials
 alge767 Complex fraction: GCF and quadratic factoring
 alge768 Complex fraction made of sums involving rational expressions
 alge759 Dividing a polynomial by a monomial: Univariate
 alge761 Polynomial long division: Problem type 1
 alge762 Polynomial long division: Problem type 2
 alge060 Solving a rational equation that simplifies to linear: Denominator x
 alge205 Solving a rational equation that simplifies to linear: Denominator $x+a$
 alge206 Solving a rational equation that simplifies to linear: Unlike binomial denominators
 alge769 Solving a rational equation that simplifies to linear: Denominators a , x , or ax
 alge212 Solving a rational equation that simplifies to quadratic: Binomial denominators, constant numerators
 alge062 Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators
 pcalc681 Writing an equation that models variation
 alge175 Word problem on direct variation
 alge176 Word problem on inverse variation
 alge772 Word problem on combined variation

Radical Expressions

pcalc763 Domain of a square root function: Advanced
 pcalc781 Graphing a square root function
 arith601 Square root of a rational perfect square
 arith094 Cube root of an integer
 arith093 Simplifying the square root of a whole number less than 100
 alge264 Square root of a perfect square monomial
 alge080 Simplifying a radical expression with an even exponent
 alge275 Simplifying a radical expression with two variables
 alge273 Simplifying a higher root of a whole number
 alge811 Simplifying a higher radical expression: Multivariate
 arith032 Square root addition or subtraction
 alge084 Simplifying a sum or difference of radical expressions: Multivariate
 arith039 Square root multiplication: Advanced
 alge640 Simplifying a product of radical expressions: Multivariate
 alge276 Simplifying a product involving square roots using the distributive property: Advanced
 alge774 Special products of radical expressions: Conjugates and squaring
 alge086 Rationalizing the denominator of a radical expression
 alge088 Rationalizing the denominator of a radical expression using conjugates
 alge775 Rationalizing a denominator: Quotient involving higher radicals and monomials
 alge812 Converting between radical form and exponent form
 alge250 Rational exponents: Non-unit fraction exponent with a whole number base
 alge251 Rational exponents: Negative exponents and fractional bases
 alge773 Rational exponents: Products and quotients with negative exponents
 alge249 Rational exponents: Powers of powers with negative exponents
 alge089 Solving a radical equation that simplifies to a linear equation: One radical, basic
 alge090 Solving a radical equation that simplifies to a linear equation: Two radicals
 alge091 Solving a radical equation that simplifies to a quadratic equation: One radical
 alge778 Using i to rewrite square roots of negative numbers
 alge779 Simplifying a product and quotient involving square roots of negative numbers
 pcalc048 Adding or subtracting complex numbers
 pcalc049 Multiplying complex numbers
 pcalc050 Dividing complex numbers
 pcalc053 Simplifying a power of i
 pcalc051 Solving a quadratic equation with complex roots

Geometry

geom300 Perimeter of a square or a rectangle
 geom019 Area of a square or a rectangle
 geom340 Area of a piecewise rectangular figure
 geom351 Areas of rectangles with the same perimeter
 geom817 Finding a side length given the perimeter and side lengths with variables
 geom217 Finding the side length of a rectangle given its perimeter or area
 geom143 Finding the perimeter or area of a rectangle given one of these values
 geom022 Area of a parallelogram
 geom801 Area of a triangle
 geom802 Circumference and area of a circle
 geom218 Finding the radius or the diameter of a circle given its circumference
 geom838 Circumference ratios
 geom301 Perimeter involving rectangles and circles
 geom302 Area involving rectangles and circles
 geom036 Word problem involving the area between two concentric circles
 geom214 Area involving inscribed figures
 geom311 Volume of a rectangular prism
 geom035 Volume of a cylinder
 geom092 Word problem involving the rate of filling or emptying a cylinder
 geom031 Surface area of a cube or a rectangular prism
 geom034 Surface area of a cylinder: Exact answers in terms of pi
 geom037 Similar polygons
 geom337 Indirect measurement
 geom530 Solving equations involving vertical angles
 geom001 Finding an angle measure of a triangle given two angles
 geom908 Finding an angle measure for a triangle with an extended side
 geom044 Pythagorean Theorem
 alge132 Distance between two points in the plane: Exact answers
 alge191 Midpoint of a line segment in the plane
 pcalc605 Graphing a circle given its equation in standard form
 pcalc064 Graphing a circle given its equation in general form
 pcalc065 Writing an equation of a circle given its center and a point on the circle
 pcalc066 Writing an equation of a circle given the endpoints of a diameter

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Real Numbers

arith067 Simplifying a fraction
 arith092 Using a common denominator to order fractions
 arith230 Addition or subtraction of fractions with different denominators
 arith053 Fraction multiplication
 arith022 Fraction division
 arith100 Fractional part of a circle
 arith226 Converting between percentages and decimals
 arith698 Applying the percent equation
 arith074 Finding the sale price without a calculator given the original price and percent discount
 arith031 Finding the original price given the sale price and percent discount
 arith225 Finding the percentage increase or decrease: Advanced
 arith232 Finding simple interest without a calculator
 arith228 Word problem on unit rates associated with ratios of whole numbers: Decimal answers
 alge272 Solving a proportion of the form $x/a = b/c$
 arith610 Word problem on proportions: Problem type 1
 arith611 Word problem on proportions: Problem type 2
 arith108 Integer addition: Problem type 2
 arith690 Integer subtraction: Problem type 3
 arith116 Signed fraction addition or subtraction: Basic
 arith106 Signed fraction addition or subtraction: Advanced

arith234 Signed decimal addition and subtraction with 3 numbers
 arith231 Integer multiplication and division
 arith822 Signed fraction multiplication: Basic
 arith105 Signed fraction multiplication: Advanced
 arith702 Exponents and integers: Problem type 1
 arith703 Exponents and integers: Problem type 2
 arith704 Exponents and signed fractions
 arith600 Order of operations with integers and exponents
 alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge004 Evaluating a quadratic expression: Integers
 arith071 Absolute value of a number
 arith104 Operations with absolute value: Problem type 2
 alge001 Identifying numbers as integers or non-integers
 alge002 Identifying numbers as rational or irrational
 alge187 Properties of addition
 alge188 Properties of real numbers

Equations and Inequalities

alge010 Additive property of equality with integers
 alge012 Multiplicative property of equality with signed fractions
 alge006 Solving a two-step equation with integers
 alge208 Solving a two-step equation with signed fractions
 alge200 Solving an equation to find the value of an expression
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
 alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
 alge742 Solving equations with zero, one, or infinitely many solutions
 alge743 Algebraic symbol manipulation: Problem type 1
 alge744 Algebraic symbol manipulation: Problem type 2
 alge733 Writing a one-step expression for a real-world situation
 alge291 Translating a phrase into a two-step expression
 alge016 Translating a sentence into a one-step equation
 alge014 Solving a word problem with two unknowns using a linear equation
 alge219 Solving a decimal word problem using a linear equation with the variable on both sides
 alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
 alge704 Solving a fraction word problem using a linear equation with the variable on both sides
 alge794 Solving a value mixture problem using a linear equation
 alge795 Solving a percent mixture problem using a linear equation
 alge796 Solving a distance, rate, time problem using a linear equation
 alge792 Solving a word problem with three unknowns using a linear equation
 alge017 Graphing a linear inequality on the number line
 alge166 Graphing a compound inequality on the number line
 alge019 Solving a linear inequality: Problem type 1
 alge020 Solving a linear inequality: Problem type 2
 alge021 Solving a linear inequality: Problem type 3
 alge207 Solving a linear inequality: Problem type 4
 alge746 Solving a compound linear inequality: Graph solution, basic
 alge747 Solving a compound linear inequality: Interval notation
 alge729 Writing a multi-step inequality for a real-world situation
 alge749 Solving a decimal word problem using a two-step linear inequality
 alge750 Solving a decimal word problem using a linear inequality with the variable on both sides
 alge270 Solving an absolute value equation of the form $a - x = b$ or $-x + a = b$

alge103 Solving an absolute value equation of the form $-ax+b = c$
 alge170 Solving an absolute value inequality: Basic

Exponents and Polynomials

alge790 Evaluating expressions with exponents of zero
 arith042 Evaluating an expression with a negative exponent: Positive fraction base
 arith043 Evaluating an expression with a negative exponent: Negative integer base
 arith029 Ordering numbers with positive exponents
 arith024 Ordering numbers with negative exponents
 alge791 Rewriting an algebraic expression without a negative exponent
 alge024 Introduction to the product rule of exponents
 alge030 Product rule with positive exponents: Multivariate
 alge028 Product rule with negative exponents
 alge026 Quotient of expressions involving exponents
 alge755 Quotient rule with negative exponents: Problem type 1
 alge754 Introduction to the power rules of exponents
 alge027 Power rules with positive exponents
 alge025 Power of a power rule with negative exponents
 alge799 Power rules with negative exponents
 alge756 Power and product rules with positive exponents
 alge757 Power, product, and quotient rules with negative exponents
 arith036 Scientific notation with positive exponent
 arith037 Scientific notation with negative exponent
 scinot002 Multiplying and dividing numbers written in scientific notation
 alge758 Degree and leading coefficient of a univariate polynomial
 alge031 Degree of a multivariate polynomial
 alge663 Combining like terms: Advanced
 alge798 Simplifying a sum or difference of two univariate polynomials
 alge029 Simplifying a sum or difference of three univariate polynomials
 alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
 alge835 Multiplying a multivariate polynomial by a monomial
 alge033 Multiplying binomials with leading coefficients of 1
 alge764 Multiplying conjugate binomials: Univariate
 alge032 Squaring a binomial: Univariate
 alge180 Multiplication involving binomials and trinomials in two variables
 alge736 Introduction to the GCF of two monomials
 alge037 Greatest common factor of two multivariate monomials
 alge738 Factoring out a monomial from a polynomial: Univariate
 alge739 Factoring out a monomial from a polynomial: Multivariate
 alge705 Factoring a quadratic with leading coefficient 1
 alge040 Factoring a quadratic with leading coefficient greater than 1
 alge041 Factoring a product of a quadratic trinomial and a monomial
 alge624 Factoring a difference of squares
 alge038 Factoring a polynomial by grouping: Problem type 1
 alge042 Factoring with repeated use of the difference of squares formula
 alge044 Factoring a sum or difference of two cubes
 alge681 Solving an equation written in factored form
 alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
 alge211 Solving a quadratic equation needing simplification
 alge781 Solving an equation that can be written in quadratic form: Problem type 1
 alge092 Solving a quadratic equation using the square root property: Exact answers, basic
 alge227 Solving a quadratic equation using the square root property: Exact answers, advanced
 alge094 Completing the square
 alge780 Solving a quadratic equation by completing the square: Exact answers
 alge095 Applying the quadratic formula: Exact answers
 alge214 Discriminant of a quadratic equation
 alge703 Solving a word problem using a quadratic equation with rational roots
 alge524 Solving a word problem using a quadratic equation with irrational roots

alge784 Solving a quadratic inequality written in factored form
 alge771 Solving a quadratic inequality

Lines and Systems

alge067 Plotting a point in the coordinate plane
 alge066 Finding a solution to a linear equation in two variables
 alge216 Determining whether given points lie on one, both, or neither of 2 lines given equations
 alge197 Graphing a line given its x- and y-intercepts
 alge194 Graphing a line given its equation in slope-intercept form
 alge195 Graphing a line given its equation in standard form
 alge196 Graphing a line through a given point with a given slope
 alge198 Graphing a vertical or horizontal line
 alge069 Finding the y-intercept of a line given its equation
 alge210 Finding x- and y-intercepts of a line given the equation: Advanced
 alge684 Finding slope given the graph of a line on a grid
 alge685 Finding slope given two points on the line
 alge631 Finding the slope of a line given its equation
 alge070 Writing an equation of a line given the y-intercept and another point
 alge071 Writing the equation of a line given the slope and a point on the line
 alge072 Writing the equation of the line through two given points
 alge073 Writing the equations of vertical and horizontal lines through a given point
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
 alge806 Application problem with a linear function: Finding a coordinate given two points
 alge018 Graphing a linear inequality in the plane: Standard form
 alge225 Graphing a linear inequality in the plane: Vertical or horizontal line
 alge720 Graphing a linear inequality in the plane: Slope-intercept form
 alge725 Graphically solving a system of linear equations
 alge751 Solving a system of linear equations using substitution
 alge076 Solving a system of linear equations using elimination with multiplication and addition
 alge753 Solving a 3x3 system of linear equations: Problem type 1
 alge752 Solving a 2x2 system of linear equations that is inconsistent or consistent dependent
 alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations
 alge184 Solving a value mixture problem using a system of linear equations
 alge224 Solving a distance, rate, time problem using a system of linear equations
 alge192 Solving a percent mixture problem using a system of linear equations
 alge172 Solving a tax rate or interest rate problem using a system of linear equations
 alge793 Solving a word problem using a 3x3 system of linear equations: Problem type 1
 alge263 Interpreting the graphs of two functions
 alge079 Graphing a system of two linear inequalities: Basic

Functions and Graphs

set001 Set builder notation
 set002 Union and intersection of finite sets
 set004 Set builder and interval notation
 fun032 Identifying functions from relations
 fun010 Vertical line test
 pcalc760 Evaluating functions: Linear and quadratic or cubic
 pcalc682 Evaluating functions: Absolute value, rational, radical
 fun030 Evaluating a piecewise-defined function
 fun033 Variable expressions as inputs of functions: Problem type 1
 fun016 Domain and range from ordered pairs
 pcalc761 Finding inputs and outputs of a function from its graph
 pcalc750 Finding intercepts of a nonlinear function given its graph

pcalc751 Finding where a function is increasing, decreasing, or constant given the graph: Interval notation
 pcalc752 Finding local maxima and minima of a function given the graph
 pcalc764 Finding zeros of a polynomial function written in factored form
 fun024 Domain and range from the graph of a continuous function
 alge185 Writing an equation for a function after a vertical translation
 fun020 Writing an equation for a function after a vertical and horizontal translation
 pcalc769 Translating the graph of a function: One step
 pcalc770 Translating the graph of a function: Two steps
 pcalc771 Transforming the graph of a function by reflecting over an axis
 pcalc772 Transforming the graph of a function by shrinking or stretching
 alge277 Finding the x-intercept(s) and the vertex of a parabola
 alge252 Graphing a parabola of the form $y = ax^2$
 alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
 pcalc746 Graphing a parabola of the form $y = ax^2 + bx + c$: Integer coefficients
 alge702 Classifying the graph of a function
 alge262 Graphing a cubic function of the form $y = ax^3$
 alge168 Graphing an absolute value equation in the plane: Advanced
 fun019 Sum, difference, and product of two functions
 alge786 Quotient of two functions: Basic
 fun022 Composition of two functions: Basic
 fun011 Horizontal line test
 pcalc777 Determining whether two functions are inverses of each other
 fun012 Inverse functions: Linear, discrete

Rational Expressions

alge715 Domain of a rational function: Excluded values
 alge710 Simplifying a ratio of polynomials: Problem type 1
 alge682 Simplifying a ratio of polynomials: Problem type 2
 alge034 Simplifying a ratio of multivariate polynomials
 alge059 Ordering fractions with variables
 alge053 Multiplying rational expressions involving multivariate monomials
 alge620 Multiplying rational expressions involving quadratics with leading coefficients of 1
 alge054 Dividing rational expressions involving multivariate monomials
 alge766 Dividing rational expressions involving quadratics with leading coefficients of 1
 alge737 Introduction to the LCM of two monomials
 alge055 Least common multiple of two monomials
 alge056 Adding rational expressions with common denominators and binomial numerators
 alge057 Adding rational expressions with different denominators: ax, bx
 alge226 Adding rational expressions with multivariate monomial denominators: Advanced
 alge622 Adding rational expressions with different denominators: $x+a, x+b$
 arith695 Complex fraction without variables: Problem type 1
 arith696 Complex fraction without variables: Problem type 2
 alge058 Complex fraction involving multivariate monomials
 alge767 Complex fraction: GCF and quadratic factoring
 alge768 Complex fraction made of sums involving rational expressions
 alge759 Dividing a polynomial by a monomial: Univariate
 alge761 Polynomial long division: Problem type 1
 alge762 Polynomial long division: Problem type 2
 alge060 Solving a rational equation that simplifies to linear: Denominator x
 alge205 Solving a rational equation that simplifies to linear: Denominator $x+a$
 alge206 Solving a rational equation that simplifies to linear: Unlike binomial denominators
 alge769 Solving a rational equation that simplifies to linear: Denominators a, x , or ax
 alge212 Solving a rational equation that simplifies to quadratic: Binomial denominators, constant numerators
 alge062 Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators
 pcalc681 Writing an equation that models variation
 alge175 Word problem on direct variation
 alge176 Word problem on inverse variation
 alge772 Word problem on combined variation

Radical Expressions

pcalc763 Domain of a square root function: Advanced
 pcalc781 Graphing a square root function
 arith601 Square root of a rational perfect square
 arith094 Cube root of an integer
 arith093 Simplifying the square root of a whole number less than 100
 alge264 Square root of a perfect square monomial
 alge080 Simplifying a radical expression with an even exponent
 alge275 Simplifying a radical expression with two variables
 alge273 Simplifying a higher root of a whole number
 alge811 Simplifying a higher radical expression: Multivariate
 arith032 Square root addition or subtraction
 alge084 Simplifying a sum or difference of radical expressions: Multivariate
 arith039 Square root multiplication: Advanced
 alge640 Simplifying a product of radical expressions: Multivariate
 alge276 Simplifying a product involving square roots using the distributive property: Advanced
 alge774 Special products of radical expressions: Conjugates and squaring
 alge086 Rationalizing the denominator of a radical expression
 alge088 Rationalizing the denominator of a radical expression using conjugates
 alge775 Rationalizing a denominator: Quotient involving higher radicals and monomials
 alge812 Converting between radical form and exponent form
 alge250 Rational exponents: Non-unit fraction exponent with a whole number base
 alge251 Rational exponents: Negative exponents and fractional bases
 alge773 Rational exponents: Products and quotients with negative exponents
 alge249 Rational exponents: Powers of powers with negative exponents
 alge089 Solving a radical equation that simplifies to a linear equation: One radical, basic
 alge090 Solving a radical equation that simplifies to a linear equation: Two radicals
 alge091 Solving a radical equation that simplifies to a quadratic equation: One radical
 alge778 Using i to rewrite square roots of negative numbers
 alge779 Simplifying a product and quotient involving square roots of negative numbers
 pcalc048 Adding or subtracting complex numbers
 pcalc049 Multiplying complex numbers
 pcalc050 Dividing complex numbers
 pcalc053 Simplifying a power of i
 pcalc051 Solving a quadratic equation with complex roots

Geometry

geom300 Perimeter of a square or a rectangle
 geom019 Area of a square or a rectangle
 geom340 Area of a piecewise rectangular figure
 geom351 Areas of rectangles with the same perimeter
 geom817 Finding a side length given the perimeter and side lengths with variables
 geom217 Finding the side length of a rectangle given its perimeter or area
 geom143 Finding the perimeter or area of a rectangle given one of these values
 geom022 Area of a parallelogram
 geom801 Area of a triangle
 geom802 Circumference and area of a circle
 geom218 Finding the radius or the diameter of a circle given its circumference
 geom838 Circumference ratios
 geom301 Perimeter involving rectangles and circles
 geom302 Area involving rectangles and circles
 geom036 Word problem involving the area between two concentric circles
 geom214 Area involving inscribed figures
 geom311 Volume of a rectangular prism
 geom035 Volume of a cylinder
 geom092 Word problem involving the rate of filling or emptying a cylinder
 geom031 Surface area of a cube or a rectangular prism

geom034 Surface area of a cylinder: Exact answers in terms of pi
 geom037 Similar polygons
 geom337 Indirect measurement
 geom530 Solving equations involving vertical angles
 geom001 Finding an angle measure of a triangle given two angles
 geom908 Finding an angle measure for a triangle with an extended side
 geom044 Pythagorean Theorem
 alge132 Distance between two points in the plane: Exact answers
 alge191 Midpoint of a line segment in the plane
 pcalc605 Graphing a circle given its equation in standard form
 pcalc064 Graphing a circle given its equation in general form
 pcalc065 Writing an equation of a circle given its center and a point on the circle
 pcalc066 Writing an equation of a circle given the endpoints of a diameter

B.24 Prep. for PreCalculus

Real Numbers

arith067 Simplifying a fraction
 arith092 Using a common denominator to order fractions
 arith230 Addition or subtraction of fractions with different denominators
 arith053 Fraction multiplication
 arith022 Fraction division
 arith100 Fractional part of a circle
 arith226 Converting between percentages and decimals
 arith698 Applying the percent equation
 arith074 Finding the sale price without a calculator given the original price and percent discount
 arith031 Finding the original price given the sale price and percent discount
 arith225 Finding the percentage increase or decrease: Advanced
 arith232 Finding simple interest without a calculator
 arith228 Word problem on unit rates associated with ratios of whole numbers: Decimal answers
 alge272 Solving a proportion of the form $x/a = b/c$
 arith610 Word problem on proportions: Problem type 1
 arith611 Word problem on proportions: Problem type 2
 arith108 Integer addition: Problem type 2
 arith690 Integer subtraction: Problem type 3
 arith116 Signed fraction addition or subtraction: Basic
 arith106 Signed fraction addition or subtraction: Advanced
 arith234 Signed decimal addition and subtraction with 3 numbers
 arith231 Integer multiplication and division
 arith822 Signed fraction multiplication: Basic
 arith105 Signed fraction multiplication: Advanced
 arith702 Exponents and integers: Problem type 1
 arith703 Exponents and integers: Problem type 2
 arith704 Exponents and signed fractions
 arith600 Order of operations with integers and exponents
 alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge004 Evaluating a quadratic expression: Integers
 arith071 Absolute value of a number
 arith104 Operations with absolute value: Problem type 2
 alge001 Identifying numbers as integers or non-integers
 alge002 Identifying numbers as rational or irrational
 alge187 Properties of addition
 alge188 Properties of real numbers

Equations and Inequalities

alge010 Additive property of equality with integers
 alge012 Multiplicative property of equality with signed fractions
 alge006 Solving a two-step equation with integers
 alge208 Solving a two-step equation with signed fractions
 alge200 Solving an equation to find the value of an expression
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
 alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
 alge742 Solving equations with zero, one, or infinitely many solutions
 alge743 Algebraic symbol manipulation: Problem type 1
 alge744 Algebraic symbol manipulation: Problem type 2
 alge733 Writing a one-step expression for a real-world situation
 alge291 Translating a phrase into a two-step expression
 alge016 Translating a sentence into a one-step equation
 alge014 Solving a word problem with two unknowns using a linear equation
 alge219 Solving a decimal word problem using a linear equation with the variable on both sides
 alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
 alge704 Solving a fraction word problem using a linear equation with the variable on both sides
 alge794 Solving a value mixture problem using a linear equation
 alge795 Solving a percent mixture problem using a linear equation
 alge796 Solving a distance, rate, time problem using a linear equation
 alge792 Solving a word problem with three unknowns using a linear equation
 alge017 Graphing a linear inequality on the number line
 alge166 Graphing a compound inequality on the number line
 alge019 Solving a linear inequality: Problem type 1
 alge020 Solving a linear inequality: Problem type 2
 alge021 Solving a linear inequality: Problem type 3
 alge207 Solving a linear inequality: Problem type 4
 alge746 Solving a compound linear inequality: Graph solution, basic
 alge747 Solving a compound linear inequality: Interval notation
 alge729 Writing a multi-step inequality for a real-world situation
 alge749 Solving a decimal word problem using a two-step linear inequality
 alge750 Solving a decimal word problem using a linear inequality with the variable on both sides
 alge270 Solving an absolute value equation of the form $a - x = b$ or $-x + a = b$
 alge103 Solving an absolute value equation of the form $-ax + b = c$
 alge170 Solving an absolute value inequality: Basic

Exponents and Polynomials

alge790 Evaluating expressions with exponents of zero
 arith042 Evaluating an expression with a negative exponent: Positive fraction base
 arith043 Evaluating an expression with a negative exponent: Negative integer base
 arith029 Ordering numbers with positive exponents
 arith024 Ordering numbers with negative exponents
 alge791 Rewriting an algebraic expression without a negative exponent
 alge024 Introduction to the product rule of exponents
 alge030 Product rule with positive exponents: Multivariate
 alge028 Product rule with negative exponents
 alge026 Quotient of expressions involving exponents
 alge755 Quotient rule with negative exponents: Problem type 1
 alge754 Introduction to the power rules of exponents
 alge027 Power rules with positive exponents
 alge025 Power of a power rule with negative exponents

alge799 Power rules with negative exponents
 alge756 Power and product rules with positive exponents
 alge757 Power, product, and quotient rules with negative exponents
 arith036 Scientific notation with positive exponent
 arith037 Scientific notation with negative exponent
 scinot002 Multiplying and dividing numbers written in scientific notation
 alge758 Degree and leading coefficient of a univariate polynomial
 alge031 Degree of a multivariate polynomial
 alge663 Combining like terms: Advanced
 alge798 Simplifying a sum or difference of two univariate polynomials
 alge029 Simplifying a sum or difference of three univariate polynomials
 alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
 alge835 Multiplying a multivariate polynomial by a monomial
 alge033 Multiplying binomials with leading coefficients of 1
 alge764 Multiplying conjugate binomials: Univariate
 alge032 Squaring a binomial: Univariate
 alge180 Multiplication involving binomials and trinomials in two variables
 alge736 Introduction to the GCF of two monomials
 alge037 Greatest common factor of two multivariate monomials
 alge738 Factoring out a monomial from a polynomial: Univariate
 alge739 Factoring out a monomial from a polynomial: Multivariate
 alge705 Factoring a quadratic with leading coefficient 1
 alge040 Factoring a quadratic with leading coefficient greater than 1
 alge041 Factoring a product of a quadratic trinomial and a monomial
 alge624 Factoring a difference of squares
 alge038 Factoring a polynomial by grouping: Problem type 1
 alge042 Factoring with repeated use of the difference of squares formula
 alge044 Factoring a sum or difference of two cubes
 alge681 Solving an equation written in factored form
 alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
 alge211 Solving a quadratic equation needing simplification
 alge781 Solving an equation that can be written in quadratic form: Problem type 1
 alge092 Solving a quadratic equation using the square root property: Exact answers, basic
 alge227 Solving a quadratic equation using the square root property: Exact answers, advanced
 alge094 Completing the square
 alge780 Solving a quadratic equation by completing the square: Exact answers
 alge095 Applying the quadratic formula: Exact answers
 alge214 Discriminant of a quadratic equation
 alge703 Solving a word problem using a quadratic equation with rational roots
 alge524 Solving a word problem using a quadratic equation with irrational roots
 alge784 Solving a quadratic inequality written in factored form
 alge771 Solving a quadratic inequality

Lines and Systems

alge067 Plotting a point in the coordinate plane
 alge066 Finding a solution to a linear equation in two variables
 alge216 Determining whether given points lie on one, both, or neither of 2 lines given equations
 alge197 Graphing a line given its x- and y-intercepts
 alge194 Graphing a line given its equation in slope-intercept form
 alge195 Graphing a line given its equation in standard form
 alge196 Graphing a line through a given point with a given slope
 alge198 Graphing a vertical or horizontal line
 alge069 Finding the y-intercept of a line given its equation
 alge210 Finding x- and y-intercepts of a line given the equation: Advanced
 alge684 Finding slope given the graph of a line on a grid
 alge685 Finding slope given two points on the line
 alge631 Finding the slope of a line given its equation
 alge070 Writing an equation of a line given the y-intercept and another point

alge071 Writing the equation of a line given the slope and a point on the line
 alge072 Writing the equation of the line through two given points
 alge073 Writing the equations of vertical and horizontal lines through a given point
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
 alge806 Application problem with a linear function: Finding a coordinate given two points
 alge018 Graphing a linear inequality in the plane: Standard form
 alge225 Graphing a linear inequality in the plane: Vertical or horizontal line
 alge720 Graphing a linear inequality in the plane: Slope-intercept form
 alge725 Graphically solving a system of linear equations
 alge751 Solving a system of linear equations using substitution
 alge076 Solving a system of linear equations using elimination with multiplication and addition
 alge753 Solving a 3x3 system of linear equations: Problem type 1
 alge752 Solving a 2x2 system of linear equations that is inconsistent or consistent dependent
 alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations
 alge184 Solving a value mixture problem using a system of linear equations
 alge224 Solving a distance, rate, time problem using a system of linear equations
 alge192 Solving a percent mixture problem using a system of linear equations
 alge172 Solving a tax rate or interest rate problem using a system of linear equations
 alge793 Solving a word problem using a 3x3 system of linear equations: Problem type 1
 alge263 Interpreting the graphs of two functions
 alge079 Graphing a system of two linear inequalities: Basic

Functions and Graphs

set001 Set builder notation
 set002 Union and intersection of finite sets
 set004 Set builder and interval notation
 fun032 Identifying functions from relations
 fun010 Vertical line test
 pcalc760 Evaluating functions: Linear and quadratic or cubic
 pcalc682 Evaluating functions: Absolute value, rational, radical
 fun030 Evaluating a piecewise-defined function
 fun033 Variable expressions as inputs of functions: Problem type 1
 fun016 Domain and range from ordered pairs
 pcalc761 Finding inputs and outputs of a function from its graph
 pcalc750 Finding intercepts of a nonlinear function given its graph
 pcalc751 Finding where a function is increasing, decreasing, or constant given the graph: Interval notation
 pcalc752 Finding local maxima and minima of a function given the graph
 pcalc764 Finding zeros of a polynomial function written in factored form
 fun024 Domain and range from the graph of a continuous function
 alge185 Writing an equation for a function after a vertical translation
 fun020 Writing an equation for a function after a vertical and horizontal translation
 pcalc769 Translating the graph of a function: One step
 pcalc770 Translating the graph of a function: Two steps
 pcalc771 Transforming the graph of a function by reflecting over an axis
 pcalc772 Transforming the graph of a function by shrinking or stretching
 alge277 Finding the x-intercept(s) and the vertex of a parabola
 alge252 Graphing a parabola of the form $y = ax^2$
 alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
 pcalc746 Graphing a parabola of the form $y = ax^2 + bx + c$: Integer coefficients
 alge702 Classifying the graph of a function
 alge262 Graphing a cubic function of the form $y = ax^3$
 alge168 Graphing an absolute value equation in the plane: Advanced
 fun019 Sum, difference, and product of two functions
 alge786 Quotient of two functions: Basic
 fun022 Composition of two functions: Basic
 fun011 Horizontal line test

pcalc777 Determining whether two functions are inverses of each other
 fun012 Inverse functions: Linear, discrete

Rational Expressions

alge715 Domain of a rational function: Excluded values
 alge710 Simplifying a ratio of polynomials: Problem type 1
 alge682 Simplifying a ratio of polynomials: Problem type 2
 alge034 Simplifying a ratio of multivariate polynomials
 alge059 Ordering fractions with variables
 alge053 Multiplying rational expressions involving multivariate monomials
 alge620 Multiplying rational expressions involving quadratics with leading coefficients of 1
 alge054 Dividing rational expressions involving multivariate monomials
 alge766 Dividing rational expressions involving quadratics with leading coefficients of 1
 alge737 Introduction to the LCM of two monomials
 alge055 Least common multiple of two monomials
 alge056 Adding rational expressions with common denominators and binomial numerators
 alge057 Adding rational expressions with different denominators: ax , bx
 alge226 Adding rational expressions with multivariate monomial denominators: Advanced
 alge622 Adding rational expressions with different denominators: $x+a$, $x+b$
 arith695 Complex fraction without variables: Problem type 1
 arith696 Complex fraction without variables: Problem type 2
 alge058 Complex fraction involving multivariate monomials
 alge767 Complex fraction: GCF and quadratic factoring
 alge768 Complex fraction made of sums involving rational expressions
 alge759 Dividing a polynomial by a monomial: Univariate
 alge761 Polynomial long division: Problem type 1
 alge762 Polynomial long division: Problem type 2
 alge060 Solving a rational equation that simplifies to linear: Denominator x
 alge205 Solving a rational equation that simplifies to linear: Denominator $x+a$
 alge206 Solving a rational equation that simplifies to linear: Unlike binomial denominators
 alge769 Solving a rational equation that simplifies to linear: Denominators a , x , or ax
 alge212 Solving a rational equation that simplifies to quadratic: Binomial denominators, constant numerators
 alge062 Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators
 pcalc681 Writing an equation that models variation
 alge175 Word problem on direct variation
 alge176 Word problem on inverse variation
 alge772 Word problem on combined variation

Radical Expressions

pcalc763 Domain of a square root function: Advanced
 pcalc781 Graphing a square root function
 arith601 Square root of a rational perfect square
 arith094 Cube root of an integer
 arith093 Simplifying the square root of a whole number less than 100
 alge264 Square root of a perfect square monomial
 alge080 Simplifying a radical expression with an even exponent
 alge275 Simplifying a radical expression with two variables
 alge273 Simplifying a higher root of a whole number
 alge811 Simplifying a higher radical expression: Multivariate
 arith032 Square root addition or subtraction
 alge084 Simplifying a sum or difference of radical expressions: Multivariate
 arith039 Square root multiplication: Advanced
 alge640 Simplifying a product of radical expressions: Multivariate
 alge276 Simplifying a product involving square roots using the distributive property: Advanced
 alge774 Special products of radical expressions: Conjugates and squaring
 alge086 Rationalizing the denominator of a radical expression

alge088 Rationalizing the denominator of a radical expression using conjugates
 alge775 Rationalizing a denominator: Quotient involving higher radicals and monomials
 alge812 Converting between radical form and exponent form
 alge250 Rational exponents: Non-unit fraction exponent with a whole number base
 alge251 Rational exponents: Negative exponents and fractional bases
 alge773 Rational exponents: Products and quotients with negative exponents
 alge249 Rational exponents: Powers of powers with negative exponents
 alge089 Solving a radical equation that simplifies to a linear equation: One radical, basic
 alge090 Solving a radical equation that simplifies to a linear equation: Two radicals
 alge091 Solving a radical equation that simplifies to a quadratic equation: One radical
 alge778 Using i to rewrite square roots of negative numbers
 alge779 Simplifying a product and quotient involving square roots of negative numbers
 pcalc048 Adding or subtracting complex numbers
 pcalc049 Multiplying complex numbers
 pcalc050 Dividing complex numbers
 pcalc053 Simplifying a power of i
 pcalc051 Solving a quadratic equation with complex roots

Geometry

geom300 Perimeter of a square or a rectangle
 geom019 Area of a square or a rectangle
 geom340 Area of a piecewise rectangular figure
 geom351 Areas of rectangles with the same perimeter
 geom817 Finding a side length given the perimeter and side lengths with variables
 geom217 Finding the side length of a rectangle given its perimeter or area
 geom143 Finding the perimeter or area of a rectangle given one of these values
 geom022 Area of a parallelogram
 geom801 Area of a triangle
 geom802 Circumference and area of a circle
 geom218 Finding the radius or the diameter of a circle given its circumference
 geom838 Circumference ratios
 geom301 Perimeter involving rectangles and circles
 geom302 Area involving rectangles and circles
 geom036 Word problem involving the area between two concentric circles
 geom214 Area involving inscribed figures
 geom311 Volume of a rectangular prism
 geom035 Volume of a cylinder
 geom092 Word problem involving the rate of filling or emptying a cylinder
 geom031 Surface area of a cube or a rectangular prism
 geom034 Surface area of a cylinder: Exact answers in terms of π
 geom037 Similar polygons
 geom337 Indirect measurement
 geom530 Solving equations involving vertical angles
 geom001 Finding an angle measure of a triangle given two angles
 geom908 Finding an angle measure for a triangle with an extended side
 geom044 Pythagorean Theorem
 alge132 Distance between two points in the plane: Exact answers
 alge191 Midpoint of a line segment in the plane
 pcalc605 Graphing a circle given its equation in standard form
 pcalc064 Graphing a circle given its equation in general form
 pcalc065 Writing an equation of a circle given its center and a point on the circle
 pcalc066 Writing an equation of a circle given the endpoints of a diameter

B.25 Preparation for Calculus

Real Numbers

arith067 Simplifying a fraction
 arith092 Using a common denominator to order fractions
 arith230 Addition or subtraction of fractions with different denominators
 arith053 Fraction multiplication
 arith022 Fraction division
 arith100 Fractional part of a circle
 arith226 Converting between percentages and decimals
 arith698 Applying the percent equation
 arith074 Finding the sale price without a calculator given the original price and percent discount
 arith031 Finding the original price given the sale price and percent discount
 arith225 Finding the percentage increase or decrease: Advanced
 arith228 Word problem on unit rates associated with ratios of whole numbers: Decimal answers
 alge272 Solving a proportion of the form $x/a = b/c$
 arith610 Word problem on proportions: Problem type 1
 arith611 Word problem on proportions: Problem type 2
 arith108 Integer addition: Problem type 2
 arith690 Integer subtraction: Problem type 3
 arith116 Signed fraction addition or subtraction: Basic
 arith106 Signed fraction addition or subtraction: Advanced
 arith234 Signed decimal addition and subtraction with 3 numbers
 arith231 Integer multiplication and division
 arith822 Signed fraction multiplication: Basic
 arith105 Signed fraction multiplication: Advanced
 arith702 Exponents and integers: Problem type 1
 arith703 Exponents and integers: Problem type 2
 arith704 Exponents and signed fractions
 arith600 Order of operations with integers and exponents
 alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge004 Evaluating a quadratic expression: Integers
 arith071 Absolute value of a number
 arith104 Operations with absolute value: Problem type 2
 alge001 Identifying numbers as integers or non-integers
 alge002 Identifying numbers as rational or irrational
 alge187 Properties of addition
 alge188 Properties of real numbers

Equations and Inequalities

alge010 Additive property of equality with integers
 alge012 Multiplicative property of equality with signed fractions
 alge006 Solving a two-step equation with integers
 alge208 Solving a two-step equation with signed fractions
 alge200 Solving an equation to find the value of an expression
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
 alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
 alge742 Solving equations with zero, one, or infinitely many solutions
 alge743 Algebraic symbol manipulation: Problem type 1
 alge744 Algebraic symbol manipulation: Problem type 2
 alge014 Solving a word problem with two unknowns using a linear equation
 alge219 Solving a decimal word problem using a linear equation with the variable on both sides
 alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
 alge704 Solving a fraction word problem using a linear equation with the variable on both sides

alge794 Solving a value mixture problem using a linear equation
 alge020 Solving a linear inequality: Problem type 2
 alge021 Solving a linear inequality: Problem type 3
 alge207 Solving a linear inequality: Problem type 4
 alge166 Graphing a compound inequality on the number line
 alge746 Solving a compound linear inequality: Graph solution, basic
 alge747 Solving a compound linear inequality: Interval notation
 alge729 Writing a multi-step inequality for a real-world situation
 alge749 Solving a decimal word problem using a two-step linear inequality
 alge750 Solving a decimal word problem using a linear inequality with the variable on both sides
 alge270 Solving an absolute value equation of the form $a-x = b$ or $-x+a = b$
 alge103 Solving an absolute value equation of the form $-ax+b = c$
 alge167 Solving an absolute value equation of the form $-ax+b = -cx+d$
 alge170 Solving an absolute value inequality: Basic

Exponents and Polynomials

alge790 Evaluating expressions with exponents of zero
 arith042 Evaluating an expression with a negative exponent: Positive fraction base
 arith043 Evaluating an expression with a negative exponent: Negative integer base
 arith029 Ordering numbers with positive exponents
 arith024 Ordering numbers with negative exponents
 alge024 Introduction to the product rule of exponents
 alge030 Product rule with positive exponents: Multivariate
 alge028 Product rule with negative exponents
 alge026 Quotient of expressions involving exponents
 alge755 Quotient rule with negative exponents: Problem type 1
 alge754 Introduction to the power rules of exponents
 alge027 Power rules with positive exponents
 alge025 Power of a power rule with negative exponents
 alge799 Power rules with negative exponents
 alge756 Power and product rules with positive exponents
 alge757 Power, product, and quotient rules with negative exponents
 arith036 Scientific notation with positive exponent
 arith037 Scientific notation with negative exponent
 scinot002 Multiplying and dividing numbers written in scientific notation
 alge758 Degree and leading coefficient of a univariate polynomial
 alge031 Degree of a multivariate polynomial
 alge663 Combining like terms: Advanced
 alge798 Simplifying a sum or difference of two univariate polynomials
 alge029 Simplifying a sum or difference of three univariate polynomials
 alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
 alge835 Multiplying a multivariate polynomial by a monomial
 alge033 Multiplying binomials with leading coefficients of 1
 alge764 Multiplying conjugate binomials: Univariate
 alge032 Squaring a binomial: Univariate
 alge180 Multiplication involving binomials and trinomials in two variables
 alge736 Introduction to the GCF of two monomials
 alge037 Greatest common factor of two multivariate monomials
 alge738 Factoring out a monomial from a polynomial: Univariate
 alge739 Factoring out a monomial from a polynomial: Multivariate
 alge705 Factoring a quadratic with leading coefficient 1
 alge040 Factoring a quadratic with leading coefficient greater than 1
 alge041 Factoring a product of a quadratic trinomial and a monomial
 alge624 Factoring a difference of squares
 alge038 Factoring a polynomial by grouping: Problem type 1
 alge042 Factoring with repeated use of the difference of squares formula
 alge044 Factoring a sum or difference of two cubes
 alge681 Solving an equation written in factored form
 alge045 Finding the roots of a quadratic equation with leading coefficient 1

alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
 alge211 Solving a quadratic equation needing simplification
 alge781 Solving an equation that can be written in quadratic form: Problem type 1
 alge092 Solving a quadratic equation using the square root property: Exact answers, basic
 alge227 Solving a quadratic equation using the square root property: Exact answers, advanced
 alge094 Completing the square
 alge780 Solving a quadratic equation by completing the square: Exact answers
 alge095 Applying the quadratic formula: Exact answers
 alge214 Discriminant of a quadratic equation
 alge163 Writing a quadratic equation given the roots and the leading coefficient
 alge703 Solving a word problem using a quadratic equation with rational roots
 alge524 Solving a word problem using a quadratic equation with irrational roots
 alge784 Solving a quadratic inequality written in factored form
 alge771 Solving a quadratic inequality

Lines and Systems

alge067 Plotting a point in the coordinate plane
 alge066 Finding a solution to a linear equation in two variables
 alge216 Determining whether given points lie on one, both, or neither of 2 lines given equations
 alge197 Graphing a line given its x- and y-intercepts
 alge194 Graphing a line given its equation in slope-intercept form
 alge195 Graphing a line given its equation in standard form
 alge196 Graphing a line through a given point with a given slope
 alge198 Graphing a vertical or horizontal line
 alge069 Finding the y-intercept of a line given its equation
 alge210 Finding x- and y-intercepts of a line given the equation: Advanced
 alge684 Finding slope given the graph of a line on a grid
 alge685 Finding slope given two points on the line
 alge631 Finding the slope of a line given its equation
 alge070 Writing an equation of a line given the y-intercept and another point
 alge071 Writing the equation of a line given the slope and a point on the line
 alge072 Writing the equation of the line through two given points
 alge073 Writing the equations of vertical and horizontal lines through a given point
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
 alge806 Application problem with a linear function: Finding a coordinate given two points
 alge018 Graphing a linear inequality in the plane: Standard form
 alge225 Graphing a linear inequality in the plane: Vertical or horizontal line
 alge725 Graphically solving a system of linear equations
 alge751 Solving a system of linear equations using substitution
 alge076 Solving a system of linear equations using elimination with multiplication and addition
 alge753 Solving a 3x3 system of linear equations: Problem type 1
 alge752 Solving a 2x2 system of linear equations that is inconsistent or consistent dependent
 alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations
 alge184 Solving a value mixture problem using a system of linear equations
 alge224 Solving a distance, rate, time problem using a system of linear equations
 alge192 Solving a percent mixture problem using a system of linear equations
 alge172 Solving a tax rate or interest rate problem using a system of linear equations
 alge793 Solving a word problem using a 3x3 system of linear equations: Problem type 1
 alge263 Interpreting the graphs of two functions
 alge079 Graphing a system of two linear inequalities: Basic

Functions and Graphs

set001 Set builder notation
 set002 Union and intersection of finite sets

set004 Set builder and interval notation
 set005 Union and intersection of intervals
 fun032 Identifying functions from relations
 fun010 Vertical line test
 pcalc760 Evaluating functions: Linear and quadratic or cubic
 pcalc682 Evaluating functions: Absolute value, rational, radical
 fun030 Evaluating a piecewise-defined function
 fun033 Variable expressions as inputs of functions: Problem type 1
 fun016 Domain and range from ordered pairs
 pcalc761 Finding inputs and outputs of a function from its graph
 pcalc750 Finding intercepts of a nonlinear function given its graph
 pcalc751 Finding where a function is increasing, decreasing, or constant given the graph: Interval notation
 pcalc752 Finding local maxima and minima of a function given the graph
 fun024 Domain and range from the graph of a continuous function
 fun025 Domain and range from the graph of a piecewise function
 alge185 Writing an equation for a function after a vertical translation
 fun020 Writing an equation for a function after a vertical and horizontal translation
 pcalc769 Translating the graph of a function: One step
 pcalc770 Translating the graph of a function: Two steps
 pcalc771 Transforming the graph of a function by reflecting over an axis
 pcalc772 Transforming the graph of a function by shrinking or stretching
 alge277 Finding the x-intercept(s) and the vertex of a parabola
 pcalc793 Using a graphing calculator to find the x-intercept(s) and vertex of a quadratic function
 alge252 Graphing a parabola of the form $y = ax^2$
 alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
 pcalc746 Graphing a parabola of the form $y = ax^2 + bx + c$: Integer coefficients
 pcalc747 Graphing a parabola of the form $y = ax^2 + bx + c$: Rational coefficients
 pcalc774 Rewriting a quadratic function to find the vertex of its graph
 pcalc762 Range of a quadratic function
 alge702 Classifying the graph of a function
 alge262 Graphing a cubic function of the form $y = ax^3$
 alge168 Graphing an absolute value equation in the plane: Advanced
 fun031 Graphing a piecewise-defined function: Problem type 1
 pcalc764 Finding zeros of a polynomial function written in factored form
 pcalc765 Finding x- and y-intercepts given a polynomial function
 pcalc782 Determining the end behavior of the graph of a polynomial function
 pcalc738 Inferring properties of a polynomial function from its graph
 pcalc795 Using a graphing calculator to find zeros of a polynomial function
 pcalc704 Using a graphing calculator to solve a word problem involving a polynomial of degree 3
 pcalc794 Using a graphing calculator to find local extrema of a polynomial function
 pcalc115 Using a graphing calculator to solve a word problem involving a local extremum of a polynomial function
 fun019 Sum, difference, and product of two functions
 alge786 Quotient of two functions: Basic
 fun022 Composition of two functions: Basic
 alge129 Composition of two functions: Advanced
 fun011 Horizontal line test
 pcalc777 Determining whether two functions are inverses of each other
 fun012 Inverse functions: Linear, discrete
 alge130 Inverse functions: Rational

Rational Expressions

alge715 Domain of a rational function: Excluded values
 alge710 Simplifying a ratio of polynomials: Problem type 1
 alge682 Simplifying a ratio of polynomials: Problem type 2
 alge034 Simplifying a ratio of multivariate polynomials
 alge059 Ordering fractions with variables
 alge053 Multiplying rational expressions involving multivariate monomials
 alge620 Multiplying rational expressions involving quadratics with leading coefficients of 1

alge054 Dividing rational expressions involving multivariate monomials
 alge766 Dividing rational expressions involving quadratics with leading coefficients of 1
 alge737 Introduction to the LCM of two monomials
 alge055 Least common multiple of two monomials
 alge056 Adding rational expressions with common denominators and binomial numerators
 alge057 Adding rational expressions with different denominators: ax , bx
 alge226 Adding rational expressions with multivariate monomial denominators: Advanced
 alge622 Adding rational expressions with different denominators: $x+a$, $x+b$
 arith695 Complex fraction without variables: Problem type 1
 arith696 Complex fraction without variables: Problem type 2
 alge058 Complex fraction involving multivariate monomials
 alge767 Complex fraction: GCF and quadratic factoring
 alge768 Complex fraction made of sums involving rational expressions
 alge759 Dividing a polynomial by a monomial: Univariate
 alge761 Polynomial long division: Problem type 1
 alge762 Polynomial long division: Problem type 2
 alge060 Solving a rational equation that simplifies to linear: Denominator x
 alge205 Solving a rational equation that simplifies to linear: Denominator $x+a$
 alge206 Solving a rational equation that simplifies to linear: Unlike binomial denominators
 alge769 Solving a rational equation that simplifies to linear: Denominators a , x , or ax
 alge212 Solving a rational equation that simplifies to quadratic: Binomial denominators, constant numerators
 alge062 Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators
 alge047 Solving a rational equation that simplifies to quadratic: Proportional form, advanced
 pcalc812 Partial fraction decomposition with distinct linear factors
 pcalc813 Partial fraction decomposition with repeated linear factors
 pcalc814 Partial fraction decomposition with an irreducible quadratic factor
 pcalc681 Writing an equation that models variation
 alge175 Word problem on direct variation
 alge176 Word problem on inverse variation
 alge772 Word problem on combined variation
 alge220 Word problem on inverse proportions
 arith612 Word problem involving multiple rates
 pcalc815 Sketching the graph of a rational function: Constant over linear
 pcalc816 Sketching the graph of a rational function: Linear over linear
 pcalc819 Sketching the graph of a rational function: Quadratic over linear
 pcalc792 Graphing rational functions with holes

Radical Expressions

pcalc763 Domain of a square root function: Advanced
 pcalc781 Graphing a square root function
 arith601 Square root of a rational perfect square
 arith094 Cube root of an integer
 arith093 Simplifying the square root of a whole number less than 100
 alge264 Square root of a perfect square monomial
 alge080 Simplifying a radical expression with an even exponent
 alge275 Simplifying a radical expression with two variables
 alge273 Simplifying a higher root of a whole number
 alge811 Simplifying a higher radical expression: Multivariate
 arith032 Square root addition or subtraction
 alge084 Simplifying a sum or difference of radical expressions: Multivariate
 arith039 Square root multiplication: Advanced
 alge640 Simplifying a product of radical expressions: Multivariate
 alge276 Simplifying a product involving square roots using the distributive property: Advanced
 alge774 Special products of radical expressions: Conjugates and squaring
 alge086 Rationalizing the denominator of a radical expression
 alge088 Rationalizing the denominator of a radical expression using conjugates
 alge775 Rationalizing a denominator: Quotient involving higher radicals and monomials
 alge812 Converting between radical form and exponent form
 alge250 Rational exponents: Non-unit fraction exponent with a whole number base

alge251 Rational exponents: Negative exponents and fractional bases
 alge773 Rational exponents: Products and quotients with negative exponents
 alge249 Rational exponents: Powers of powers with negative exponents
 alge089 Solving a radical equation that simplifies to a linear equation: One radical, basic
 alge090 Solving a radical equation that simplifies to a linear equation: Two radicals
 alge091 Solving a radical equation that simplifies to a quadratic equation: One radical
 alge093 Solving an equation using the odd-root property: Problem type 1
 alge778 Using i to rewrite square roots of negative numbers
 alge779 Simplifying a product and quotient involving square roots of negative numbers
 pcalc048 Adding or subtracting complex numbers
 pcalc049 Multiplying complex numbers
 pcalc050 Dividing complex numbers
 pcalc053 Simplifying a power of i
 pcalc051 Solving a quadratic equation with complex roots

Exponentials and Logarithms

alge108 Converting between logarithmic and exponential equations
 pcalc799 Converting between natural logarithmic and exponential equations
 alge232 Evaluating a logarithmic expression
 pcalc708 Basic properties of logarithms
 pcalc779 Expanding a logarithmic expression: Problem type 1
 alge787 Writing an expression as a single logarithm
 pcalc612 Change of base for logarithms: Problem type 1
 pcalc613 Change of base for logarithms: Problem type 2
 alge233 Solving an equation of the form $\log_b a = c$
 alge113 Solving an equation involving logarithms on both sides: Problem type 1
 pcalc803 Solving a multi-step equation involving a single logarithm
 pcalc804 Solving a multi-step equation involving natural logarithms
 pcalc805 Solving an equation involving logarithms on both sides: Problem type 2
 alge111 Solving an exponential equation by using logarithms: Exact answers in logarithmic form
 alge112 Solving an exponential equation by finding common bases: Linear and quadratic exponents
 alge789 Solving exponential equations by using logarithms and natural logarithms: Decimal answers
 pcalc798 Evaluating an exponential function that models a real-world situation
 alge177 Finding a final amount in a word problem on exponential growth or decay
 alge178 Finding the time to reach a limit in a word problem on exponential growth or decay
 pcalc614 Finding the initial or final amount in a word problem on exponential growth or decay
 pcalc615 Finding the rate or time in a word problem on continuous exponential growth or decay
 alge712 Graphing an exponential function and its asymptote: $f(x) = a(b)^x$
 pcalc797 The graph, domain, and range of an exponential function
 pcalc103 Graphing an exponential function and its asymptote: $f(x) = a(e)^x - b + c$
 pcalc800 The graph, domain, and range of a logarithmic function
 pcalc104 Graphing a logarithmic function: Advanced
 pcalc102 Translating the graph of a logarithmic or exponential function

Geometry

geom300 Perimeter of a square or a rectangle
 geom019 Area of a square or a rectangle
 geom340 Area of a piecewise rectangular figure
 geom351 Areas of rectangles with the same perimeter
 geom817 Finding a side length given the perimeter and side lengths with variables
 geom217 Finding the side length of a rectangle given its perimeter or area
 geom143 Finding the perimeter or area of a rectangle given one of these values
 geom022 Area of a parallelogram
 geom801 Area of a triangle
 geom802 Circumference and area of a circle
 geom218 Finding the radius or the diameter of a circle given its circumference

geom301 Perimeter involving rectangles and circles
 geom838 Circumference ratios
 geom302 Area involving rectangles and circles
 geom036 Word problem involving the area between two concentric circles
 geom214 Area involving inscribed figures
 geom311 Volume of a rectangular prism
 geom035 Volume of a cylinder
 geom086 Volume of a cone: Exact answers in terms of pi
 geom841 Volume of a sphere
 geom092 Word problem involving the rate of filling or emptying a cylinder
 geom133 Ratio of volumes
 geom031 Surface area of a cube or a rectangular prism
 geom034 Surface area of a cylinder: Exact answers in terms of pi
 geom037 Similar polygons
 geom337 Indirect measurement
 geom044 Pythagorean Theorem
 alge132 Distance between two points in the plane: Exact answers
 alge191 Midpoint of a line segment in the plane
 pcalc605 Graphing a circle given its equation in standard form
 pcalc064 Graphing a circle given its equation in general form
 pcalc065 Writing an equation of a circle given its center and a point on the circle
 pcalc066 Writing an equation of a circle given the endpoints of a diameter

Trigonometry

pcalc002 Converting between degree and radian measure: Problem type 1
 pcalc006 Sketching an angle in standard position
 pcalc626 Reference angles: Problem type 1
 pcalc622 Coterminal angles
 pcalc005 Arc length and central angle measure
 pcalc623 Area of a sector of a circle
 pcalc600 Sine, cosine, and tangent ratios: Variables for side lengths
 pcalc607 Using a trigonometric ratio to find a side length in a right triangle
 pcalc610 Using trigonometry to find a length in a word problem with one right triangle
 pcalc608 Using a trigonometric ratio to find an angle measure in a right triangle
 pcalc611 Using trigonometry to find angles of elevation or depression in a word problem
 pcalc008 Finding trigonometric ratios given a right triangle
 pcalc642 Solving a right triangle
 pcalc031 Solving a triangle with the law of sines: Problem type 1
 pcalc033 Solving a triangle with the law of cosines
 pcalc627 Finding coordinates on the unit circle for special angles
 pcalc629 Trigonometric functions and special angles: Problem type 1
 pcalc630 Trigonometric functions and special angles: Problem type 2
 pcalc631 Trigonometric functions and special angles: Problem type 3
 pcalc011 Finding values of trigonometric functions given information about an angle: Problem type 1
 pcalc012 Finding values of trigonometric functions given information about an angle: Problem type 2
 pcalc013 Finding values of trigonometric functions given information about an angle: Problem type 3
 pcalc633 Amplitude and period of sine and cosine functions
 pcalc634 Amplitude, period, and phase shift of sine and cosine functions
 pcalc107 Sketching the graph of $y=a*\sin(x+c)$ or $y=a*\cos(x+c)$
 pcalc106 Sketching the graph of $y=a*\sin(bx)$ or $y=a*\cos(bx)$
 pcalc016 Values of inverse trigonometric functions
 pcalc018 Composition of a trigonometric function with its inverse trigonometric function: Problem type 1
 pcalc019 Composition of a trigonometric function with the inverse of another trigonometric function: Problem type 2
 pcalc036 Composition of a trigonometric function with the inverse of another trigonometric function: Problem type 3
 pcalc648 Simplifying trigonometric expressions
 pcalc666 Using cofunction identities
 pcalc029 Sum and difference identities: Problem type 1

pcalc663 Sum and difference identities: Problem type 2
 pcalc030 Double-angle identities: Problem type 1
 pcalc667 Double-angle identities: Problem type 2
 pcalc124 Product-to-sum and sum-to-product identities: Problem type 1
 pcalc650 Finding solutions in an interval for a basic equation involving sine or cosine
 pcalc651 Finding solutions in an interval for a basic tangent, cotangent, secant, or cosecant equation
 pcalc654 Finding solutions in an interval for a trigonometric equation using Pythagorean identities: Problem type 1
 pcalc020 Solving a basic trigonometric equation involving sine or cosine
 pcalc021 Solving a basic trigonometric equation involving tangent, cotangent, secant, or cosecant
 pcalc055 Plotting a point in polar coordinates
 pcalc056 Converting rectangular coordinates to polar coordinates: Special angles
 pcalc057 Converting polar coordinates to rectangular coordinates
 pcalc058 Converting an equation written in rectangular form to one written in polar form
 pcalc059 Converting an equation written in polar form to one written in rectangular coordinates

Limits and Continuity

pcalc901 Estimating a limit numerically
 pcalc902 Finding limits from a graph
 pcalc904 Finding limits for a piecewise-defined function
 pcalc905 Finding a limit by using the limit laws: Problem type 1
 pcalc906 Finding a limit by using the limit laws: Problem type 2
 pcalc907 Finding a limit by using the limit laws: Problem type 3
 pcalc911 Squeeze Theorem
 pcalc903 Determining points of discontinuity from a graph
 pcalc914 Determining a parameter to make a function continuous
 pcalc910 Limits at infinity and graphs
 pcalc908 Limits at infinity and rational functions
 pcalc915 Infinite limits and graphs
 pcalc909 Infinite limits and rational functions
 pcalc913 Finding a limit of a trigonometric function by using continuity
 pcalc912 Finding a limit by using special trigonometric limits

B.26 Prep. for Calculus with Limits

Real Numbers

arith067 Simplifying a fraction
 arith092 Using a common denominator to order fractions
 arith230 Addition or subtraction of fractions with different denominators
 arith053 Fraction multiplication
 arith022 Fraction division
 arith100 Fractional part of a circle
 arith226 Converting between percentages and decimals
 arith698 Applying the percent equation
 arith074 Finding the sale price without a calculator given the original price and percent discount
 arith031 Finding the original price given the sale price and percent discount
 arith225 Finding the percentage increase or decrease: Advanced
 arith228 Word problem on unit rates associated with ratios of whole numbers: Decimal answers
 alge272 Solving a proportion of the form $x/a = b/c$
 arith610 Word problem on proportions: Problem type 1
 arith611 Word problem on proportions: Problem type 2
 arith108 Integer addition: Problem type 2
 arith690 Integer subtraction: Problem type 3

arith116 Signed fraction addition or subtraction: Basic
 arith106 Signed fraction addition or subtraction: Advanced
 arith234 Signed decimal addition and subtraction with 3 numbers
 arith231 Integer multiplication and division
 arith822 Signed fraction multiplication: Basic
 arith105 Signed fraction multiplication: Advanced
 arith702 Exponents and integers: Problem type 1
 arith703 Exponents and integers: Problem type 2
 arith704 Exponents and signed fractions
 arith600 Order of operations with integers and exponents
 alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge004 Evaluating a quadratic expression: Integers
 arith071 Absolute value of a number
 arith104 Operations with absolute value: Problem type 2
 alge001 Identifying numbers as integers or non-integers
 alge002 Identifying numbers as rational or irrational
 alge187 Properties of addition
 alge188 Properties of real numbers

Equations and Inequalities

alge010 Additive property of equality with integers
 alge012 Multiplicative property of equality with signed fractions
 alge006 Solving a two-step equation with integers
 alge208 Solving a two-step equation with signed fractions
 alge200 Solving an equation to find the value of an expression
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
 alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
 alge742 Solving equations with zero, one, or infinitely many solutions
 alge743 Algebraic symbol manipulation: Problem type 1
 alge744 Algebraic symbol manipulation: Problem type 2
 alge014 Solving a word problem with two unknowns using a linear equation
 alge219 Solving a decimal word problem using a linear equation with the variable on both sides
 alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
 alge704 Solving a fraction word problem using a linear equation with the variable on both sides
 alge794 Solving a value mixture problem using a linear equation
 alge020 Solving a linear inequality: Problem type 2
 alge021 Solving a linear inequality: Problem type 3
 alge207 Solving a linear inequality: Problem type 4
 alge166 Graphing a compound inequality on the number line
 alge746 Solving a compound linear inequality: Graph solution, basic
 alge747 Solving a compound linear inequality: Interval notation
 alge729 Writing a multi-step inequality for a real-world situation
 alge749 Solving a decimal word problem using a two-step linear inequality
 alge750 Solving a decimal word problem using a linear inequality with the variable on both sides
 alge270 Solving an absolute value equation of the form $a - x = b$ or $-x + a = b$
 alge103 Solving an absolute value equation of the form $-ax + b = c$
 alge167 Solving an absolute value equation of the form $-ax + b = -cx + d$
 alge170 Solving an absolute value inequality: Basic

Exponents and Polynomials

alge790 Evaluating expressions with exponents of zero
 arith042 Evaluating an expression with a negative exponent: Positive fraction base
 arith043 Evaluating an expression with a negative exponent: Negative integer base
 arith029 Ordering numbers with positive exponents
 arith024 Ordering numbers with negative exponents
 alge024 Introduction to the product rule of exponents
 alge030 Product rule with positive exponents: Multivariate
 alge028 Product rule with negative exponents
 alge026 Quotient of expressions involving exponents
 alge755 Quotient rule with negative exponents: Problem type 1
 alge754 Introduction to the power rules of exponents
 alge027 Power rules with positive exponents
 alge025 Power of a power rule with negative exponents
 alge799 Power rules with negative exponents
 alge756 Power and product rules with positive exponents
 alge757 Power, product, and quotient rules with negative exponents
 arith036 Scientific notation with positive exponent
 arith037 Scientific notation with negative exponent
 scinot002 Multiplying and dividing numbers written in scientific notation
 alge758 Degree and leading coefficient of a univariate polynomial
 alge031 Degree of a multivariate polynomial
 alge663 Combining like terms: Advanced
 alge798 Simplifying a sum or difference of two univariate polynomials
 alge029 Simplifying a sum or difference of three univariate polynomials
 alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
 alge835 Multiplying a multivariate polynomial by a monomial
 alge033 Multiplying binomials with leading coefficients of 1
 alge764 Multiplying conjugate binomials: Univariate
 alge032 Squaring a binomial: Univariate
 alge180 Multiplication involving binomials and trinomials in two variables
 alge736 Introduction to the GCF of two monomials
 alge037 Greatest common factor of two multivariate monomials
 alge738 Factoring out a monomial from a polynomial: Univariate
 alge739 Factoring out a monomial from a polynomial: Multivariate
 alge705 Factoring a quadratic with leading coefficient 1
 alge040 Factoring a quadratic with leading coefficient greater than 1
 alge041 Factoring a product of a quadratic trinomial and a monomial
 alge624 Factoring a difference of squares
 alge038 Factoring a polynomial by grouping: Problem type 1
 alge042 Factoring with repeated use of the difference of squares formula
 alge044 Factoring a sum or difference of two cubes
 alge681 Solving an equation written in factored form
 alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
 alge211 Solving a quadratic equation needing simplification
 alge781 Solving an equation that can be written in quadratic form: Problem type 1
 alge092 Solving a quadratic equation using the square root property: Exact answers, basic
 alge227 Solving a quadratic equation using the square root property: Exact answers, advanced
 alge094 Completing the square
 alge780 Solving a quadratic equation by completing the square: Exact answers
 alge095 Applying the quadratic formula: Exact answers
 alge214 Discriminant of a quadratic equation
 alge163 Writing a quadratic equation given the roots and the leading coefficient
 alge703 Solving a word problem using a quadratic equation with rational roots
 alge524 Solving a word problem using a quadratic equation with irrational roots
 alge784 Solving a quadratic inequality written in factored form
 alge771 Solving a quadratic inequality

Lines and Systems

alge067 Plotting a point in the coordinate plane

alge066 Finding a solution to a linear equation in two variables
 alge216 Determining whether given points lie on one, both, or neither of 2 lines given equations
 alge197 Graphing a line given its x- and y-intercepts
 alge194 Graphing a line given its equation in slope-intercept form
 alge195 Graphing a line given its equation in standard form
 alge196 Graphing a line through a given point with a given slope
 alge198 Graphing a vertical or horizontal line
 alge069 Finding the y-intercept of a line given its equation
 alge210 Finding x- and y-intercepts of a line given the equation: Advanced
 alge684 Finding slope given the graph of a line on a grid
 alge685 Finding slope given two points on the line
 alge631 Finding the slope of a line given its equation
 alge070 Writing an equation of a line given the y-intercept and another point
 alge071 Writing the equation of a line given the slope and a point on the line
 alge072 Writing the equation of the line through two given points
 alge073 Writing the equations of vertical and horizontal lines through a given point
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
 alge806 Application problem with a linear function: Finding a coordinate given two points
 alge018 Graphing a linear inequality in the plane: Standard form
 alge225 Graphing a linear inequality in the plane: Vertical or horizontal line
 alge725 Graphically solving a system of linear equations
 alge751 Solving a system of linear equations using substitution
 alge076 Solving a system of linear equations using elimination with multiplication and addition
 alge753 Solving a 3x3 system of linear equations: Problem type 1
 alge752 Solving a 2x2 system of linear equations that is inconsistent or consistent dependent
 alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations
 alge184 Solving a value mixture problem using a system of linear equations
 alge224 Solving a distance, rate, time problem using a system of linear equations
 alge192 Solving a percent mixture problem using a system of linear equations
 alge172 Solving a tax rate or interest rate problem using a system of linear equations
 alge793 Solving a word problem using a 3x3 system of linear equations: Problem type 1
 alge263 Interpreting the graphs of two functions
 alge079 Graphing a system of two linear inequalities: Basic

Functions and Graphs

set001 Set builder notation
 set002 Union and intersection of finite sets
 set004 Set builder and interval notation
 set005 Union and intersection of intervals
 fun032 Identifying functions from relations
 fun010 Vertical line test
 pcalc760 Evaluating functions: Linear and quadratic or cubic
 pcalc682 Evaluating functions: Absolute value, rational, radical
 fun030 Evaluating a piecewise-defined function
 fun033 Variable expressions as inputs of functions: Problem type 1
 fun016 Domain and range from ordered pairs
 pcalc761 Finding inputs and outputs of a function from its graph
 pcalc750 Finding intercepts of a nonlinear function given its graph
 pcalc751 Finding where a function is increasing, decreasing, or constant given the graph: Interval notation
 pcalc752 Finding local maxima and minima of a function given the graph
 fun024 Domain and range from the graph of a continuous function
 fun025 Domain and range from the graph of a piecewise function
 alge185 Writing an equation for a function after a vertical translation
 fun020 Writing an equation for a function after a vertical and horizontal translation
 pcalc769 Translating the graph of a function: One step
 pcalc770 Translating the graph of a function: Two steps

pcalc771 Transforming the graph of a function by reflecting over an axis
 pcalc772 Transforming the graph of a function by shrinking or stretching
 alge277 Finding the x-intercept(s) and the vertex of a parabola
 pcalc793 Using a graphing calculator to find the x-intercept(s) and vertex of a quadratic function
 alge252 Graphing a parabola of the form $y = ax^2$
 alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
 pcalc746 Graphing a parabola of the form $y = ax^2 + bx + c$: Integer coefficients
 pcalc747 Graphing a parabola of the form $y = ax^2 + bx + c$: Rational coefficients
 pcalc774 Rewriting a quadratic function to find the vertex of its graph
 pcalc762 Range of a quadratic function
 alge702 Classifying the graph of a function
 alge262 Graphing a cubic function of the form $y = ax^3$
 alge168 Graphing an absolute value equation in the plane: Advanced
 fun031 Graphing a piecewise-defined function: Problem type 1
 pcalc764 Finding zeros of a polynomial function written in factored form
 pcalc765 Finding x- and y-intercepts given a polynomial function
 pcalc782 Determining the end behavior of the graph of a polynomial function
 pcalc738 Inferring properties of a polynomial function from its graph
 pcalc795 Using a graphing calculator to find zeros of a polynomial function
 pcalc704 Using a graphing calculator to solve a word problem involving a polynomial of degree 3
 pcalc794 Using a graphing calculator to find local extrema of a polynomial function
 pcalc115 Using a graphing calculator to solve a word problem involving a local extremum of a polynomial function
 fun019 Sum, difference, and product of two functions
 alge786 Quotient of two functions: Basic
 fun022 Composition of two functions: Basic
 alge129 Composition of two functions: Advanced
 fun011 Horizontal line test
 pcalc777 Determining whether two functions are inverses of each other
 fun012 Inverse functions: Linear, discrete
 alge130 Inverse functions: Rational

Rational Expressions

alge715 Domain of a rational function: Excluded values
 alge710 Simplifying a ratio of polynomials: Problem type 1
 alge682 Simplifying a ratio of polynomials: Problem type 2
 alge034 Simplifying a ratio of multivariate polynomials
 alge059 Ordering fractions with variables
 alge053 Multiplying rational expressions involving multivariate monomials
 alge620 Multiplying rational expressions involving quadratics with leading coefficients of 1
 alge054 Dividing rational expressions involving multivariate monomials
 alge766 Dividing rational expressions involving quadratics with leading coefficients of 1
 alge737 Introduction to the LCM of two monomials
 alge055 Least common multiple of two monomials
 alge056 Adding rational expressions with common denominators and binomial numerators
 alge057 Adding rational expressions with different denominators: ax , bx
 alge226 Adding rational expressions with multivariate monomial denominators: Advanced
 alge622 Adding rational expressions with different denominators: $x+a$, $x+b$
 arith695 Complex fraction without variables: Problem type 1
 arith696 Complex fraction without variables: Problem type 2
 alge058 Complex fraction involving multivariate monomials
 alge767 Complex fraction: GCF and quadratic factoring
 alge768 Complex fraction made of sums involving rational expressions
 alge759 Dividing a polynomial by a monomial: Univariate
 alge761 Polynomial long division: Problem type 1
 alge762 Polynomial long division: Problem type 2
 alge060 Solving a rational equation that simplifies to linear: Denominator x
 alge205 Solving a rational equation that simplifies to linear: Denominator $x+a$
 alge206 Solving a rational equation that simplifies to linear: Unlike binomial denominators

alge769 Solving a rational equation that simplifies to linear: Denominators a, x, or ax
 alge212 Solving a rational equation that simplifies to quadratic: Binomial denominators, constant numerators
 alge062 Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators
 alge047 Solving a rational equation that simplifies to quadratic: Proportional form, advanced
 pcalc812 Partial fraction decomposition with distinct linear factors
 pcalc813 Partial fraction decomposition with repeated linear factors
 pcalc814 Partial fraction decomposition with an irreducible quadratic factor
 pcalc681 Writing an equation that models variation
 alge175 Word problem on direct variation
 alge176 Word problem on inverse variation
 alge772 Word problem on combined variation
 alge220 Word problem on inverse proportions
 arith612 Word problem involving multiple rates
 pcalc815 Sketching the graph of a rational function: Constant over linear
 pcalc816 Sketching the graph of a rational function: Linear over linear
 pcalc819 Sketching the graph of a rational function: Quadratic over linear
 pcalc792 Graphing rational functions with holes

Radical Expressions

pcalc763 Domain of a square root function: Advanced
 pcalc781 Graphing a square root function
 arith601 Square root of a rational perfect square
 arith094 Cube root of an integer
 arith093 Simplifying the square root of a whole number less than 100
 alge264 Square root of a perfect square monomial
 alge080 Simplifying a radical expression with an even exponent
 alge275 Simplifying a radical expression with two variables
 alge273 Simplifying a higher root of a whole number
 alge811 Simplifying a higher radical expression: Multivariate
 arith032 Square root addition or subtraction
 alge084 Simplifying a sum or difference of radical expressions: Multivariate
 arith039 Square root multiplication: Advanced
 alge640 Simplifying a product of radical expressions: Multivariate
 alge276 Simplifying a product involving square roots using the distributive property: Advanced
 alge774 Special products of radical expressions: Conjugates and squaring
 alge086 Rationalizing the denominator of a radical expression
 alge088 Rationalizing the denominator of a radical expression using conjugates
 alge775 Rationalizing a denominator: Quotient involving higher radicals and monomials
 alge812 Converting between radical form and exponent form
 alge250 Rational exponents: Non-unit fraction exponent with a whole number base
 alge251 Rational exponents: Negative exponents and fractional bases
 alge773 Rational exponents: Products and quotients with negative exponents
 alge249 Rational exponents: Powers of powers with negative exponents
 alge089 Solving a radical equation that simplifies to a linear equation: One radical, basic
 alge090 Solving a radical equation that simplifies to a linear equation: Two radicals
 alge091 Solving a radical equation that simplifies to a quadratic equation: One radical
 alge093 Solving an equation using the odd-root property: Problem type 1
 alge778 Using i to rewrite square roots of negative numbers
 alge779 Simplifying a product and quotient involving square roots of negative numbers
 pcalc048 Adding or subtracting complex numbers
 pcalc049 Multiplying complex numbers
 pcalc050 Dividing complex numbers
 pcalc053 Simplifying a power of i
 pcalc051 Solving a quadratic equation with complex roots

Exponentials and Logarithms

alge108 Converting between logarithmic and exponential equations
 pcalc799 Converting between natural logarithmic and exponential equations
 alge232 Evaluating a logarithmic expression
 pcalc708 Basic properties of logarithms
 pcalc779 Expanding a logarithmic expression: Problem type 1
 alge787 Writing an expression as a single logarithm
 pcalc612 Change of base for logarithms: Problem type 1
 pcalc613 Change of base for logarithms: Problem type 2
 alge233 Solving an equation of the form $\log_b a = c$
 alge113 Solving an equation involving logarithms on both sides: Problem type 1
 pcalc803 Solving a multi-step equation involving a single logarithm
 pcalc804 Solving a multi-step equation involving natural logarithms
 pcalc805 Solving an equation involving logarithms on both sides: Problem type 2
 alge111 Solving an exponential equation by using logarithms: Exact answers in logarithmic form
 alge112 Solving an exponential equation by finding common bases: Linear and quadratic exponents
 alge789 Solving exponential equations by using logarithms and natural logarithms: Decimal answers
 pcalc798 Evaluating an exponential function that models a real-world situation
 alge177 Finding a final amount in a word problem on exponential growth or decay
 alge178 Finding the time to reach a limit in a word problem on exponential growth or decay
 pcalc614 Finding the initial or final amount in a word problem on exponential growth or decay
 pcalc615 Finding the rate or time in a word problem on continuous exponential growth or decay
 alge712 Graphing an exponential function and its asymptote: $f(x) = a(b)^x$
 pcalc797 The graph, domain, and range of an exponential function
 pcalc103 Graphing an exponential function and its asymptote: $f(x) = a(e)^{x-b} + c$
 pcalc800 The graph, domain, and range of a logarithmic function
 pcalc104 Graphing a logarithmic function: Advanced
 pcalc102 Translating the graph of a logarithmic or exponential function

Geometry

geom300 Perimeter of a square or a rectangle
 geom019 Area of a square or a rectangle
 geom340 Area of a piecewise rectangular figure
 geom351 Areas of rectangles with the same perimeter
 geom817 Finding a side length given the perimeter and side lengths with variables
 geom217 Finding the side length of a rectangle given its perimeter or area
 geom143 Finding the perimeter or area of a rectangle given one of these values
 geom022 Area of a parallelogram
 geom801 Area of a triangle
 geom802 Circumference and area of a circle
 geom218 Finding the radius or the diameter of a circle given its circumference
 geom301 Perimeter involving rectangles and circles
 geom838 Circumference ratios
 geom302 Area involving rectangles and circles
 geom036 Word problem involving the area between two concentric circles
 geom214 Area involving inscribed figures
 geom311 Volume of a rectangular prism
 geom035 Volume of a cylinder
 geom086 Volume of a cone: Exact answers in terms of pi
 geom841 Volume of a sphere
 geom092 Word problem involving the rate of filling or emptying a cylinder
 geom133 Ratio of volumes
 geom031 Surface area of a cube or a rectangular prism
 geom034 Surface area of a cylinder: Exact answers in terms of pi
 geom037 Similar polygons
 geom337 Indirect measurement
 geom044 Pythagorean Theorem
 alge132 Distance between two points in the plane: Exact answers
 alge191 Midpoint of a line segment in the plane
 pcalc605 Graphing a circle given its equation in standard form

- pcalc064 Graphing a circle given its equation in general form
- pcalc065 Writing an equation of a circle given its center and a point on the circle
- pcalc066 Writing an equation of a circle given the endpoints of a diameter

Trigonometry

- pcalc002 Converting between degree and radian measure: Problem type 1
- pcalc006 Sketching an angle in standard position
- pcalc626 Reference angles: Problem type 1
- pcalc622 Coterminal angles
- pcalc005 Arc length and central angle measure
- pcalc623 Area of a sector of a circle
- pcalc600 Sine, cosine, and tangent ratios: Variables for side lengths
- pcalc607 Using a trigonometric ratio to find a side length in a right triangle
- pcalc610 Using trigonometry to find a length in a word problem with one right triangle
- pcalc608 Using a trigonometric ratio to find an angle measure in a right triangle
- pcalc611 Using trigonometry to find angles of elevation or depression in a word problem
- pcalc008 Finding trigonometric ratios given a right triangle
- pcalc642 Solving a right triangle
- pcalc031 Solving a triangle with the law of sines: Problem type 1
- pcalc033 Solving a triangle with the law of cosines
- pcalc627 Finding coordinates on the unit circle for special angles
- pcalc629 Trigonometric functions and special angles: Problem type 1
- pcalc630 Trigonometric functions and special angles: Problem type 2
- pcalc631 Trigonometric functions and special angles: Problem type 3
- pcalc011 Finding values of trigonometric functions given information about an angle: Problem type 1
- pcalc012 Finding values of trigonometric functions given information about an angle: Problem type 2
- pcalc013 Finding values of trigonometric functions given information about an angle: Problem type 3
- pcalc633 Amplitude and period of sine and cosine functions
- pcalc634 Amplitude, period, and phase shift of sine and cosine functions
- pcalc107 Sketching the graph of $y=a*\sin(x+c)$ or $y=a*\cos(x+c)$
- pcalc106 Sketching the graph of $y=a*\sin(bx)$ or $y=a*\cos(bx)$
- pcalc016 Values of inverse trigonometric functions
- pcalc018 Composition of a trigonometric function with its inverse trigonometric function: Problem type 1
- pcalc019 Composition of a trigonometric function with the inverse of another trigonometric function: Problem type 2
- pcalc036 Composition of a trigonometric function with the inverse of another trigonometric function: Problem type 3
- pcalc648 Simplifying trigonometric expressions
- pcalc666 Using cofunction identities
- pcalc029 Sum and difference identities: Problem type 1
- pcalc663 Sum and difference identities: Problem type 2
- pcalc030 Double-angle identities: Problem type 1
- pcalc667 Double-angle identities: Problem type 2
- pcalc124 Product-to-sum and sum-to-product identities: Problem type 1
- pcalc650 Finding solutions in an interval for a basic equation involving sine or cosine
- pcalc651 Finding solutions in an interval for a basic tangent, cotangent, secant, or cosecant equation
- pcalc654 Finding solutions in an interval for a trigonometric equation using Pythagorean identities: Problem type 1
- pcalc020 Solving a basic trigonometric equation involving sine or cosine
- pcalc021 Solving a basic trigonometric equation involving tangent, cotangent, secant, or cosecant
- pcalc055 Plotting a point in polar coordinates
- pcalc056 Converting rectangular coordinates to polar coordinates: Special angles
- pcalc057 Converting polar coordinates to rectangular coordinates
- pcalc058 Converting an equation written in rectangular form to one written in polar form
- pcalc059 Converting an equation written in polar form to one written in rectangular coordinates

Limits and Continuity

pcalc901 Estimating a limit numerically
 pcalc902 Finding limits from a graph
 pcalc904 Finding limits for a piecewise-defined function
 pcalc905 Finding a limit by using the limit laws: Problem type 1
 pcalc906 Finding a limit by using the limit laws: Problem type 2
 pcalc907 Finding a limit by using the limit laws: Problem type 3
 pcalc911 Squeeze Theorem
 pcalc903 Determining points of discontinuity from a graph
 pcalc914 Determining a parameter to make a function continuous
 pcalc910 Limits at infinity and graphs
 pcalc908 Limits at infinity and rational functions
 pcalc915 Infinite limits and graphs
 pcalc909 Infinite limits and rational functions
 pcalc913 Finding a limit of a trigonometric function by using continuity
 pcalc912 Finding a limit by using special trigonometric limits

B.27 Prep. for Statistics

Numbers

arith200 Integer addition: Problem type 1
 arith688 Integer subtraction: Problem type 1
 arith231 Integer multiplication and division
 arith048 Order of operations with whole numbers
 arith051 Order of operations with whole numbers and grouping symbols
 arith118 Order of operations with integers
 arith220 Decimal place value: Hundreds to ten thousandths
 arith221 Rounding decimals
 arith082 Multiplication of a decimal by a power of ten
 arith083 Division of a decimal by a power of ten
 arith117 Signed decimal addition and subtraction
 arith226 Converting between percentages and decimals
 arith090 Converting a percentage to a fraction in simplest form
 arith002 Converting a fraction to a percentage: Denominator of 20, 25, or 50
 arith686 Writing a ratio as a percentage
 stat849 Computing a percentage from a table of values
 arith067 Simplifying a fraction
 arith664 Introduction to addition or subtraction of fractions with different denominators
 arith053 Fraction multiplication
 arith022 Fraction division

Algebraic Expressions

arith047 Evaluating expressions with exponents: Problem type 1
 arith600 Order of operations with integers and exponents
 alge731 Evaluating an algebraic expression: Whole numbers with two operations
 alge004 Evaluating a quadratic expression: Integers
 alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge606 Distributive property: Whole number coefficients
 alge607 Combining like terms: Integer coefficients
 stat026 Introduction to summation notation
 stat022 Summation of indexed data
 alge024 Introduction to the product rule of exponents
 alge027 Power rules with positive exponents

Linear Equations

alge016 Translating a sentence into a one-step equation
alge292 Translating sentences into two-variable equations
alge810 Introduction to algebraic symbol manipulation
alge006 Solving a two-step equation with integers
alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution

Lines in the Coordinate Plane

alge064 Reading a point in the coordinate plane
alge067 Plotting a point in the coordinate plane
alge256 Y-intercept of a line
alge257 X- and y-intercepts of a line given the equation in standard form
alge197 Graphing a line given its x- and y-intercepts
alge194 Graphing a line given its equation in slope-intercept form
alge684 Finding slope given the graph of a line on a grid
alge070 Writing an equation of a line given the y-intercept and another point
alge196 Graphing a line through a given point with a given slope

Descriptive Statistics

stat777 Classification of variables and levels of measurement
stat142 Discrete versus continuous variables
stat807 Interpreting line graphs
stat227 Interpreting bar graphs
stat844 Double bar charts
stat904 Interpreting pie charts
stat901 Computations from pie charts
stat831 Interpreting a stem-and-leaf display
stat702 Histograms for grouped data
stat717 Interpreting relative frequency histograms
stat703 Frequency polygons for grouped data
stat718 Cumulative distributions and ogives
stat706 Mean, median, and mode: Computations
stat798 Mean, median, and mode: Comparisons
stat007 Weighted mean: Tabular data
stat902 Rejecting unreasonable claims based on average statistics
stat905 Making reasonable inferences based on proportion statistics
stat009 Percentiles
stat021 Population standard deviation
stat011 Sample standard deviation

Counting and Probability

stat782 Factorial expressions
stat788 Combinations
stat789 Permutations
stat826 Introduction to probability of an event
stat810 Probability of an event
stat846 Experimental and theoretical probability
stat106 Outcomes and event probability

stat226 Die rolling
 stat850 Probability of independent events
 stat851 Probability of dependent events
 stat117 Probabilities of draws with replacement
 stat114 Probability of intersection or union: Word problems
 stat116 Conditional probability: Basic
 stat109 Intersection and conditional probability

B.28 Prep. for Math and Dosage

Whole Numbers

arith124 Whole number place value: Problem type 1
 arith028 Numeral translation: Problem type 1
 arith635 Adding a 2-digit number and a 1-digit number with carry
 arith001 Addition without carry
 arith050 Addition with carry
 arith630 Addition with carry to the hundreds place
 arith012 Addition of large numbers
 arith636 Subtracting a 1-digit number from a 2-digit number
 arith007 Subtraction without borrowing
 arith006 Subtraction with borrowing
 arith128 Adding or subtracting 10, 100, or 1000
 arith682 Subtraction with multiple regrouping steps
 arith637 Subtraction and regrouping with zeros
 arith008 One-digit multiplication
 arith679 Multiplication by 10, 100, and 1000
 arith003 Multiplication without carry
 arith004 Multiplication with carry
 arith615 Introduction to multiplication of large numbers
 arith632 Multiplication with trailing zeros: Problem type 1
 arith638 Multiplication with trailing zeros: Problem type 2
 arith014 Multiplication of large numbers
 arith075 Division facts
 arith052 Division without carry
 arith005 Division with carry
 arith680 Division with trailing zeros: Problem type 1
 arith649 Division with trailing zeros: Problem type 2
 arith650 Division involving quotients with intermediate zeros
 arith616 Quotient and remainder: Problem type 1
 arith617 Quotient and remainder: Problem type 2
 arith078 Rounding to tens or hundreds
 arith061 Rounding to thousands, ten thousands, or hundred thousands
 arith647 Divisibility rules for 2, 5, and 10
 arith648 Divisibility rules for 3 and 9
 arith034 Prime numbers
 arith033 Greatest common factor of 2 numbers
 arith070 Least common multiple of 2 numbers

Fractions and Mixed Numbers

arith623 Introduction to fractions
 arith665 Understanding equivalent fractions
 arith212 Equivalent fractions
 arith666 Introduction to simplifying a fraction

arith067 Simplifying a fraction
 arith662 Writing a mixed number and an improper fraction for a shaded region
 arith015 Writing an improper fraction as a mixed number
 arith619 Writing a mixed number as an improper fraction
 arith044 Ordering fractions with the same denominator
 arith091 Ordering fractions with the same numerator
 arith092 Using a common denominator to order fractions
 arith687 Fractional position on a number line
 arith667 Plotting fractions on a number line
 arith618 Addition or subtraction of fractions with the same denominator
 arith109 Addition or subtraction of unit fractions
 arith664 Introduction to addition or subtraction of fractions with different denominators
 arith230 Addition or subtraction of fractions with different denominators
 arith215 Addition or subtraction of mixed numbers with the same denominator
 arith084 Addition of mixed numbers with the same denominator and carry
 arith216 Subtraction of mixed numbers with the same denominator and borrowing
 arith085 Addition or subtraction of mixed numbers with different denominators
 arith079 Product of a unit fraction and a whole number
 arith086 Product of a fraction and a whole number: Problem type 1
 arith119 Introduction to fraction multiplication
 arith053 Fraction multiplication
 arith088 The reciprocal of a number
 arith694 Division involving a whole number and a fraction
 arith022 Fraction division
 arith695 Complex fraction without variables: Problem type 1
 arith020 Mixed number multiplication: Problem type 1
 arith076 Mixed number multiplication: Problem type 2
 arith068 Mixed number division

Decimals

arith127 Writing a decimal and a fraction for a shaded region
 arith110 Decimal place value: Tenths and hundredths
 arith220 Decimal place value: Hundreds to ten thousandths
 arith221 Rounding decimals
 arith129 Introduction to ordering decimals
 arith608 Ordering decimals
 arith670 Converting a decimal to a fraction: Basic
 arith087 Converting a decimal to a proper fraction in simplest form: Advanced
 arith671 Converting a fraction with a denominator of 10, 100, or 1000 to a decimal
 arith222 Converting a fraction to a terminating decimal
 arith089 Converting a fraction to a repeating decimal
 arith672 Converting a decimal to a mixed number
 arith223 Converting a mixed number to a decimal
 arith624 Addition of aligned decimals
 arith013 Decimal addition with 3 numbers
 arith625 Subtraction of aligned decimals
 arith082 Multiplication of a decimal by a power of ten
 arith017 Multiplication of a decimal by a whole number
 arith055 Decimal multiplication: Problem type 1
 arith083 Division of a decimal by a power of ten
 arith081 Division of a decimal by a whole number
 arith019 Division of a decimal by a 2-digit decimal
 arith045 Word problem with powers of ten

Percents, Ratios, and Proportions

arith674 Finding the percentage of a grid that is shaded
 arith226 Converting between percentages and decimals

arith090 Converting a percentage to a fraction in simplest form
 arith002 Converting a fraction to a percentage: Denominator of 20, 25, or 50
 dosage001 Writing a ratio as a percentage
 dosage003 Writing a ratio proportion as a fraction proportion
 dosage002 Finding the missing value in a proportion

Measurements and Conversions

unit001 Metric distance conversion with whole number values
 unit002 Metric mass or capacity conversion with whole number values
 unit003 Metric distance conversion with decimal values
 unit004 Metric conversion with decimal values: Two-step problem
 dosage004 Converting units
 mstat065 Converting between temperatures in Fahrenheit and Celsius

B.29 Prep. for the CSU - ELM

Numbers and Data

arith124 Whole number place value: Problem type 1
 arith125 Whole number place value: Problem type 2
 arith066 Expanded form
 arith643 Expanded form with zeros
 arith028 Numeral translation: Problem type 1
 arith060 Numeral translation: Problem type 2
 arith633 One-digit addition with carry
 arith634 Addition of 3 or 4 one-digit numbers
 arith635 Adding a 2-digit number and a 1-digit number with carry
 arith001 Addition without carry
 arith050 Addition with carry
 arith630 Addition with carry to the hundreds place
 arith012 Addition of large numbers
 arith128 Adding or subtracting 10, 100, or 1000
 arith636 Subtracting a 1-digit number from a 2-digit number
 arith007 Subtraction without borrowing
 arith006 Subtraction with borrowing
 arith682 Subtraction with multiple regrouping steps
 arith637 Subtraction and regrouping with zeros
 arith613 Word problem with addition or subtraction of whole numbers
 arith126 Multiplication as repeated addition
 arith008 One-digit multiplication
 arith679 Multiplication by 10, 100, and 1000
 arith003 Multiplication without carry
 arith004 Multiplication with carry
 arith615 Introduction to multiplication of large numbers
 arith632 Multiplication with trailing zeros: Problem type 1
 arith638 Multiplication with trailing zeros: Problem type 2
 arith014 Multiplication of large numbers
 arith075 Division facts
 arith052 Division without carry
 arith005 Division with carry
 arith680 Division with trailing zeros: Problem type 1
 arith649 Division with trailing zeros: Problem type 2
 arith616 Quotient and remainder: Problem type 1
 arith617 Quotient and remainder: Problem type 2

arith631 Quotient and remainder: Problem type 3
arith650 Division involving quotients with intermediate zeros
arith614 Word problem with multiplication or division of whole numbers
arith130 Word problem with multiplication and addition or subtraction of whole numbers
arith644 Word problem on quotient and remainder
arith023 Word problem with division of whole numbers and rounding
arith651 Introduction to inequalities
arith077 Ordering large numbers
arith078 Rounding to tens or hundreds
arith123 Rounding to hundreds or thousands
arith061 Rounding to thousands, ten thousands, or hundred thousands
arith233 Introduction to exponents
arith645 Introduction to parentheses
arith681 Introduction to order of operations
arith048 Order of operations with whole numbers
arith051 Order of operations with whole numbers and grouping symbols
arith655 Introduction to properties of addition
arith656 Introduction to properties of multiplication
arith657 Understanding the distributive property
arith646 Even and odd numbers
arith647 Divisibility rules for 2, 5, and 10
arith648 Divisibility rules for 3 and 9
arith056 Factors
arith034 Prime numbers
arith035 Prime factorization
arith033 Greatest common factor of 2 numbers
arith070 Least common multiple of 2 numbers
arith240 Word problem with common multiples
alge925 Finding the next terms of an arithmetic sequence with whole numbers
alge933 Finding the next terms of a geometric sequence with whole numbers
arith200 Integer addition: Problem type 1
arith108 Integer addition: Problem type 2
arith688 Integer subtraction: Problem type 1
arith689 Integer subtraction: Problem type 2
arith690 Integer subtraction: Problem type 3
arith701 Word problem with addition or subtraction of integers
arith231 Integer multiplication and division
arith800 Multiplication of 3 or 4 integers
arith118 Order of operations with integers
arith674 Finding the percentage of a grid that is shaded
arith226 Converting between percentages and decimals
arith090 Converting a percentage to a fraction in simplest form
arith002 Converting a fraction to a percentage: Denominator of 20, 25, or 50
arith069 Writing a ratio as a percentage without a calculator
arith030 Finding a percentage of a whole number without a calculator: Basic
arith698 Applying the percent equation
arith074 Finding the sale price without a calculator given the original price and percent discount
arith031 Finding the original price given the sale price and percent discount
arith225 Finding the percentage increase or decrease: Advanced
arith232 Finding simple interest without a calculator
arith623 Introduction to fractions
arith665 Understanding equivalent fractions
arith212 Equivalent fractions
arith666 Introduction to simplifying a fraction
arith067 Simplifying a fraction
arith129 Introduction to ordering decimals
arith608 Ordering decimals
arith609 Ordering fractions and decimals
arith687 Fractional position on a number line
arith691 Ordering integers
arith044 Ordering fractions with the same denominator
arith091 Ordering fractions with the same numerator

arith092 Using a common denominator to order fractions
arith801 Finding the LCD of two fractions
arith618 Addition or subtraction of fractions with the same denominator
arith109 Addition or subtraction of unit fractions
arith664 Introduction to addition or subtraction of fractions with different denominators
arith230 Addition or subtraction of fractions with different denominators
arith116 Signed fraction addition or subtraction: Basic
arith106 Signed fraction addition or subtraction: Advanced
arith100 Fractional part of a circle
arith079 Product of a unit fraction and a whole number
arith086 Product of a fraction and a whole number: Problem type 1
arith119 Introduction to fraction multiplication
arith053 Fraction multiplication
arith822 Signed fraction multiplication: Basic
arith105 Signed fraction multiplication: Advanced
arith095 Multi-step word problem involving fractions and multiplication
arith088 The reciprocal of a number
arith694 Division involving a whole number and a fraction
arith022 Fraction division
arith697 Mixed arithmetic operations with fractions
arith662 Writing a mixed number and an improper fraction for a shaded region
arith015 Writing an improper fraction as a mixed number
arith619 Writing a mixed number as an improper fraction
arith215 Addition or subtraction of mixed numbers with the same denominator
arith084 Addition of mixed numbers with the same denominator and carry
arith216 Subtraction of mixed numbers with the same denominator and borrowing
arith085 Addition or subtraction of mixed numbers with different denominators
arith020 Mixed number multiplication: Problem type 1
arith076 Mixed number multiplication: Problem type 2
arith068 Mixed number division
arith670 Converting a decimal to a fraction: Basic
arith087 Converting a decimal to a proper fraction in simplest form: Advanced
arith672 Converting a decimal to a mixed number
arith671 Converting a fraction with a denominator of 10, 100, or 1000 to a decimal
arith222 Converting a fraction to a terminating decimal
arith089 Converting a fraction to a repeating decimal
arith223 Converting a mixed number to a decimal
arith624 Addition of aligned decimals
arith013 Decimal addition with 3 numbers
arith625 Subtraction of aligned decimals
arith131 Estimating a decimal sum or difference
arith626 Word problem with one decimal operation: Problem type 1
arith627 Word problem with one decimal operation: Problem type 2
arith082 Multiplication of a decimal by a power of ten
arith017 Multiplication of a decimal by a whole number
arith055 Decimal multiplication: Problem type 1
arith046 Decimal multiplication: Problem type 2
arith083 Division of a decimal by a power of ten
arith081 Division of a decimal by a whole number
arith019 Division of a decimal by a 2-digit decimal
arith224 Word problem with decimal addition and multiplication
arith227 Word problem with decimal subtraction and division
arith045 Word problem with powers of ten
arith663 Writing ratios for real-world situations
arith228 Word problem on unit rates associated with ratios of whole numbers: Decimal answers
alge840 Solving a proportion of the form $(x+a)\div b = c\div d$
alge271 Solving a proportion of the form $a/(x+b) = c/x$
arith064 Solving a word problem on proportions using a unit rate
arith610 Word problem on proportions: Problem type 1
arith611 Word problem on proportions: Problem type 2
alge063 Word problem on mixed number proportions
arith063 Word problem with clocks

arith127 Writing a decimal and a fraction for a shaded region
 arith110 Decimal place value: Tenths and hundredths
 arith220 Decimal place value: Hundreds to ten thousandths
 arith221 Rounding decimals
 arith101 Estimating a sum of whole numbers
 arith102 Estimating a difference of whole numbers
 arith604 Estimating a product or quotient of whole numbers
 arith016 Square root of a perfect square
 arith602 Estimating a square root
 arith601 Square root of a rational perfect square
 mstat056 Interpreting a tally table
 mstat057 Interpreting a pictograph table
 mstat005 Constructing a bar graph for non-numerical data
 mstat006 Constructing a box-and-whisker plot
 mstat024 Interpreting a bar graph
 mstat044 Interpreting a double bar graph
 mstat004 Constructing a histogram for numerical data
 mstat007 Interpreting a line graph
 stat804 Interpreting a circle graph or pie chart
 geom814 Angle measure in a circle graph
 mstat001 Mean of a data set
 stat803 Finding the value for a new score that will yield a given mean
 mstat028 Mean and median of a data set
 mstat049 Computing a percentage from a table of values
 stat801 Computations from a circle graph

Algebra

alge284 Evaluating an algebraic expression: Whole number addition or subtraction
 alge683 Evaluating an algebraic expression: Whole number multiplication or division
 alge285 Evaluating an algebraic expression: Whole numbers with two operations
 alge832 Evaluating an algebraic expression: Whole number operations and exponents
 alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge004 Evaluating a quadratic expression: Integers
 arith071 Absolute value of a number
 arith104 Operations with absolute value: Problem type 2
 alge187 Properties of addition
 alge188 Properties of real numbers
 alge606 Distributive property: Whole number coefficients
 alge604 Distributive property: Integer coefficients
 alge700 Combining like terms: Whole number coefficients
 alge607 Combining like terms: Integer coefficients
 alge663 Combining like terms: Advanced
 alge293 Combining like terms in a quadratic expression
 alge733 Writing a one-step expression for a real-world situation
 alge831 Translating a phrase into a one-step expression
 alge291 Translating a phrase into a two-step expression
 alge016 Translating a sentence into a one-step equation
 alge841 Translating a sentence into a multi-step equation
 alge730 Writing a multi-step equation for a real-world situation
 alge015 Translating a sentence by using an inequality symbol
 alge186 Translating a sentence into a compound inequality
 alge810 Introduction to algebraic symbol manipulation
 alge743 Algebraic symbol manipulation: Problem type 1
 alge744 Algebraic symbol manipulation: Problem type 2
 arith692 Writing expressions using exponents
 arith683 Power of 10: Positive exponent
 arith693 Order of operations with whole numbers and exponents: Basic
 arith713 Order of operations with whole numbers and exponents: Advanced
 arith702 Exponents and integers: Problem type 1

arith703 Exponents and integers: Problem type 2
arith704 Exponents and signed fractions
arith600 Order of operations with integers and exponents
alge790 Evaluating expressions with exponents of zero
arith684 Power of 10: Negative exponent
arith042 Evaluating an expression with a negative exponent: Positive fraction base
arith043 Evaluating an expression with a negative exponent: Negative integer base
arith029 Ordering numbers with positive exponents
arith024 Ordering numbers with negative exponents
alge791 Rewriting an algebraic expression without a negative exponent
alge821 Understanding the product rule of exponents
alge024 Introduction to the product rule of exponents
alge030 Product rule with positive exponents: Multivariate
alge961 Introduction to the product rule with negative exponents
alge028 Product rule with negative exponents
alge827 Introduction to the quotient rule of exponents
alge026 Quotient of expressions involving exponents
alge755 Quotient rule with negative exponents: Problem type 1
alge926 Quotient rule with negative exponents: Problem type 2
alge826 Understanding the power rules of exponents
alge754 Introduction to the power rules of exponents
alge027 Power rules with positive exponents
alge025 Power of a power rule with negative exponents
alge799 Power rules with negative exponents
alge756 Power and product rules with positive exponents
alge927 Power and quotient rules with positive exponents
alge928 Power and quotient rules with negative exponents: Problem type 1
alge929 Power and quotient rules with negative exponents: Problem type 2
alge757 Power, product, and quotient rules with negative exponents
arith036 Scientific notation with positive exponent
arith037 Scientific notation with negative exponent
scinot002 Multiplying and dividing numbers written in scientific notation
alge177 Finding a final amount in a word problem on exponential growth or decay
alge741 Finding the final amount in a word problem on compound interest
arith093 Simplifying the square root of a whole number less than 100
alge080 Simplifying a radical expression with an even exponent
arith032 Square root addition or subtraction
alge084 Simplifying a sum or difference of radical expressions: Multivariate
arith039 Square root multiplication: Advanced
alge640 Simplifying a product of radical expressions: Multivariate
arith094 Cube root of an integer
alge250 Rational exponents: Non-unit fraction exponent with a whole number base
alge251 Rational exponents: Negative exponents and fractional bases
alge249 Rational exponents: Powers of powers with negative exponents
alge758 Degree and leading coefficient of a univariate polynomial
alge031 Degree of a multivariate polynomial
alge798 Simplifying a sum or difference of two univariate polynomials
alge029 Simplifying a sum or difference of three univariate polynomials
alge932 Simplifying a sum or difference of multivariate polynomials
alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
alge972 Multiplying a univariate polynomial by a monomial with a negative coefficient
alge835 Multiplying a multivariate polynomial by a monomial
alge033 Multiplying binomials with leading coefficients of 1
alge983 Multiplying binomials with leading coefficients greater than 1
alge765 Multiplying binomials in two variables
alge764 Multiplying conjugate binomials: Univariate
alge081 Multiplying conjugate binomials: Multivariate
alge032 Squaring a binomial: Univariate
alge068 Squaring a binomial: Multivariate
alge973 Multiplying binomials with negative coefficients
alge935 Multiplication involving binomials and trinomials in one variable
alge180 Multiplication involving binomials and trinomials in two variables

alge759 Dividing a polynomial by a monomial: Univariate
 alge760 Dividing a polynomial by a monomial: Multivariate
 alge761 Polynomial long division: Problem type 1
 alge762 Polynomial long division: Problem type 2
 alge763 Polynomial long division: Problem type 3
 alge736 Introduction to the GCF of two monomials
 alge037 Greatest common factor of two multivariate monomials
 alge930 Greatest common factor of three univariate monomials
 alge738 Factoring out a monomial from a polynomial: Univariate
 alge739 Factoring out a monomial from a polynomial: Multivariate
 alge949 Factoring out a binomial from a polynomial: GCF factoring, basic
 alge923 Factoring a univariate polynomial by grouping: Problem type 1
 alge950 Factoring a univariate polynomial by grouping: Problem type 2
 alge951 Factoring a multivariate polynomial by grouping: Problem type 1
 alge952 Factoring a multivariate polynomial by grouping: Problem type 2
 alge039 Factoring a quadratic with leading coefficient 1
 alge942 Factoring a quadratic in two variables with leading coefficient 1
 alge936 Factoring out a constant before factoring a quadratic
 alge939 Factoring a quadratic with leading coefficient greater than 1: Problem type 1
 alge940 Factoring a quadratic with leading coefficient greater than 1: Problem type 2
 alge941 Factoring a quadratic with leading coefficient greater than 1: Problem type 3
 alge978 Factoring a quadratic by the ac-method
 alge265 Factoring a quadratic in two variables with leading coefficient greater than 1
 alge937 Factoring a quadratic with a negative leading coefficient
 alge041 Factoring a product of a quadratic trinomial and a monomial
 alge944 Factoring a perfect square trinomial with leading coefficient 1
 alge945 Factoring a perfect square trinomial with leading coefficient greater than 1
 alge946 Factoring a perfect square trinomial in two variables
 alge290 Factoring a difference of squares in one variable: Basic
 alge947 Factoring a difference of squares in one variable: Advanced
 alge839 Factoring a difference of squares in two variables
 alge948 Factoring a polynomial involving a GCF and a difference of squares: Univariate
 alge833 Factoring a polynomial involving a GCF and a difference of squares: Multivariate
 alge042 Factoring with repeated use of the difference of squares formula
 alge044 Factoring a sum or difference of two cubes
 alge049 Restriction on a variable in a denominator: Linear
 alge715 Domain of a rational function: Excluded values
 alge710 Simplifying a ratio of polynomials: Problem type 1
 alge034 Simplifying a ratio of multivariate polynomials
 alge053 Multiplying rational expressions involving multivariate monomials
 alge620 Multiplying rational expressions involving quadratics with leading coefficients of 1
 alge054 Dividing rational expressions involving multivariate monomials
 alge766 Dividing rational expressions involving quadratics with leading coefficients of 1
 alge737 Introduction to the LCM of two monomials
 alge055 Least common multiple of two monomials
 alge056 Adding rational expressions with common denominators and binomial numerators
 alge057 Adding rational expressions with different denominators: ax, bx
 alge226 Adding rational expressions with multivariate monomial denominators: Advanced
 alge622 Adding rational expressions with different denominators: $x+a, x+b$
 alge661 Adding rational expressions involving different quadratic denominators
 arith695 Complex fraction without variables: Problem type 1
 arith696 Complex fraction without variables: Problem type 2
 alge058 Complex fraction involving multivariate monomials
 alge162 Complex fraction that contains a complex fraction
 alge767 Complex fraction: GCF and quadratic factoring
 alge768 Complex fraction made of sums involving rational expressions
 alge009 Additive property of equality with whole numbers
 alge801 Additive property of equality with fractions and mixed numbers
 alge800 Additive property of equality with decimals
 alge010 Additive property of equality with integers
 alge266 Additive property of equality with a negative coefficient
 alge836 Additive property of equality with signed fractions

alge008 Multiplicative property of equality with whole numbers
alge820 Multiplicative property of equality with fractions
alge825 Multiplicative property of equality with decimals
alge797 Multiplicative property of equality with integers
alge012 Multiplicative property of equality with signed fractions
alge834 Identifying solutions to a linear equation in one variable: Two-step equations
alge803 Using two steps to solve an equation with whole numbers
alge006 Solving a two-step equation with integers
alge837 Solving a multi-step equation given in fractional form
alge208 Solving a two-step equation with signed fractions
alge824 Solving a two-step equation with signed decimals
alge200 Solving an equation to find the value of an expression
alge920 Introduction to solving an equation with parentheses
alge838 Introduction to solving an equation with variables on the same side
alge862 Solving a linear equation with several occurrences of the variable: Variables on the same side
alge863 Solving a linear equation with several occurrences of the variable: Variables on both sides
alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
alge742 Solving equations with zero, one, or infinitely many solutions
alge986 Identifying properties used to solve a linear equation
alge914 Identifying solutions to a system of linear equations
alge075 Classifying systems of linear equations from graphs
alge725 Graphically solving a system of linear equations
alge751 Solving a system of linear equations using substitution
alge915 Solving a system of linear equations using elimination with addition
alge076 Solving a system of linear equations using elimination with multiplication and addition
alge916 Solving a system of linear equations with fractional coefficients
alge917 Solving a system of linear equations with decimal coefficients
alge752 Solving a 2x2 system of linear equations that is inconsistent or consistent dependent
alge844 Identifying solutions to a two-step linear inequality in one variable
alge848 Additive property of inequality with whole numbers
alge849 Additive property of inequality with integers
alge852 Additive property of inequality with signed fractions
alge853 Additive property of inequality with signed decimals
alge854 Multiplicative property of inequality with integers
alge964 Multiplicative property of inequality with signed fractions
alge855 Solving a two-step linear inequality: Problem type 1
alge856 Solving a two-step linear inequality: Problem type 2
alge857 Solving a two-step linear inequality with a fractional coefficient
alge977 Solving a linear inequality with multiple occurrences of the variable: Problem type 1
alge858 Solving a linear inequality with multiple occurrences of the variable: Problem type 2
alge859 Solving a linear inequality with multiple occurrences of the variable: Problem type 3
alge860 Solving inequalities with no solution or all real numbers as solutions
alge746 Solving a compound linear inequality: Graph solution, basic
alge749 Solving a decimal word problem using a two-step linear inequality
alge750 Solving a decimal word problem using a linear inequality with the variable on both sides
alge823 Solving a one-step word problem using the formula $d = rt$
alge272 Solving a proportion of the form $x/a = b/c$
alge802 Solving a fraction word problem using a linear equation of the form $Ax = B$
alge014 Solving a word problem with two unknowns using a linear equation
alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
alge219 Solving a decimal word problem using a linear equation with the variable on both sides
alge704 Solving a fraction word problem using a linear equation with the variable on both sides
alge792 Solving a word problem with three unknowns using a linear equation

alge842 Solving a word problem involving consecutive integers
alge794 Solving a value mixture problem using a linear equation
alge795 Solving a percent mixture problem using a linear equation
alge796 Solving a distance, rate, time problem using a linear equation
geom530 Solving equations involving vertical angles
geom531 Solving equations involving angles and a pair of parallel lines
geom502 Finding angle measures of a right or isosceles triangle given angles with variables
alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations
alge184 Solving a value mixture problem using a system of linear equations
alge224 Solving a distance, rate, time problem using a system of linear equations
alge192 Solving a percent mixture problem using a system of linear equations
alge681 Solving an equation written in factored form
alge956 Finding the roots of a quadratic equation of the form $ax^2 + bx = 0$
alge045 Finding the roots of a quadratic equation with leading coefficient 1
alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
alge211 Solving a quadratic equation needing simplification
alge962 Solving an equation of the form $x^2 = a$ using the square root property
alge092 Solving a quadratic equation using the square root property: Exact answers, basic
alge227 Solving a quadratic equation using the square root property: Exact answers, advanced
alge094 Completing the square
alge780 Solving a quadratic equation by completing the square: Exact answers
alge095 Applying the quadratic formula: Exact answers
alge963 Applying the quadratic formula: Decimal answers
pcalc051 Solving a quadratic equation with complex roots
alge214 Discriminant of a quadratic equation
alge089 Solving a radical equation that simplifies to a linear equation: One radical, basic
alge703 Solving a word problem using a quadratic equation with rational roots
alge524 Solving a word problem using a quadratic equation with irrational roots
alge864 Solving an absolute value equation: Problem type 1
alge868 Solving an absolute value inequality: Problem type 1
alge884 Finding x - and y -intercepts given the graph of a line on a grid
alge924 Finding x - and y -intercepts of a line given the equation: Basic
alge210 Finding x - and y -intercepts of a line given the equation: Advanced
alge875 Classifying slopes given graphs of lines
alge886 Finding slope given the graph of a line on a grid
alge889 Finding the slope and y -intercept of a line given its equation in the form $y = mx + b$
alge890 Finding the slope and y -intercept of a line given its equation in the form $Ax + By = C$
alge887 Finding slope given two points on the line
alge885 Finding the slope of horizontal and vertical lines
alge218 Solving a word problem involving rates and time conversion
alge220 Word problem on inverse proportions
alge175 Word problem on direct variation
alge176 Word problem on inverse variation
alge772 Word problem on combined variation
alge001 Identifying numbers as integers or non-integers
alge002 Identifying numbers as rational or irrational
arith699 Writing a signed number for a real-world situation
arith712 Ordering real numbers
arith117 Signed decimal addition and subtraction
arith234 Signed decimal addition and subtraction with 3 numbers
alge845 Translating a sentence into a one-step inequality
alge846 Translating a sentence into a multi-step inequality
alge748 Writing an inequality for a real-world situation
alge729 Writing a multi-step inequality for a real-world situation
alge017 Graphing a linear inequality on the number line
alge822 Writing an inequality given a graph on the number line
alge166 Graphing a compound inequality on the number line
alge847 Writing a compound inequality given a graph on the number line
set001 Set builder notation
set004 Set builder and interval notation
set002 Union and intersection of finite sets
pcalc760 Evaluating functions: Linear and quadratic or cubic

fun033 Variable expressions as inputs of functions: Problem type 1
 fun005 Writing a function rule given a table of ordered pairs: One-step rules
 fun016 Domain and range from ordered pairs
 fun032 Identifying functions from relations
 pcalc757 Determining whether an equation defines a function: Advanced
 fun010 Vertical line test
 fun024 Domain and range from the graph of a continuous function
 fun019 Sum, difference, and product of two functions
 fun022 Composition of two functions: Basic
 pcalc776 Expressing a function as a composition of two functions
 alge873 Identifying solutions to a linear equation in two variables
 alge850 Table for a linear equation
 alge066 Finding a solution to a linear equation in two variables
 alge876 Identifying linear equations: Advanced
 alge874 Identifying linear functions given ordered pairs
 alge891 Rewriting a linear equation in the form $Ax + By = C$
 alge888 Finding the coordinate that yields a given slope
 alge892 Writing an equation and graphing a line given its slope and y-intercept
 alge070 Writing an equation of a line given the y-intercept and another point
 alge893 Writing an equation in slope-intercept form given the slope and a point
 alge894 Writing an equation in point-slope form given the slope and a point
 alge072 Writing the equation of the line through two given points
 alge073 Writing the equations of vertical and horizontal lines through a given point
 alge897 Writing and evaluating a function that models a real-world situation: Advanced
 alge989 Interpreting the parameters of a linear function that models a real-world situation
 alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
 alge806 Application problem with a linear function: Finding a coordinate given two points
 alge895 Identifying parallel and perpendicular lines from equations
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 mstat051 Choosing a graph to fit a narrative: Advanced
 mstat023 Scatter plots and correlation
 mstat030 Sketching the line of best fit
 mstat068 Predictions from the line of best fit
 mstat067 Approximating the equation of a line of best fit and making predictions
 alge982 Identifying direct variation equations
 alge938 Identifying direct variation from ordered pairs and writing equations
 alge904 Writing a direct variation equation
 alge913 Graphing an absolute value equation of the form $y = A|x - h| + k$
 alge900 Graphing an absolute value equation in the plane: Basic
 alge168 Graphing an absolute value equation in the plane: Advanced
 alge263 Interpreting the graphs of two functions
 alge919 Solving a word problem using a system of linear equations of the form $Ax + By = C$
 alge918 Solving a word problem using a system of linear equations of the form $y = mx + b$
 alge172 Solving a tax rate or interest rate problem using a system of linear equations
 alge912 Identifying solutions to a linear inequality in two variables
 alge720 Graphing a linear inequality in the plane: Slope-intercept form
 alge018 Graphing a linear inequality in the plane: Standard form
 alge225 Graphing a linear inequality in the plane: Vertical or horizontal line
 alge079 Graphing a system of two linear inequalities: Basic
 alge921 Graphing a system of two linear inequalities: Advanced
 alge922 Graphing a system of three linear inequalities
 pcalc093 Solving a word problem using a system of linear inequalities: Problem type 1
 alge060 Solving a rational equation that simplifies to linear: Denominator x
 alge205 Solving a rational equation that simplifies to linear: Denominator $x+a$
 alge206 Solving a rational equation that simplifies to linear: Unlike binomial denominators
 alge769 Solving a rational equation that simplifies to linear: Denominators a , x , or ax
 alge212 Solving a rational equation that simplifies to quadratic: Binomial denominators, constant numerators
 alge062 Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators
 alge047 Solving a rational equation that simplifies to quadratic: Proportional form, advanced
 arith612 Word problem involving multiple rates
 alge770 Solving a work problem using a rational equation

alge059 Ordering fractions with variables
 pcalc681 Writing an equation that models variation
 pcalc763 Domain of a square root function: Advanced
 pcalc781 Graphing a square root function
 alge264 Square root of a perfect square monomial
 alge275 Simplifying a radical expression with two variables
 alge273 Simplifying a higher root of a whole number
 alge811 Simplifying a higher radical expression: Multivariate
 alge276 Simplifying a product involving square roots using the distributive property: Advanced
 alge774 Special products of radical expressions: Conjugates and squaring
 alge086 Rationalizing the denominator of a radical expression
 alge088 Rationalizing the denominator of a radical expression using conjugates
 alge812 Converting between radical form and exponent form
 alge773 Rational exponents: Products and quotients with negative exponents
 alge090 Solving a radical equation that simplifies to a linear equation: Two radicals
 alge091 Solving a radical equation that simplifies to a quadratic equation: One radical
 alge182 Solving a radical equation that simplifies to a quadratic equation: Two radicals
 alge778 Using i to rewrite square roots of negative numbers
 alge779 Simplifying a product and quotient involving square roots of negative numbers
 pcalc048 Adding or subtracting complex numbers
 pcalc049 Multiplying complex numbers
 pcalc050 Dividing complex numbers
 pcalc053 Simplifying a power of i

Geometry

geom361 Naming polygons
 geom867 Identifying parallelograms, rectangles, and squares
 geom310 Properties of quadrilaterals
 geom532 Classifying parallelograms
 geom339 Perimeter of a polygon
 geom300 Perimeter of a square or a rectangle
 geom078 Sides of polygons having the same perimeter
 geom221 Finding the missing length in a figure
 geom353 Perimeter of a piecewise rectangular figure
 geom866 Perimeter and area on a grid
 geom019 Area of a square or a rectangle
 geom350 Distinguishing between the area and perimeter of a rectangle
 geom351 Areas of rectangles with the same perimeter
 geom340 Area of a piecewise rectangular figure
 geom142 Word problem involving the area between two rectangles
 geom801 Area of a triangle
 geom344 Area involving rectangles and triangles
 geom022 Area of a parallelogram
 geom023 Area of a trapezoid
 geom347 Introduction to a circle: Diameter, radius, and chord
 geom016 Circumference of a circle
 geom218 Finding the radius or the diameter of a circle given its circumference
 geom301 Perimeter involving rectangles and circles
 geom802 Circumference and area of a circle
 geom036 Word problem involving the area between two concentric circles
 geom302 Area involving rectangles and circles
 geom214 Area involving inscribed figures
 geom868 Classifying solids
 geom354 Volume of a rectangular prism made of unit cubes
 geom311 Volume of a rectangular prism
 geom505 Volume of a piecewise rectangular prism
 geom090 Volume of a triangular prism
 geom033 Volume of a pyramid
 geom035 Volume of a cylinder

geom092 Word problem involving the rate of filling or emptying a cylinder
geom086 Volume of a cone: Exact answers in terms of pi
geom841 Volume of a sphere
geom219 Nets of solids
geom031 Surface area of a cube or a rectangular prism
geom345 Surface area of a piecewise rectangular prism made of unit cubes
geom034 Surface area of a cylinder: Exact answers in terms of pi
geom842 Surface area of a sphere
geom360 Identifying similar or congruent shapes on a grid
geom037 Similar polygons
geom038 Similar right triangles
geom044 Pythagorean Theorem
geom359 Identifying congruent shapes on a grid
geom337 Indirect measurement
geom838 Circumference ratios
geom217 Finding the side length of a rectangle given its perimeter or area
geom143 Finding the perimeter or area of a rectangle given one of these values
geom817 Finding a side length given the perimeter and side lengths with variables
geom306 Acute, obtuse, and right triangles
geom307 Classifying scalene, isosceles, and equilateral triangles by side lengths or angles
geom001 Finding an angle measure of a triangle given two angles
geom908 Finding an angle measure for a triangle with an extended side
geom520 Identifying and naming congruent triangles
geom349 Naming segments, rays, and lines
geom358 Identifying parallel and perpendicular lines
geom151 Measuring an angle with the protractor
geom152 Drawing an angle with the protractor
geom303 Acute, obtuse, and right angles
geom039 Finding supplementary and complementary angles
geom305 Identifying supplementary and vertical angles
geom304 Identifying corresponding and alternate angles
alge286 Plotting integers on a number line
arith667 Plotting fractions on a number line
arith605 Plotting rational numbers on a number line
alge064 Reading a point in the coordinate plane
alge067 Plotting a point in the coordinate plane
fun001 Table for a linear function
pcalc761 Finding inputs and outputs of a function from its graph
alge197 Graphing a line given its x- and y-intercepts
alge877 Graphing a linear equation of the form $y = mx$
alge878 Graphing a line given its equation in slope-intercept form: Integer slope
alge879 Graphing a line given its equation in slope-intercept form: Fractional slope
alge880 Graphing a line given its equation in standard form
alge881 Graphing a line by first finding its x- and y-intercepts
alge196 Graphing a line through a given point with a given slope
alge882 Graphing a line by first finding its slope and y-intercept
alge883 Graphing a line given its equation in point-slope form
alge198 Graphing a vertical or horizontal line
alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
alge974 Finding the vertex, x-intercepts, and axis of symmetry from the graph of a parabola
alge277 Finding the x-intercept(s) and the vertex of a parabola
pcalc774 Rewriting a quadratic function to find the vertex of its graph
pcalc775 Finding the maximum or minimum of a quadratic function
alge785 Word problem involving the maximum or minimum of a quadratic function
alge953 Translating the graph of a parabola: One step
alge954 Graphing a parabola of the form $y = ax^2$
alge955 Graphing a parabola of the form $y = ax^2 + c$
alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
pcalc746 Graphing a parabola of the form $y = ax^2 + bx + c$: Integer coefficients
pcalc747 Graphing a parabola of the form $y = ax^2 + bx + c$: Rational coefficients
alge262 Graphing a cubic function of the form $y = ax^3$
alge723 How the leading coefficient affects the shape of a parabola

alge132 Distance between two points in the plane: Exact answers
 mstat059 Choosing U.S. Customary measurement units
 mstat035 Conversions involving measurements in feet and inches
 mstat036 Adding measurements in feet and inches
 unit005 U.S. Customary unit conversion with whole number values
 unit006 U.S. Customary unit conversion with whole number values: Two-step conversion
 unit007 U.S. Customary unit conversion with mixed number values: One-step conversion
 unit008 U.S. Customary unit conversion with mixed number values: Two-step conversion
 unit009 U.S. Customary area unit conversion with whole number values
 mstat060 Choosing metric measurement units
 unit001 Metric distance conversion with whole number values
 unit002 Metric mass or capacity conversion with whole number values
 unit003 Metric distance conversion with decimal values
 unit004 Metric conversion with decimal values: Two-step problem
 unit010 Metric area unit conversion with decimal values
 unit012 Time unit conversion with whole number values
 time006 Adding time
 time007 Elapsed time
 mstat065 Converting between temperatures in Fahrenheit and Celsius
 unit034 Converting between metric and U.S. Customary unit systems
 unit035 Converting between compound units: Basic
 unit036 Converting between compound units: Advanced
 mstat003 Mode of a data set
 mstat055 Finding the mode and range of a data set
 arith103 Average of two numbers
 mstat029 How changing a value affects the mean and median
 mstat053 Choosing the best measure to describe data
 mstat066 Weighted mean
 mstat026 Introduction to the probability of an event
 mstat010 Probability of an event
 stat112 Probabilities involving two dice
 mstat041 Interpreting a tree diagram

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Whole Numbers

arith124 Whole number place value: Problem type 1
 arith125 Whole number place value: Problem type 2
 arith066 Expanded form
 arith643 Expanded form with zeros
 arith028 Numeral translation: Problem type 1
 arith060 Numeral translation: Problem type 2
 arith633 One-digit addition with carry
 arith634 Addition of 3 or 4 one-digit numbers
 arith001 Addition without carry
 arith635 Adding a 2-digit number and a 1-digit number with carry
 arith050 Addition with carry
 arith630 Addition with carry to the hundreds place
 arith012 Addition of large numbers
 arith636 Subtracting a 1-digit number from a 2-digit number
 arith007 Subtraction without borrowing
 arith128 Adding or subtracting 10, 100, or 1000
 arith006 Subtraction with borrowing
 arith682 Subtraction with multiple regrouping steps
 arith637 Subtraction and regrouping with zeros
 arith613 Word problem with addition or subtraction of whole numbers
 arith655 Introduction to properties of addition

arith126 Multiplication as repeated addition
arith008 One-digit multiplication
arith679 Multiplication by 10, 100, and 1000
arith003 Multiplication without carry
arith004 Multiplication with carry
arith632 Multiplication with trailing zeros: Problem type 1
arith615 Introduction to multiplication of large numbers
arith638 Multiplication with trailing zeros: Problem type 2
arith014 Multiplication of large numbers
arith641 Multiples: Problem type 1
arith642 Multiples: Problem type 2
arith656 Introduction to properties of multiplication
arith075 Division facts
arith614 Word problem with multiplication or division of whole numbers
arith130 Word problem with multiplication and addition or subtraction of whole numbers
arith243 Division of whole numbers given in fractional form
arith711 Division involving zero
arith052 Division without carry
arith005 Division with carry
arith680 Division with trailing zeros: Problem type 1
arith649 Division with trailing zeros: Problem type 2
arith616 Quotient and remainder: Problem type 1
arith644 Word problem on quotient and remainder
arith617 Quotient and remainder: Problem type 2
arith631 Quotient and remainder: Problem type 3
arith650 Division involving quotients with intermediate zeros
arith023 Word problem with division of whole numbers and rounding
arith646 Even and odd numbers
arith651 Introduction to inequalities
arith077 Ordering large numbers
arith078 Rounding to tens or hundreds
arith123 Rounding to hundreds or thousands
arith061 Rounding to thousands, ten thousands, or hundred thousands
arith101 Estimating a sum of whole numbers
arith102 Estimating a difference of whole numbers
arith604 Estimating a product or quotient of whole numbers
arith692 Writing expressions using exponents
arith233 Introduction to exponents
arith683 Power of 10: Positive exponent
arith645 Introduction to parentheses
arith681 Introduction to order of operations
arith048 Order of operations with whole numbers
arith051 Order of operations with whole numbers and grouping symbols
arith693 Order of operations with whole numbers and exponents: Basic
arith713 Order of operations with whole numbers and exponents: Advanced
arith657 Understanding the distributive property

Integers

alge286 Plotting integers on a number line
mstat038 Reading the temperature from a thermometer
arith699 Writing a signed number for a real-world situation
arith691 Ordering integers
arith071 Absolute value of a number
arith200 Integer addition: Problem type 1
arith108 Integer addition: Problem type 2
arith688 Integer subtraction: Problem type 1
arith689 Integer subtraction: Problem type 2
arith690 Integer subtraction: Problem type 3
arith754 Addition and subtraction with 3 integers

arith755 Addition and subtraction with 4 or 5 integers
 arith701 Word problem with addition or subtraction of integers
 arith104 Operations with absolute value: Problem type 2
 arith231 Integer multiplication and division
 arith800 Multiplication of 3 or 4 integers
 arith702 Exponents and integers: Problem type 1
 arith703 Exponents and integers: Problem type 2
 arith118 Order of operations with integers
 arith600 Order of operations with integers and exponents

Algebraic Expressions and Equations

alge284 Evaluating an algebraic expression: Whole number addition or subtraction
 alge683 Evaluating an algebraic expression: Whole number multiplication or division
 alge285 Evaluating an algebraic expression: Whole numbers with two operations
 alge832 Evaluating an algebraic expression: Whole number operations and exponents
 alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge004 Evaluating a quadratic expression: Integers
 alge310 Multiplying a constant and a linear monomial
 alge606 Distributive property: Whole number coefficients
 alge604 Distributive property: Integer coefficients
 alge700 Combining like terms: Whole number coefficients
 alge607 Combining like terms: Integer coefficients
 alge608 Using distribution and combining like terms to simplify: Univariate
 alge609 Using distribution with double negation and combining like terms to simplify: Multivariate
 alge293 Combining like terms in a quadratic expression
 alge009 Additive property of equality with whole numbers
 alge010 Additive property of equality with integers
 alge511 Solving for a variable in terms of other variables using addition or subtraction: Basic
 alge008 Multiplicative property of equality with whole numbers
 alge797 Multiplicative property of equality with integers
 alge513 Solving for a variable in terms of other variables using multiplication or division: Basic
 alge834 Identifying solutions to a linear equation in one variable: Two-step equations
 alge803 Using two steps to solve an equation with whole numbers
 alge266 Additive property of equality with a negative coefficient
 alge006 Solving a two-step equation with integers
 alge200 Solving an equation to find the value of an expression
 alge920 Introduction to solving an equation with parentheses
 alge838 Introduction to solving an equation with variables on the same side
 alge862 Solving a linear equation with several occurrences of the variable: Variables on the same side
 alge863 Solving a linear equation with several occurrences of the variable: Variables on both sides
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge742 Solving equations with zero, one, or infinitely many solutions
 alge512 Solving for a variable in terms of other variables using addition or subtraction: Advanced
 alge733 Writing a one-step expression for a real-world situation
 alge831 Translating a phrase into a one-step expression
 alge291 Translating a phrase into a two-step expression
 alge016 Translating a sentence into a one-step equation
 alge841 Translating a sentence into a multi-step equation
 alge014 Solving a word problem with two unknowns using a linear equation
 alge842 Solving a word problem involving consecutive integers

Fractions

arith647 Divisibility rules for 2, 5, and 10
 arith648 Divisibility rules for 3 and 9

arith056 Factors
arith034 Prime numbers
arith035 Prime factorization
arith033 Greatest common factor of 2 numbers
arith070 Least common multiple of 2 numbers
arith804 Least common multiple of 3 numbers
arith240 Word problem with common multiples
alge925 Finding the next terms of an arithmetic sequence with whole numbers
alge933 Finding the next terms of a geometric sequence with whole numbers
alge732 Finding patterns in shapes
arith623 Introduction to fractions
arith665 Understanding equivalent fractions
arith212 Equivalent fractions
arith666 Introduction to simplifying a fraction
arith067 Simplifying a fraction
alge451 Simplifying a ratio of multivariate monomials: Basic
arith687 Fractional position on a number line
arith667 Plotting fractions on a number line
arith044 Ordering fractions with the same denominator
arith091 Ordering fractions with the same numerator
arith092 Using a common denominator to order fractions
arith079 Product of a unit fraction and a whole number
arith086 Product of a fraction and a whole number: Problem type 1
arith119 Introduction to fraction multiplication
arith053 Fraction multiplication
arith812 Product of a fraction and a whole number: Problem type 2
arith813 Multiplication of 3 fractions
arith822 Signed fraction multiplication: Basic
arith105 Signed fraction multiplication: Advanced
arith818 Word problem involving fractions and multiplication
arith095 Multi-step word problem involving fractions and multiplication
arith088 The reciprocal of a number
arith694 Division involving a whole number and a fraction
arith022 Fraction division
arith814 Signed fraction division
arith819 Word problem involving fractions and division
arith618 Addition or subtraction of fractions with the same denominator
arith802 Addition or subtraction of fractions with the same denominator and simplification
alge432 Introduction to adding fractions with variables and common denominators
arith801 Finding the LCD of two fractions
arith109 Addition or subtraction of unit fractions
arith664 Introduction to addition or subtraction of fractions with different denominators
arith230 Addition or subtraction of fractions with different denominators
arith803 Addition and subtraction of 3 fractions with different denominators
arith116 Signed fraction addition or subtraction: Basic
arith864 Signed fraction subtraction involving double negation
arith106 Signed fraction addition or subtraction: Advanced
arith811 Addition and subtraction of 3 fractions involving signs
alge436 Adding rational expressions with different denominators and a single occurrence of a variable
alge437 Adding rational expressions with denominators ax and bx : Basic
arith805 Word problem involving addition or subtraction of fractions with different denominators
arith100 Fractional part of a circle
arith662 Writing a mixed number and an improper fraction for a shaded region
arith015 Writing an improper fraction as a mixed number
arith619 Writing a mixed number as an improper fraction
arith605 Plotting rational numbers on a number line
arith215 Addition or subtraction of mixed numbers with the same denominator
arith084 Addition of mixed numbers with the same denominator and carry
arith216 Subtraction of mixed numbers with the same denominator and borrowing
arith806 Addition or subtraction of mixed numbers with different denominators and no carry or borrow
arith808 Addition of mixed numbers with different denominators and carry
arith809 Subtraction of mixed numbers with different denominators and borrowing

arith807 Addition and subtraction of 3 mixed numbers with different denominators
 arith810 Word problem involving addition or subtraction of mixed numbers with different denominators
 arith815 Mixed number multiplication
 arith816 Multiplication of a mixed number and a whole number
 arith817 Division with a mixed number and a whole number
 arith068 Mixed number division
 arith820 Word problem involving multiplication or division with mixed numbers
 arith821 Exponents and fractions
 arith704 Exponents and signed fractions
 arith859 Order of operations with fractions: Problem type 1
 arith860 Order of operations with fractions: Problem type 2
 arith861 Order of operations with fractions: Problem type 3
 alge808 Evaluating a linear expression: Signed fraction multiplication with addition or subtraction
 arith695 Complex fraction without variables: Problem type 1
 arith696 Complex fraction without variables: Problem type 2
 alge801 Additive property of equality with fractions and mixed numbers
 alge836 Additive property of equality with signed fractions
 alge820 Multiplicative property of equality with fractions
 alge012 Multiplicative property of equality with signed fractions
 alge837 Solving a multi-step equation given in fractional form
 alge208 Solving a two-step equation with signed fractions
 alge420 Solving a linear equation with several occurrences of the variable: Fractional forms with monomial numerators
 alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
 alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
 alge986 Identifying properties used to solve a linear equation
 alge187 Properties of addition
 alge188 Properties of real numbers
 alge802 Solving a fraction word problem using a linear equation of the form $Ax = B$
 alge704 Solving a fraction word problem using a linear equation with the variable on both sides

Decimals

arith127 Writing a decimal and a fraction for a shaded region
 arith110 Decimal place value: Tenths and hundredths
 arith220 Decimal place value: Hundreds to ten thousandths
 arith714 Writing a decimal number less than 1 given its name
 arith715 Writing a decimal number greater than 1 given its name
 arith716 Writing a decimal number given its name: Advanced
 arith829 Reading decimal position on a number line: Tenths
 arith830 Reading decimal position on a number line: Hundredths
 arith831 Understanding decimal position on a number line using zoom: Hundredths
 arith832 Understanding decimal position on a number line using zoom: Thousandths
 arith129 Introduction to ordering decimals
 arith608 Ordering decimals
 arith221 Rounding decimals
 arith717 Converting a decimal to a proper fraction without simplifying: Basic
 arith719 Converting a decimal to a proper fraction without simplifying: Advanced
 arith718 Converting a decimal to a proper fraction in simplest form: Basic
 arith087 Converting a decimal to a proper fraction in simplest form: Advanced
 arith721 Converting a decimal to a mixed number and an improper fraction without simplifying
 arith722 Converting a decimal to a mixed number and an improper fraction in simplest form: Basic
 arith724 Converting a decimal to a mixed number and an improper fraction in simplest form: Advanced
 arith624 Addition of aligned decimals
 arith013 Decimal addition with 3 numbers
 arith734 Subtraction of aligned decimals
 arith735 Decimal subtraction: Basic
 arith736 Decimal subtraction: Advanced

arith737 Decimal addition and subtraction with 3 or more numbers
arith117 Signed decimal addition and subtraction
arith234 Signed decimal addition and subtraction with 3 numbers
arith131 Estimating a decimal sum or difference
arith132 Word problem with addition or subtraction of 2 decimals
arith133 Word problem with addition of 3 or 4 decimals and whole numbers
arith134 Word problem with subtraction of a whole number and a decimal: Regrouping with zeros
arith739 Introduction to decimal multiplication
arith017 Multiplication of a decimal by a whole number
arith055 Decimal multiplication: Problem type 1
arith046 Decimal multiplication: Problem type 2
arith082 Multiplication of a decimal by a power of ten
arith738 Multiplication of a decimal by a power of 0.1
arith740 Multiplication of decimals that have a product less than 0.1
arith750 Signed decimal multiplication
arith752 Estimating a product of decimals
arith135 Word problem with multiplication of a decimal and a whole number
arith137 Word problem with multiplication of two decimals
arith224 Word problem with decimal addition and multiplication
arith744 Whole number division with decimal answers
arith081 Division of a decimal by a whole number
arith743 Division of a decimal by a 1-digit decimal
arith019 Division of a decimal by a 2-digit decimal
arith083 Division of a decimal by a power of ten
arith742 Division of a decimal by a power of 0.1
arith751 Signed decimal division
arith745 Decimal division with rounding
arith136 Word problem with division of a decimal and a whole number
arith138 Word problem with division of two decimals
arith227 Word problem with decimal subtraction and division
arith725 Converting a fraction with a denominator of 10 or 100 to a decimal
arith726 Converting a fraction with a denominator of 100 or 1000 to a decimal
arith609 Ordering fractions and decimals
arith727 Converting a fraction to a terminating decimal: Basic
arith728 Converting a fraction to a terminating decimal: Advanced
arith730 Converting a fraction to a repeating decimal: Basic
arith731 Converting a fraction to a repeating decimal: Advanced
arith733 Using a calculator to convert a fraction to a rounded decimal
arith111 Converting a mixed number to a terminating decimal: Basic
arith112 Converting a mixed number to a terminating decimal: Advanced
arith732 Converting a fraction or mixed number to a rounded decimal
arith753 Squaring decimal bases: Products greater than 0.1
arith741 Exponents and decimals: Products less than 0.1
arith720 Order of operations with decimals: Problem type 1
arith746 Order of operations with decimals: Problem type 2
arith747 Order of operations with decimals: Problem type 3
alge302 Evaluating a linear expression: Signed decimal addition and subtraction
alge303 Evaluating a linear expression: Signed decimal multiplication with addition or subtraction
arith748 Addition or subtraction with a decimal and a mixed number
arith749 Multiplication with a decimal and a fraction
alge800 Additive property of equality with decimals
alge825 Multiplicative property of equality with decimals
alge824 Solving a two-step equation with signed decimals
alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
alge219 Solving a decimal word problem using a linear equation with the variable on both sides
arith016 Square root of a perfect square
arith763 Using a calculator to approximate a square root
arith602 Estimating a square root
arith601 Square root of a rational perfect square
alge413 Finding all square roots of a number
arith093 Simplifying the square root of a whole number less than 100
arith762 Simplifying the square root of a whole number greater than 100

arith764 Introduction to square root multiplication
 arith765 Square root multiplication: Basic
 arith767 Introduction to square root addition or subtraction
 arith032 Square root addition or subtraction
 alge533 Square root addition or subtraction with three terms
 alge001 Identifying numbers as integers or non-integers
 alge002 Identifying numbers as rational or irrational
 arith712 Ordering real numbers

Ratios, Proportions, and Percents

arith823 Writing ratios using different notations
 arith663 Writing ratios for real-world situations
 arith824 Simplifying a ratio of whole numbers: Problem type 1
 arith825 Simplifying a ratio of decimals
 arith827 Finding a unit price
 arith828 Computing unit prices to find the better buy
 arith064 Solving a word problem on proportions using a unit rate
 alge823 Solving a one-step word problem using the formula $d = rt$
 arith228 Word problem on unit rates associated with ratios of whole numbers: Decimal answers
 alge272 Solving a proportion of the form $x/a = b/c$
 alge840 Solving a proportion of the form $(x+a) \div b = c \div d$
 alge271 Solving a proportion of the form $a/(x+b) = c/x$
 arith610 Word problem on proportions: Problem type 1
 arith611 Word problem on proportions: Problem type 2
 alge063 Word problem on mixed number proportions
 arith045 Word problem with powers of ten
 arith836 Converting a fraction with a denominator of 100 to a percentage
 arith837 Converting a percentage to a fraction with a denominator of 100
 arith674 Finding the percentage of a grid that is shaded
 arith723 Introduction to converting a percentage to a decimal
 arith833 Introduction to converting a decimal to a percentage
 arith834 Converting between percentages and decimals
 arith841 Converting a mixed number percentage to a decimal
 arith835 Converting between percentages and decimals in a real-world situation
 arith090 Converting a percentage to a fraction in simplest form
 arith839 Converting a decimal percentage to a fraction
 arith838 Converting a fraction to a percentage: Denominator of 4, 5, or 10
 arith002 Converting a fraction to a percentage: Denominator of 20, 25, or 50
 arith843 Using a calculator to convert a fraction to a rounded percentage
 arith842 Converting a fraction to a percentage in a real-world situation
 arith840 Finding a percentage of a whole number
 arith030 Finding a percentage of a whole number without a calculator: Basic
 arith844 Finding a percentage of a whole number without a calculator: Advanced
 arith862 Applying the percent equation: Problem type 1
 arith863 Applying the percent equation: Problem type 2
 arith845 Finding a percentage of a total amount: Real-world situations
 arith846 Finding a percentage of a total amount without a calculator: Sales tax, commission, discount
 arith857 Estimating a tip without a calculator
 arith069 Writing a ratio as a percentage without a calculator
 mstat049 Computing a percentage from a table of values
 arith850 Finding the rate of a tax or commission
 arith849 Finding the total amount given the percentage of a partial amount
 arith852 Finding the multiplier to give a final amount after a percentage increase or decrease
 arith851 Finding the final amount given the original amount and a percentage increase or decrease
 arith847 Finding the sale price given the original price and percent discount
 arith074 Finding the sale price without a calculator given the original price and percent discount
 arith848 Finding the total cost including tax or markup
 arith855 Finding the original amount given the result of a percentage increase or decrease
 arith031 Finding the original price given the sale price and percent discount

arith858 Finding the percentage increase or decrease: Basic
 arith225 Finding the percentage increase or decrease: Advanced
 unit052 Finding the absolute error and percent error of a measurement
 arith856 Finding a percentage of a total amount in a circle graph
 stat801 Computations from a circle graph
 arith232 Finding simple interest without a calculator
 arith853 Introduction to compound interest
 alge741 Finding the final amount in a word problem on compound interest
 arith854 Computing a percent mixture

Geometry

geom339 Perimeter of a polygon
 geom300 Perimeter of a square or a rectangle
 geom618 Perimeter of a polygon involving mixed numbers and fractions
 geom078 Sides of polygons having the same perimeter
 geom221 Finding the missing length in a figure
 geom353 Perimeter of a piecewise rectangular figure
 geom358 Identifying parallel and perpendicular lines
 geom349 Naming segments, rays, and lines
 geom151 Measuring an angle with the protractor
 geom152 Drawing an angle with the protractor
 geom303 Acute, obtuse, and right angles
 geom039 Finding supplementary and complementary angles
 geom305 Identifying supplementary and vertical angles
 geom530 Solving equations involving vertical angles
 geom304 Identifying corresponding and alternate angles
 geom531 Solving equations involving angles and a pair of parallel lines
 geom306 Acute, obtuse, and right triangles
 geom307 Classifying scalene, isosceles, and equilateral triangles by side lengths or angles
 geom001 Finding an angle measure of a triangle given two angles
 geom623 Finding angle measures of a triangle given angles with variables
 geom502 Finding angle measures of a right or isosceles triangle given angles with variables
 geom908 Finding an angle measure for a triangle with an extended side
 geom812 Finding an angle measure given extended triangles
 geom813 Finding an angle measure given a triangle and parallel lines
 geom361 Naming polygons
 mstat042 Interpreting a Venn diagram of 2 sets
 geom867 Identifying parallelograms, rectangles, and squares
 geom310 Properties of quadrilaterals
 geom532 Classifying parallelograms
 geom019 Area of a square or a rectangle
 geom866 Perimeter and area on a grid
 geom620 Area of a rectangle involving fractions
 geom619 Area of a rectangle involving mixed numbers and fractions
 geom350 Distinguishing between the area and perimeter of a rectangle
 geom351 Areas of rectangles with the same perimeter
 geom217 Finding the side length of a rectangle given its perimeter or area
 geom817 Finding a side length given the perimeter and side lengths with variables
 geom143 Finding the perimeter or area of a rectangle given one of these values
 geom340 Area of a piecewise rectangular figure
 geom142 Word problem involving the area between two rectangles
 geom801 Area of a triangle
 geom344 Area involving rectangles and triangles
 geom022 Area of a parallelogram
 geom023 Area of a trapezoid
 geom347 Introduction to a circle: Diameter, radius, and chord
 geom016 Circumference of a circle
 geom218 Finding the radius or the diameter of a circle given its circumference
 geom838 Circumference ratios

geom301 Perimeter involving rectangles and circles
 geom802 Circumference and area of a circle
 geom302 Area involving rectangles and circles
 geom036 Word problem involving the area between two concentric circles
 geom214 Area involving inscribed figures
 geom814 Angle measure in a circle graph
 geom868 Classifying solids
 geom348 Vertices, edges, and faces of a solid
 geom830 Counting the cubes in a solid made of cubes
 geom354 Volume of a rectangular prism made of unit cubes
 geom311 Volume of a rectangular prism
 geom505 Volume of a piecewise rectangular prism
 geom090 Volume of a triangular prism
 geom033 Volume of a pyramid
 geom035 Volume of a cylinder
 geom092 Word problem involving the rate of filling or emptying a cylinder
 geom622 Volume of a cone
 geom841 Volume of a sphere
 geom219 Nets of solids
 geom816 Side views of a solid made of cubes
 geom031 Surface area of a cube or a rectangular prism
 geom345 Surface area of a piecewise rectangular prism made of unit cubes
 geom091 Surface area of a triangular prism
 geom621 Surface area of a cylinder
 geom842 Surface area of a sphere
 alge407 Introduction to the Pythagorean Theorem
 geom044 Pythagorean Theorem
 alge408 Word problem involving the Pythagorean Theorem
 geom359 Identifying congruent shapes on a grid
 geom520 Identifying and naming congruent triangles
 geom360 Identifying similar or congruent shapes on a grid
 geom037 Similar polygons
 geom038 Similar right triangles
 geom337 Indirect measurement

Measurement

mstat059 Choosing U.S. Customary measurement units
 unit005 U.S. Customary unit conversion with whole number values
 mstat035 Conversions involving measurements in feet and inches
 mstat036 Adding measurements in feet and inches
 unit006 U.S. Customary unit conversion with whole number values: Two-step conversion
 unit007 U.S. Customary unit conversion with mixed number values: One-step conversion
 unit008 U.S. Customary unit conversion with mixed number values: Two-step conversion
 unit009 U.S. Customary area unit conversion with whole number values
 mstat060 Choosing metric measurement units
 unit001 Metric distance conversion with whole number values
 unit002 Metric mass or capacity conversion with whole number values
 unit003 Metric distance conversion with decimal values
 unit004 Metric conversion with decimal values: Two-step problem
 unit010 Metric area unit conversion with decimal values
 unit012 Time unit conversion with whole number values
 time006 Adding time
 time007 Elapsed time
 arith063 Word problem with clocks
 mstat065 Converting between temperatures in Fahrenheit and Celsius
 arith826 Simplifying a ratio of whole numbers: Problem type 2
 alge218 Solving a word problem involving rates and time conversion
 unit034 Converting between metric and U.S. Customary unit systems
 unit035 Converting between compound units: Basic

unit036 Converting between compound units: Advanced

Statistics and Probability

mstat056 Interpreting a tally table
mstat037 Constructing a line plot
mstat005 Constructing a bar graph for non-numerical data
mstat004 Constructing a histogram for numerical data
mstat024 Interpreting a bar graph
mstat044 Interpreting a double bar graph
mstat057 Interpreting a pictograph table
mstat007 Interpreting a line graph
mstat031 Interpreting a stem-and-leaf plot
stat804 Interpreting a circle graph or pie chart
stat020 Calculating relative frequencies in a contingency table
stat805 Making a reasonable inference based on proportion statistics
mstat025 Finding if a question can be answered by the data
mstat003 Mode of a data set
mstat055 Finding the mode and range of a data set
arith103 Average of two numbers
mstat001 Mean of a data set
mstat028 Mean and median of a data set
stat803 Finding the value for a new score that will yield a given mean
mstat029 How changing a value affects the mean and median
mstat053 Choosing the best measure to describe data
stat802 Rejecting unreasonable claims based on average statistics
mstat066 Weighted mean
mstat027 Using back-to-back stem-and-leaf plots to compare data sets
mstat072 Five-number summary and interquartile range
mstat006 Constructing a box-and-whisker plot
mstat073 Using box-and-whisker plots to compare data sets
mstat043 Interpreting a Venn diagram of 3 sets
mstat041 Interpreting a tree diagram
mstat040 Introduction to the counting principle
mstat015 Counting principle
pcalc082 Factorial expressions
mstat017 Computing permutations and combinations
mstat008 Word problem involving permutations
mstat009 Word problem involving combinations
mstat026 Introduction to the probability of an event
mstat010 Probability of an event
mstat039 Understanding likelihood
mstat048 Odds of an event
stat106 Outcomes and event probability
stat112 Probabilities involving two dice
mstat011 Area as probability
mstat046 Experimental and theoretical probability
mstat047 Introduction to expectation
mstat012 Probability of independent events
mstat013 Probability of dependent events
mstat032 Probability of the union of two events

Graphs of Linear Equations

alge064 Reading a point in the coordinate plane
alge067 Plotting a point in the coordinate plane
alge850 Table for a linear equation
alge873 Identifying solutions to a linear equation in two variables

alge066 Finding a solution to a linear equation in two variables
 fun005 Writing a function rule given a table of ordered pairs: One-step rules
 alge191 Midpoint of a line segment in the plane
 alge877 Graphing a linear equation of the form $y = mx$
 alge878 Graphing a line given its equation in slope-intercept form: Integer slope
 alge879 Graphing a line given its equation in slope-intercept form: Fractional slope
 alge880 Graphing a line given its equation in standard form
 alge198 Graphing a vertical or horizontal line
 alge884 Finding x - and y -intercepts given the graph of a line on a grid
 alge924 Finding x - and y -intercepts of a line given the equation: Basic
 alge210 Finding x - and y -intercepts of a line given the equation: Advanced
 alge197 Graphing a line given its x - and y -intercepts
 alge881 Graphing a line by first finding its x - and y -intercepts
 alge954 Graphing a parabola of the form $y = ax^2$
 alge875 Classifying slopes given graphs of lines
 alge886 Finding slope given the graph of a line on a grid
 alge887 Finding slope given two points on the line
 alge885 Finding the slope of horizontal and vertical lines
 alge888 Finding the coordinate that yields a given slope
 alge259 Graphing a line given its slope and y -intercept
 alge196 Graphing a line through a given point with a given slope
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 alge263 Interpreting the graphs of two functions
 alge060 Solving a rational equation that simplifies to linear: Denominator x
 alge982 Identifying direct variation equations
 alge938 Identifying direct variation from ordered pairs and writing equations
 alge904 Writing a direct variation equation
 alge175 Word problem on direct variation
 alge828 Interpreting direct variation from a graph
 alge905 Writing an inverse variation equation
 alge903 Identifying direct and inverse variation equations
 alge902 Identifying direct and inverse variation from ordered pairs and writing equations
 alge176 Word problem on inverse variation

Exponents and Polynomials

alge758 Degree and leading coefficient of a univariate polynomial
 alge798 Simplifying a sum or difference of two univariate polynomials
 alge029 Simplifying a sum or difference of three univariate polynomials
 alge932 Simplifying a sum or difference of multivariate polynomials
 alge821 Understanding the product rule of exponents
 alge024 Introduction to the product rule of exponents
 alge311 Product rule with positive exponents: Univariate
 alge030 Product rule with positive exponents: Multivariate
 alge826 Understanding the power rules of exponents
 alge306 Introduction to the power of a power rule of exponents
 alge305 Introduction to the power of a product rule of exponents
 alge307 Power rules with positive exponents: Multivariate products
 alge308 Power rules with positive exponents: Multivariate quotients
 alge756 Power and product rules with positive exponents
 arith029 Ordering numbers with positive exponents
 alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
 alge972 Multiplying a univariate polynomial by a monomial with a negative coefficient
 alge835 Multiplying a multivariate polynomial by a monomial
 alge033 Multiplying binomials with leading coefficients of 1
 alge983 Multiplying binomials with leading coefficients greater than 1
 alge765 Multiplying binomials in two variables
 alge764 Multiplying conjugate binomials: Univariate
 alge081 Multiplying conjugate binomials: Multivariate
 alge032 Squaring a binomial: Univariate

alge068 Squaring a binomial: Multivariate
 alge935 Multiplication involving binomials and trinomials in one variable
 alge180 Multiplication involving binomials and trinomials in two variables
 alge736 Introduction to the GCF of two monomials
 alge037 Greatest common factor of two multivariate monomials
 alge930 Greatest common factor of three univariate monomials
 alge737 Introduction to the LCM of two monomials
 alge055 Least common multiple of two monomials
 alge605 Factoring a linear binomial
 alge738 Factoring out a monomial from a polynomial: Univariate
 alge739 Factoring out a monomial from a polynomial: Multivariate
 alge827 Introduction to the quotient rule of exponents
 alge452 Simplifying a ratio of univariate monomials
 alge026 Quotient of expressions involving exponents
 alge453 Simplifying a ratio of multivariate monomials: Advanced
 alge790 Evaluating expressions with exponents of zero
 arith729 Evaluating an expression with a negative exponent: Whole number base
 arith684 Power of 10: Negative exponent
 arith042 Evaluating an expression with a negative exponent: Positive fraction base
 arith043 Evaluating an expression with a negative exponent: Negative integer base
 alge791 Rewriting an algebraic expression without a negative exponent
 alge961 Introduction to the product rule with negative exponents
 alge028 Product rule with negative exponents
 alge025 Power of a power rule with negative exponents
 alge799 Power rules with negative exponents
 alge755 Quotient rule with negative exponents: Problem type 1
 arith036 Scientific notation with positive exponent
 arith037 Scientific notation with negative exponent
 scinot012 Converting between scientific notation and standard form in a real-world situation
 scinot008 Multiplying numbers written in scientific notation: Basic
 scinot009 Multiplying numbers written in scientific notation: Advanced
 scinot010 Dividing numbers written in scientific notation: Basic
 scinot011 Dividing numbers written in scientific notation: Advanced

Inequalities

alge015 Translating a sentence by using an inequality symbol
 alge017 Graphing a linear inequality on the number line
 alge822 Writing an inequality given a graph on the number line
 alge845 Translating a sentence into a one-step inequality
 alge846 Translating a sentence into a multi-step inequality
 alge748 Writing an inequality for a real-world situation
 alge844 Identifying solutions to a two-step linear inequality in one variable
 alge848 Additive property of inequality with whole numbers
 alge849 Additive property of inequality with integers
 alge852 Additive property of inequality with signed fractions
 alge853 Additive property of inequality with signed decimals
 alge854 Multiplicative property of inequality with integers
 alge964 Multiplicative property of inequality with signed fractions
 alge855 Solving a two-step linear inequality: Problem type 1
 alge856 Solving a two-step linear inequality: Problem type 2

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Whole Numbers

arith124 Whole number place value: Problem type 1
arith125 Whole number place value: Problem type 2
arith066 Expanded form
arith643 Expanded form with zeros
arith028 Numeral translation: Problem type 1
arith060 Numeral translation: Problem type 2
arith633 One-digit addition with carry
arith634 Addition of 3 or 4 one-digit numbers
arith001 Addition without carry
arith635 Adding a 2-digit number and a 1-digit number with carry
arith050 Addition with carry
arith630 Addition with carry to the hundreds place
arith012 Addition of large numbers
arith636 Subtracting a 1-digit number from a 2-digit number
arith007 Subtraction without borrowing
arith128 Adding or subtracting 10, 100, or 1000
arith006 Subtraction with borrowing
arith682 Subtraction with multiple regrouping steps
arith637 Subtraction and regrouping with zeros
arith613 Word problem with addition or subtraction of whole numbers
arith655 Introduction to properties of addition
arith126 Multiplication as repeated addition
arith008 One-digit multiplication
arith679 Multiplication by 10, 100, and 1000
arith003 Multiplication without carry
arith004 Multiplication with carry
arith632 Multiplication with trailing zeros: Problem type 1
arith615 Introduction to multiplication of large numbers
arith638 Multiplication with trailing zeros: Problem type 2
arith014 Multiplication of large numbers
arith641 Multiples: Problem type 1
arith642 Multiples: Problem type 2
arith656 Introduction to properties of multiplication
arith075 Division facts
arith614 Word problem with multiplication or division of whole numbers
arith130 Word problem with multiplication and addition or subtraction of whole numbers
arith243 Division of whole numbers given in fractional form
arith711 Division involving zero
arith052 Division without carry
arith005 Division with carry
arith680 Division with trailing zeros: Problem type 1
arith649 Division with trailing zeros: Problem type 2
arith616 Quotient and remainder: Problem type 1
arith644 Word problem on quotient and remainder
arith617 Quotient and remainder: Problem type 2
arith631 Quotient and remainder: Problem type 3
arith650 Division involving quotients with intermediate zeros
arith023 Word problem with division of whole numbers and rounding
arith651 Introduction to inequalities
arith077 Ordering large numbers
arith078 Rounding to tens or hundreds
arith123 Rounding to hundreds or thousands
arith061 Rounding to thousands, ten thousands, or hundred thousands
arith101 Estimating a sum of whole numbers
arith102 Estimating a difference of whole numbers
arith604 Estimating a product or quotient of whole numbers
arith692 Writing expressions using exponents
arith233 Introduction to exponents
arith683 Power of 10: Positive exponent
arith645 Introduction to parentheses
arith681 Introduction to order of operations
arith048 Order of operations with whole numbers

arith051 Order of operations with whole numbers and grouping symbols
 arith693 Order of operations with whole numbers and exponents: Basic
 arith713 Order of operations with whole numbers and exponents: Advanced
 arith657 Understanding the distributive property
 alge284 Evaluating an algebraic expression: Whole number addition or subtraction
 alge683 Evaluating an algebraic expression: Whole number multiplication or division
 alge285 Evaluating an algebraic expression: Whole numbers with two operations
 alge832 Evaluating an algebraic expression: Whole number operations and exponents
 alge009 Additive property of equality with whole numbers
 alge008 Multiplicative property of equality with whole numbers
 alge803 Using two steps to solve an equation with whole numbers
 arith646 Even and odd numbers
 arith647 Divisibility rules for 2, 5, and 10
 arith648 Divisibility rules for 3 and 9
 arith056 Factors
 arith034 Prime numbers
 arith035 Prime factorization
 arith033 Greatest common factor of 2 numbers
 arith070 Least common multiple of 2 numbers
 arith804 Least common multiple of 3 numbers
 arith240 Word problem with common multiples
 alge925 Finding the next terms of an arithmetic sequence with whole numbers
 alge933 Finding the next terms of a geometric sequence with whole numbers
 alge732 Finding patterns in shapes

Fractions

arith623 Introduction to fractions
 arith665 Understanding equivalent fractions
 arith212 Equivalent fractions
 arith666 Introduction to simplifying a fraction
 arith067 Simplifying a fraction
 arith687 Fractional position on a number line
 arith667 Plotting fractions on a number line
 arith044 Ordering fractions with the same denominator
 arith091 Ordering fractions with the same numerator
 arith092 Using a common denominator to order fractions
 arith079 Product of a unit fraction and a whole number
 arith086 Product of a fraction and a whole number: Problem type 1
 arith119 Introduction to fraction multiplication
 arith053 Fraction multiplication
 arith812 Product of a fraction and a whole number: Problem type 2
 arith813 Multiplication of 3 fractions
 arith818 Word problem involving fractions and multiplication
 arith095 Multi-step word problem involving fractions and multiplication
 arith088 The reciprocal of a number
 arith694 Division involving a whole number and a fraction
 arith022 Fraction division
 arith819 Word problem involving fractions and division
 arith618 Addition or subtraction of fractions with the same denominator
 arith802 Addition or subtraction of fractions with the same denominator and simplification
 arith801 Finding the LCD of two fractions
 arith109 Addition or subtraction of unit fractions
 arith664 Introduction to addition or subtraction of fractions with different denominators
 arith230 Addition or subtraction of fractions with different denominators
 arith803 Addition and subtraction of 3 fractions with different denominators
 arith805 Word problem involving addition or subtraction of fractions with different denominators
 arith100 Fractional part of a circle
 arith662 Writing a mixed number and an improper fraction for a shaded region
 arith015 Writing an improper fraction as a mixed number

arith619 Writing a mixed number as an improper fraction
 arith215 Addition or subtraction of mixed numbers with the same denominator
 arith084 Addition of mixed numbers with the same denominator and carry
 arith216 Subtraction of mixed numbers with the same denominator and borrowing
 arith806 Addition or subtraction of mixed numbers with different denominators and no carry or borrow
 arith808 Addition of mixed numbers with different denominators and carry
 arith809 Subtraction of mixed numbers with different denominators and borrowing
 arith807 Addition and subtraction of 3 mixed numbers with different denominators
 arith810 Word problem involving addition or subtraction of mixed numbers with different denominators
 arith815 Mixed number multiplication
 arith816 Multiplication of a mixed number and a whole number
 arith817 Division with a mixed number and a whole number
 arith068 Mixed number division
 arith820 Word problem involving multiplication or division with mixed numbers
 arith821 Exponents and fractions
 arith859 Order of operations with fractions: Problem type 1
 arith860 Order of operations with fractions: Problem type 2
 arith861 Order of operations with fractions: Problem type 3
 arith695 Complex fraction without variables: Problem type 1

Decimals, Proportions, and Percents

arith127 Writing a decimal and a fraction for a shaded region
 arith110 Decimal place value: Tenths and hundredths
 arith220 Decimal place value: Hundreds to ten thousandths
 arith714 Writing a decimal number less than 1 given its name
 arith715 Writing a decimal number greater than 1 given its name
 arith716 Writing a decimal number given its name: Advanced
 arith829 Reading decimal position on a number line: Tenths
 arith830 Reading decimal position on a number line: Hundredths
 arith831 Understanding decimal position on a number line using zoom: Hundredths
 arith832 Understanding decimal position on a number line using zoom: Thousandths
 arith129 Introduction to ordering decimals
 arith608 Ordering decimals
 arith221 Rounding decimals
 arith717 Converting a decimal to a proper fraction without simplifying: Basic
 arith719 Converting a decimal to a proper fraction without simplifying: Advanced
 arith718 Converting a decimal to a proper fraction in simplest form: Basic
 arith087 Converting a decimal to a proper fraction in simplest form: Advanced
 arith721 Converting a decimal to a mixed number and an improper fraction without simplifying
 arith722 Converting a decimal to a mixed number and an improper fraction in simplest form: Basic
 arith724 Converting a decimal to a mixed number and an improper fraction in simplest form: Advanced
 arith624 Addition of aligned decimals
 arith013 Decimal addition with 3 numbers
 arith734 Subtraction of aligned decimals
 arith735 Decimal subtraction: Basic
 arith736 Decimal subtraction: Advanced
 arith737 Decimal addition and subtraction with 3 or more numbers
 arith131 Estimating a decimal sum or difference
 arith132 Word problem with addition or subtraction of 2 decimals
 arith133 Word problem with addition of 3 or 4 decimals and whole numbers
 arith134 Word problem with subtraction of a whole number and a decimal: Regrouping with zeros
 arith739 Introduction to decimal multiplication
 arith017 Multiplication of a decimal by a whole number
 arith055 Decimal multiplication: Problem type 1
 arith046 Decimal multiplication: Problem type 2
 arith082 Multiplication of a decimal by a power of ten
 arith738 Multiplication of a decimal by a power of 0.1
 arith740 Multiplication of decimals that have a product less than 0.1
 arith752 Estimating a product of decimals

arith135 Word problem with multiplication of a decimal and a whole number
arith137 Word problem with multiplication of two decimals
arith224 Word problem with decimal addition and multiplication
arith744 Whole number division with decimal answers
arith081 Division of a decimal by a whole number
arith743 Division of a decimal by a 1-digit decimal
arith019 Division of a decimal by a 2-digit decimal
arith083 Division of a decimal by a power of ten
arith742 Division of a decimal by a power of 0.1
arith745 Decimal division with rounding
arith136 Word problem with division of a decimal and a whole number
arith138 Word problem with division of two decimals
arith227 Word problem with decimal subtraction and division
alge823 Solving a one-step word problem using the formula $d = rt$
arith725 Converting a fraction with a denominator of 10 or 100 to a decimal
arith726 Converting a fraction with a denominator of 100 or 1000 to a decimal
arith609 Ordering fractions and decimals
arith727 Converting a fraction to a terminating decimal: Basic
arith728 Converting a fraction to a terminating decimal: Advanced
arith730 Converting a fraction to a repeating decimal: Basic
arith731 Converting a fraction to a repeating decimal: Advanced
arith733 Using a calculator to convert a fraction to a rounded decimal
arith111 Converting a mixed number to a terminating decimal: Basic
arith112 Converting a mixed number to a terminating decimal: Advanced
arith732 Converting a fraction or mixed number to a rounded decimal
arith753 Squaring decimal bases: Products greater than 0.1
arith741 Exponents and decimals: Products less than 0.1
arith720 Order of operations with decimals: Problem type 1
arith746 Order of operations with decimals: Problem type 2
arith747 Order of operations with decimals: Problem type 3
arith748 Addition or subtraction with a decimal and a mixed number
arith749 Multiplication with a decimal and a fraction
arith823 Writing ratios using different notations
arith663 Writing ratios for real-world situations
arith824 Simplifying a ratio of whole numbers: Problem type 1
arith825 Simplifying a ratio of decimals
arith827 Finding a unit price
arith828 Computing unit prices to find the better buy
arith064 Solving a word problem on proportions using a unit rate
arith228 Word problem on unit rates associated with ratios of whole numbers: Decimal answers
alge272 Solving a proportion of the form $x/a = b/c$
arith610 Word problem on proportions: Problem type 1
arith611 Word problem on proportions: Problem type 2
alge063 Word problem on mixed number proportions
arith045 Word problem with powers of ten
arith836 Converting a fraction with a denominator of 100 to a percentage
arith837 Converting a percentage to a fraction with a denominator of 100
arith674 Finding the percentage of a grid that is shaded
arith723 Introduction to converting a percentage to a decimal
arith833 Introduction to converting a decimal to a percentage
arith834 Converting between percentages and decimals
arith841 Converting a mixed number percentage to a decimal
arith835 Converting between percentages and decimals in a real-world situation
arith090 Converting a percentage to a fraction in simplest form
arith839 Converting a decimal percentage to a fraction
arith838 Converting a fraction to a percentage: Denominator of 4, 5, or 10
arith002 Converting a fraction to a percentage: Denominator of 20, 25, or 50
arith843 Using a calculator to convert a fraction to a rounded percentage
arith842 Converting a fraction to a percentage in a real-world situation
arith840 Finding a percentage of a whole number
arith030 Finding a percentage of a whole number without a calculator: Basic
arith844 Finding a percentage of a whole number without a calculator: Advanced

arith862 Applying the percent equation: Problem type 1
 arith863 Applying the percent equation: Problem type 2
 arith845 Finding a percentage of a total amount: Real-world situations
 arith846 Finding a percentage of a total amount without a calculator: Sales tax, commission, discount
 arith857 Estimating a tip without a calculator
 arith069 Writing a ratio as a percentage without a calculator
 mstat049 Computing a percentage from a table of values
 arith850 Finding the rate of a tax or commission
 arith849 Finding the total amount given the percentage of a partial amount
 arith852 Finding the multiplier to give a final amount after a percentage increase or decrease
 arith851 Finding the final amount given the original amount and a percentage increase or decrease
 arith847 Finding the sale price given the original price and percent discount
 arith074 Finding the sale price without a calculator given the original price and percent discount
 arith848 Finding the total cost including tax or markup
 arith855 Finding the original amount given the result of a percentage increase or decrease
 arith031 Finding the original price given the sale price and percent discount
 arith858 Finding the percentage increase or decrease: Basic
 arith225 Finding the percentage increase or decrease: Advanced
 arith232 Finding simple interest without a calculator
 arith856 Finding a percentage of a total amount in a circle graph
 stat801 Computations from a circle graph

Geometry

geom339 Perimeter of a polygon
 geom300 Perimeter of a square or a rectangle
 geom618 Perimeter of a polygon involving mixed numbers and fractions
 geom078 Sides of polygons having the same perimeter
 geom221 Finding the missing length in a figure
 geom353 Perimeter of a piecewise rectangular figure
 geom358 Identifying parallel and perpendicular lines
 geom349 Naming segments, rays, and lines
 geom151 Measuring an angle with the protractor
 geom152 Drawing an angle with the protractor
 geom303 Acute, obtuse, and right angles
 geom039 Finding supplementary and complementary angles
 geom305 Identifying supplementary and vertical angles
 geom304 Identifying corresponding and alternate angles
 geom306 Acute, obtuse, and right triangles
 geom307 Classifying scalene, isosceles, and equilateral triangles by side lengths or angles
 geom001 Finding an angle measure of a triangle given two angles
 geom908 Finding an angle measure for a triangle with an extended side
 geom812 Finding an angle measure given extended triangles
 geom813 Finding an angle measure given a triangle and parallel lines
 geom361 Naming polygons
 mstat042 Interpreting a Venn diagram of 2 sets
 geom867 Identifying parallelograms, rectangles, and squares
 geom310 Properties of quadrilaterals
 geom532 Classifying parallelograms
 geom019 Area of a square or a rectangle
 geom866 Perimeter and area on a grid
 geom620 Area of a rectangle involving fractions
 geom619 Area of a rectangle involving mixed numbers and fractions
 geom350 Distinguishing between the area and perimeter of a rectangle
 geom351 Areas of rectangles with the same perimeter
 geom217 Finding the side length of a rectangle given its perimeter or area
 geom340 Area of a piecewise rectangular figure
 geom142 Word problem involving the area between two rectangles
 geom801 Area of a triangle
 geom344 Area involving rectangles and triangles

geom022 Area of a parallelogram
geom023 Area of a trapezoid
geom347 Introduction to a circle: Diameter, radius, and chord
geom016 Circumference of a circle
geom301 Perimeter involving rectangles and circles
geom802 Circumference and area of a circle
geom302 Area involving rectangles and circles
geom036 Word problem involving the area between two concentric circles
geom214 Area involving inscribed figures
geom814 Angle measure in a circle graph
geom868 Classifying solids
geom348 Vertices, edges, and faces of a solid
geom830 Counting the cubes in a solid made of cubes
geom354 Volume of a rectangular prism made of unit cubes
geom311 Volume of a rectangular prism
geom505 Volume of a piecewise rectangular prism
geom090 Volume of a triangular prism
geom033 Volume of a pyramid
geom035 Volume of a cylinder
geom092 Word problem involving the rate of filling or emptying a cylinder
geom622 Volume of a cone
geom841 Volume of a sphere
geom219 Nets of solids
geom816 Side views of a solid made of cubes
geom031 Surface area of a cube or a rectangular prism
geom345 Surface area of a piecewise rectangular prism made of unit cubes
geom091 Surface area of a triangular prism
geom621 Surface area of a cylinder
geom842 Surface area of a sphere
arith016 Square root of a perfect square
arith763 Using a calculator to approximate a square root
arith602 Estimating a square root
arith601 Square root of a rational perfect square
alge407 Introduction to the Pythagorean Theorem
geom044 Pythagorean Theorem
alge408 Word problem involving the Pythagorean Theorem
geom359 Identifying congruent shapes on a grid
geom520 Identifying and naming congruent triangles
geom360 Identifying similar or congruent shapes on a grid
geom037 Similar polygons
geom038 Similar right triangles
geom337 Indirect measurement

Measurement and Data Analysis

mstat059 Choosing U.S. Customary measurement units
unit005 U.S. Customary unit conversion with whole number values
mstat035 Conversions involving measurements in feet and inches
mstat036 Adding measurements in feet and inches
unit006 U.S. Customary unit conversion with whole number values: Two-step conversion
unit007 U.S. Customary unit conversion with mixed number values: One-step conversion
unit008 U.S. Customary unit conversion with mixed number values: Two-step conversion
unit009 U.S. Customary area unit conversion with whole number values
mstat060 Choosing metric measurement units
unit001 Metric distance conversion with whole number values
unit002 Metric mass or capacity conversion with whole number values
unit003 Metric distance conversion with decimal values
unit004 Metric conversion with decimal values: Two-step problem
unit010 Metric area unit conversion with decimal values
unit012 Time unit conversion with whole number values

time006 Adding time
 time007 Elapsed time
 arith063 Word problem with clocks
 mstat065 Converting between temperatures in Fahrenheit and Celsius
 arith826 Simplifying a ratio of whole numbers: Problem type 2
 unit034 Converting between metric and U.S. Customary unit systems
 unit035 Converting between compound units: Basic
 unit036 Converting between compound units: Advanced
 mstat056 Interpreting a tally table
 mstat037 Constructing a line plot
 mstat005 Constructing a bar graph for non-numerical data
 mstat004 Constructing a histogram for numerical data
 mstat024 Interpreting a bar graph
 mstat044 Interpreting a double bar graph
 mstat057 Interpreting a pictograph table
 mstat007 Interpreting a line graph
 mstat031 Interpreting a stem-and-leaf plot
 stat804 Interpreting a circle graph or pie chart
 stat020 Calculating relative frequencies in a contingency table
 stat805 Making a reasonable inference based on proportion statistics
 mstat025 Finding if a question can be answered by the data
 mstat003 Mode of a data set
 mstat055 Finding the mode and range of a data set
 arith103 Average of two numbers
 mstat001 Mean of a data set
 mstat028 Mean and median of a data set
 mstat029 How changing a value affects the mean and median
 mstat053 Choosing the best measure to describe data
 stat802 Rejecting unreasonable claims based on average statistics
 mstat066 Weighted mean
 mstat027 Using back-to-back stem-and-leaf plots to compare data sets
 mstat072 Five-number summary and interquartile range
 mstat006 Constructing a box-and-whisker plot
 mstat073 Using box-and-whisker plots to compare data sets
 mstat043 Interpreting a Venn diagram of 3 sets
 mstat041 Interpreting a tree diagram
 mstat040 Introduction to the counting principle
 mstat015 Counting principle
 pcalc082 Factorial expressions
 mstat017 Computing permutations and combinations
 mstat008 Word problem involving permutations
 mstat009 Word problem involving combinations
 mstat026 Introduction to the probability of an event
 mstat010 Probability of an event
 mstat039 Understanding likelihood
 mstat048 Odds of an event
 stat106 Outcomes and event probability
 stat112 Probabilities involving two dice
 mstat011 Area as probability
 mstat046 Experimental and theoretical probability
 mstat047 Introduction to expectation
 mstat012 Probability of independent events
 mstat013 Probability of dependent events
 mstat032 Probability of the union of two events

Real Numbers

alge286 Plotting integers on a number line
 arith605 Plotting rational numbers on a number line
 mstat038 Reading the temperature from a thermometer

arith699 Writing a signed number for a real-world situation
 arith691 Ordering integers
 arith712 Ordering real numbers
 arith071 Absolute value of a number
 arith200 Integer addition: Problem type 1
 arith108 Integer addition: Problem type 2
 arith688 Integer subtraction: Problem type 1
 arith689 Integer subtraction: Problem type 2
 arith690 Integer subtraction: Problem type 3
 arith754 Addition and subtraction with 3 integers
 arith755 Addition and subtraction with 4 or 5 integers
 arith701 Word problem with addition or subtraction of integers
 arith231 Integer multiplication and division
 arith800 Multiplication of 3 or 4 integers
 alge001 Identifying numbers as integers or non-integers
 alge002 Identifying numbers as rational or irrational
 arith116 Signed fraction addition or subtraction: Basic
 arith864 Signed fraction subtraction involving double negation
 arith106 Signed fraction addition or subtraction: Advanced
 arith811 Addition and subtraction of 3 fractions involving signs
 arith822 Signed fraction multiplication: Basic
 arith105 Signed fraction multiplication: Advanced
 arith814 Signed fraction division
 arith117 Signed decimal addition and subtraction
 arith234 Signed decimal addition and subtraction with 3 numbers
 arith750 Signed decimal multiplication
 arith751 Signed decimal division
 arith104 Operations with absolute value: Problem type 2
 geom525 Computing distances between decimals on the number line
 unit052 Finding the absolute error and percent error of a measurement
 arith702 Exponents and integers: Problem type 1
 arith703 Exponents and integers: Problem type 2
 arith704 Exponents and signed fractions
 arith118 Order of operations with integers
 arith600 Order of operations with integers and exponents
 arith696 Complex fraction without variables: Problem type 2
 alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge808 Evaluating a linear expression: Signed fraction multiplication with addition or subtraction
 alge302 Evaluating a linear expression: Signed decimal addition and subtraction
 alge303 Evaluating a linear expression: Signed decimal multiplication with addition or subtraction
 alge004 Evaluating a quadratic expression: Integers
 alge700 Combining like terms: Whole number coefficients
 alge607 Combining like terms: Integer coefficients
 alge187 Properties of addition
 alge310 Multiplying a constant and a linear monomial
 alge606 Distributive property: Whole number coefficients
 alge604 Distributive property: Integer coefficients
 alge188 Properties of real numbers
 alge608 Using distribution and combining like terms to simplify: Univariate
 alge609 Using distribution with double negation and combining like terms to simplify: Multivariate
 alge293 Combining like terms in a quadratic expression
 alge432 Introduction to adding fractions with variables and common denominators
 alge436 Adding rational expressions with different denominators and a single occurrence of a variable

Linear Equations and Inequalities

alge801 Additive property of equality with fractions and mixed numbers
 alge800 Additive property of equality with decimals
 alge010 Additive property of equality with integers
 alge836 Additive property of equality with signed fractions

alge820 Multiplicative property of equality with fractions
 alge825 Multiplicative property of equality with decimals
 alge797 Multiplicative property of equality with integers
 alge012 Multiplicative property of equality with signed fractions
 alge834 Identifying solutions to a linear equation in one variable: Two-step equations
 alge266 Additive property of equality with a negative coefficient
 alge006 Solving a two-step equation with integers
 alge200 Solving an equation to find the value of an expression
 alge920 Introduction to solving an equation with parentheses
 alge837 Solving a multi-step equation given in fractional form
 alge986 Identifying properties used to solve a linear equation
 alge824 Solving a two-step equation with signed decimals
 alge838 Introduction to solving an equation with variables on the same side
 alge862 Solving a linear equation with several occurrences of the variable: Variables on the same side
 alge863 Solving a linear equation with several occurrences of the variable: Variables on both sides
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
 alge420 Solving a linear equation with several occurrences of the variable: Fractional forms with monomial numerators
 alge208 Solving a two-step equation with signed fractions
 alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
 alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
 alge742 Solving equations with zero, one, or infinitely many solutions
 alge840 Solving a proportion of the form $(x+a)\div b = c\div d$
 alge271 Solving a proportion of the form $a/(x+b) = c/x$
 alge603 Introduction to solving an absolute value equation
 alge864 Solving an absolute value equation: Problem type 1
 alge511 Solving for a variable in terms of other variables using addition or subtraction: Basic
 alge512 Solving for a variable in terms of other variables using addition or subtraction: Advanced
 alge513 Solving for a variable in terms of other variables using multiplication or division: Basic
 alge514 Solving for a variable in terms of other variables using multiplication or division: Advanced
 alge517 Solving for a variable in terms of other variables using addition or subtraction with division
 alge518 Solving for a variable inside parentheses in terms of other variables
 alge507 Solving for a variable in terms of other variables in a linear equation with fractions
 alge733 Writing a one-step expression for a real-world situation
 alge831 Translating a phrase into a one-step expression
 alge291 Translating a phrase into a two-step expression
 alge016 Translating a sentence into a one-step equation
 alge841 Translating a sentence into a multi-step equation
 alge802 Solving a fraction word problem using a linear equation of the form $Ax = B$
 alge014 Solving a word problem with two unknowns using a linear equation
 alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
 alge730 Writing a multi-step equation for a real-world situation
 alge219 Solving a decimal word problem using a linear equation with the variable on both sides
 alge704 Solving a fraction word problem using a linear equation with the variable on both sides
 alge792 Solving a word problem with three unknowns using a linear equation
 alge842 Solving a word problem involving consecutive integers
 alge794 Solving a value mixture problem using a linear equation
 alge218 Solving a word problem involving rates and time conversion
 alge796 Solving a distance, rate, time problem using a linear equation
 arith854 Computing a percent mixture
 alge795 Solving a percent mixture problem using a linear equation
 geom817 Finding a side length given the perimeter and side lengths with variables
 geom143 Finding the perimeter or area of a rectangle given one of these values
 geom218 Finding the radius or the diameter of a circle given its circumference
 geom838 Circumference ratios

geom530 Solving equations involving vertical angles
 geom531 Solving equations involving angles and a pair of parallel lines
 geom623 Finding angle measures of a triangle given angles with variables
 geom502 Finding angle measures of a right or isosceles triangle given angles with variables
 stat803 Finding the value for a new score that will yield a given mean
 alge015 Translating a sentence by using an inequality symbol
 alge845 Translating a sentence into a one-step inequality
 alge846 Translating a sentence into a multi-step inequality
 alge748 Writing an inequality for a real-world situation
 alge017 Graphing a linear inequality on the number line
 alge822 Writing an inequality given a graph on the number line
 alge186 Translating a sentence into a compound inequality
 alge166 Graphing a compound inequality on the number line
 alge847 Writing a compound inequality given a graph on the number line
 set001 Set builder notation
 set004 Set builder and interval notation
 set002 Union and intersection of finite sets
 alge844 Identifying solutions to a two-step linear inequality in one variable
 alge848 Additive property of inequality with whole numbers
 alge849 Additive property of inequality with integers
 alge852 Additive property of inequality with signed fractions
 alge853 Additive property of inequality with signed decimals
 alge854 Multiplicative property of inequality with integers
 alge964 Multiplicative property of inequality with signed fractions
 alge855 Solving a two-step linear inequality: Problem type 1
 alge856 Solving a two-step linear inequality: Problem type 2
 alge857 Solving a two-step linear inequality with a fractional coefficient
 alge977 Solving a linear inequality with multiple occurrences of the variable: Problem type 1
 alge858 Solving a linear inequality with multiple occurrences of the variable: Problem type 2
 alge859 Solving a linear inequality with multiple occurrences of the variable: Problem type 3
 alge860 Solving inequalities with no solution or all real numbers as solutions
 alge746 Solving a compound linear inequality: Graph solution, basic
 alge747 Solving a compound linear inequality: Interval notation
 alge868 Solving an absolute value inequality: Problem type 1
 alge749 Solving a decimal word problem using a two-step linear inequality
 alge750 Solving a decimal word problem using a linear inequality with the variable on both sides

Lines and Functions

alge064 Reading a point in the coordinate plane
 alge067 Plotting a point in the coordinate plane
 alge850 Table for a linear equation
 alge873 Identifying solutions to a linear equation in two variables
 alge066 Finding a solution to a linear equation in two variables
 alge191 Midpoint of a line segment in the plane
 alge877 Graphing a linear equation of the form $y = mx$
 alge878 Graphing a line given its equation in slope-intercept form: Integer slope
 alge879 Graphing a line given its equation in slope-intercept form: Fractional slope
 alge880 Graphing a line given its equation in standard form
 alge198 Graphing a vertical or horizontal line
 alge884 Finding x- and y-intercepts given the graph of a line on a grid
 alge924 Finding x- and y-intercepts of a line given the equation: Basic
 alge210 Finding x- and y-intercepts of a line given the equation: Advanced
 alge197 Graphing a line given its x- and y-intercepts
 alge881 Graphing a line by first finding its x- and y-intercepts
 alge875 Classifying slopes given graphs of lines
 alge886 Finding slope given the graph of a line on a grid
 alge887 Finding slope given two points on the line
 alge885 Finding the slope of horizontal and vertical lines
 alge888 Finding the coordinate that yields a given slope

alge259 Graphing a line given its slope and y-intercept
 alge196 Graphing a line through a given point with a given slope
 alge876 Identifying linear equations: Advanced
 alge874 Identifying linear functions given ordered pairs
 alge891 Rewriting a linear equation in the form $Ax + By = C$
 alge889 Finding the slope and y-intercept of a line given its equation in the form $y = mx + b$
 alge890 Finding the slope and y-intercept of a line given its equation in the form $Ax + By = C$
 alge882 Graphing a line by first finding its slope and y-intercept
 alge258 Writing an equation of a line given its slope and y-intercept
 alge892 Writing an equation and graphing a line given its slope and y-intercept
 alge893 Writing an equation in slope-intercept form given the slope and a point
 alge883 Graphing a line given its equation in point-slope form
 alge894 Writing an equation in point-slope form given the slope and a point
 alge070 Writing an equation of a line given the y-intercept and another point
 alge072 Writing the equation of the line through two given points
 alge073 Writing the equations of vertical and horizontal lines through a given point
 geom806 Finding slopes of lines parallel and perpendicular to a line given in slope-intercept form
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 alge895 Identifying parallel and perpendicular lines from equations
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 alge897 Writing and evaluating a function that models a real-world situation: Advanced
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 fun005 Writing a function rule given a table of ordered pairs: One-step rules
 fun006 Writing a function rule given a table of ordered pairs: Two-step rules
 alge992 Combining functions to write a new function that models a real-world situation
 alge987 Comparing properties of linear functions given in different forms
 alge989 Interpreting the parameters of a linear function that models a real-world situation
 alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
 alge806 Application problem with a linear function: Finding a coordinate given two points
 mstat052 Identifying independent and dependent variables from equations or real-world situations
 alge991 Solving a linear equation by graphing
 mstat030 Sketching the line of best fit
 mstat023 Scatter plots and correlation
 mstat068 Predictions from the line of best fit
 mstat067 Approximating the equation of a line of best fit and making predictions
 mstat069 Computing residuals
 mstat070 Interpreting residual plots
 mstat071 Linear relationship and the correlation coefficient
 mstat074 Identifying correlation and causation
 alge898 Translating the graph of an absolute value function: One step
 alge899 Translating the graph of an absolute value function: Two steps
 alge913 Graphing an absolute value equation of the form $y = A - |x - h| + k$
 alge900 Graphing an absolute value equation in the plane: Basic
 alge168 Graphing an absolute value equation in the plane: Advanced
 alge901 How the leading coefficient affects the graph of an absolute value function
 fun032 Identifying functions from relations
 fun010 Vertical line test
 fun016 Domain and range from ordered pairs
 fun001 Table for a linear function
 pcalc760 Evaluating functions: Linear and quadratic or cubic
 fun033 Variable expressions as inputs of functions: Problem type 1
 alge294 Finding outputs of a one-step function that models a real-world situation: Function notation
 alge295 Finding outputs of a two-step function with decimals that models a real-world situation: Function notation
 alge296 Finding inputs and outputs of a two-step function that models a real-world situation: Function notation
 alge990 Domain and range of a linear function that models a real-world situation
 fun026 Finding an output of a function from its graph
 pcalc761 Finding inputs and outputs of a function from its graph
 fun007 Domain and range from the graph of a discrete relation
 fun024 Domain and range from the graph of a continuous function
 alge896 Graphing an integer function and finding its range for a given domain
 alge570 Graphing a function of the form $f(x) = ax + b$: Integer slope

alge571 Graphing a function of the form $f(x) = ax + b$: Fractional slope
 alge954 Graphing a parabola of the form $y = ax^2$
 alge955 Graphing a parabola of the form $y = ax^2 + c$
 alge572 Graphing a function of the form $f(x) = ax^2$
 alge573 Graphing a function of the form $f(x) = ax^2 + c$
 pcalc750 Finding intercepts of a nonlinear function given its graph
 pcalc751 Finding where a function is increasing, decreasing, or constant given the graph: Interval notation
 pcalc752 Finding local maxima and minima of a function given the graph
 mstat018 Choosing a graph to fit a narrative: Basic
 mstat051 Choosing a graph to fit a narrative: Advanced

Systems

alge914 Identifying solutions to a system of linear equations
 alge075 Classifying systems of linear equations from graphs
 alge725 Graphically solving a system of linear equations
 alge751 Solving a system of linear equations using substitution
 alge915 Solving a system of linear equations using elimination with addition
 alge076 Solving a system of linear equations using elimination with multiplication and addition
 alge916 Solving a system of linear equations with fractional coefficients
 alge917 Solving a system of linear equations with decimal coefficients
 alge752 Solving a 2×2 system of linear equations that is inconsistent or consistent dependent
 alge988 Identifying the operations used to create equivalent systems of equations
 alge753 Solving a 3×3 system of linear equations: Problem type 1
 alge263 Interpreting the graphs of two functions
 alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations
 alge919 Solving a word problem using a system of linear equations of the form $Ax + By = C$
 alge918 Solving a word problem using a system of linear equations of the form $y = mx + b$
 alge184 Solving a value mixture problem using a system of linear equations
 alge192 Solving a percent mixture problem using a system of linear equations
 alge224 Solving a distance, rate, time problem using a system of linear equations
 alge172 Solving a tax rate or interest rate problem using a system of linear equations
 alge793 Solving a word problem using a 3×3 system of linear equations: Problem type 1
 alge912 Identifying solutions to a linear inequality in two variables
 alge225 Graphing a linear inequality in the plane: Vertical or horizontal line
 alge720 Graphing a linear inequality in the plane: Slope-intercept form
 alge018 Graphing a linear inequality in the plane: Standard form
 alge079 Graphing a system of two linear inequalities: Basic
 alge921 Graphing a system of two linear inequalities: Advanced
 alge922 Graphing a system of three linear inequalities
 alge729 Writing a multi-step inequality for a real-world situation
 pcalc093 Solving a word problem using a system of linear inequalities: Problem type 1

Exponents and Polynomials

alge821 Understanding the product rule of exponents
 alge024 Introduction to the product rule of exponents
 alge311 Product rule with positive exponents: Univariate
 alge030 Product rule with positive exponents: Multivariate
 arith029 Ordering numbers with positive exponents
 alge826 Understanding the power rules of exponents
 alge306 Introduction to the power of a power rule of exponents
 alge305 Introduction to the power of a product rule of exponents
 alge307 Power rules with positive exponents: Multivariate products
 alge308 Power rules with positive exponents: Multivariate quotients
 alge756 Power and product rules with positive exponents
 alge451 Simplifying a ratio of multivariate monomials: Basic
 alge827 Introduction to the quotient rule of exponents

alge452 Simplifying a ratio of univariate monomials
alge026 Quotient of expressions involving exponents
alge453 Simplifying a ratio of multivariate monomials: Advanced
alge927 Power and quotient rules with positive exponents
alge790 Evaluating expressions with exponents of zero
arith684 Power of 10: Negative exponent
arith729 Evaluating an expression with a negative exponent: Whole number base
arith042 Evaluating an expression with a negative exponent: Positive fraction base
arith043 Evaluating an expression with a negative exponent: Negative integer base
arith024 Ordering numbers with negative exponents
alge791 Rewriting an algebraic expression without a negative exponent
alge961 Introduction to the product rule with negative exponents
alge028 Product rule with negative exponents
alge755 Quotient rule with negative exponents: Problem type 1
alge926 Quotient rule with negative exponents: Problem type 2
alge025 Power of a power rule with negative exponents
alge799 Power rules with negative exponents
alge928 Power and quotient rules with negative exponents: Problem type 1
alge929 Power and quotient rules with negative exponents: Problem type 2
alge757 Power, product, and quotient rules with negative exponents
arith036 Scientific notation with positive exponent
arith037 Scientific notation with negative exponent
scinot012 Converting between scientific notation and standard form in a real-world situation
scinot008 Multiplying numbers written in scientific notation: Basic
scinot009 Multiplying numbers written in scientific notation: Advanced
scinot010 Dividing numbers written in scientific notation: Basic
scinot011 Dividing numbers written in scientific notation: Advanced
alge971 Table for an exponential function
alge830 Evaluating an exponential function that models a real-world situation
arith853 Introduction to compound interest
alge177 Finding a final amount in a word problem on exponential growth or decay
alge741 Finding the final amount in a word problem on compound interest
alge966 Finding the initial amount and rate of change given an exponential function
alge968 Writing an equation that models exponential growth or decay
alge301 Solving an exponential equation by finding common bases: Linear exponents
alge969 Graphing an exponential function: $f(x) = ax$
alge970 Graphing an exponential function: $f(x) = a(b)^x$
alge967 Writing an exponential function rule given a table of ordered pairs
alge993 Comparing linear, polynomial, and exponential functions
alge758 Degree and leading coefficient of a univariate polynomial
alge031 Degree of a multivariate polynomial
alge798 Simplifying a sum or difference of two univariate polynomials
alge029 Simplifying a sum or difference of three univariate polynomials
alge932 Simplifying a sum or difference of multivariate polynomials
alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
alge972 Multiplying a univariate polynomial by a monomial with a negative coefficient
alge835 Multiplying a multivariate polynomial by a monomial
alge033 Multiplying binomials with leading coefficients of 1
alge983 Multiplying binomials with leading coefficients greater than 1
alge765 Multiplying binomials in two variables
alge764 Multiplying conjugate binomials: Univariate
alge081 Multiplying conjugate binomials: Multivariate
alge032 Squaring a binomial: Univariate
alge068 Squaring a binomial: Multivariate
alge973 Multiplying binomials with negative coefficients
alge935 Multiplication involving binomials and trinomials in one variable
alge180 Multiplication involving binomials and trinomials in two variables
alge759 Dividing a polynomial by a monomial: Univariate
alge760 Dividing a polynomial by a monomial: Multivariate
alge761 Polynomial long division: Problem type 1
alge762 Polynomial long division: Problem type 2
alge763 Polynomial long division: Problem type 3

alge985 Closure properties of integers and polynomials
 alge605 Factoring a linear binomial
 alge736 Introduction to the GCF of two monomials
 alge930 Greatest common factor of three univariate monomials
 alge037 Greatest common factor of two multivariate monomials
 alge738 Factoring out a monomial from a polynomial: Univariate
 alge739 Factoring out a monomial from a polynomial: Multivariate
 alge949 Factoring out a binomial from a polynomial: GCF factoring, basic
 alge923 Factoring a univariate polynomial by grouping: Problem type 1
 alge950 Factoring a univariate polynomial by grouping: Problem type 2
 alge951 Factoring a multivariate polynomial by grouping: Problem type 1
 alge952 Factoring a multivariate polynomial by grouping: Problem type 2
 alge039 Factoring a quadratic with leading coefficient 1
 alge942 Factoring a quadratic in two variables with leading coefficient 1
 alge936 Factoring out a constant before factoring a quadratic
 alge939 Factoring a quadratic with leading coefficient greater than 1: Problem type 1
 alge940 Factoring a quadratic with leading coefficient greater than 1: Problem type 2
 alge941 Factoring a quadratic with leading coefficient greater than 1: Problem type 3
 alge978 Factoring a quadratic by the ac-method
 alge265 Factoring a quadratic in two variables with leading coefficient greater than 1
 alge937 Factoring a quadratic with a negative leading coefficient
 alge944 Factoring a perfect square trinomial with leading coefficient 1
 alge945 Factoring a perfect square trinomial with leading coefficient greater than 1
 alge946 Factoring a perfect square trinomial in two variables
 alge290 Factoring a difference of squares in one variable: Basic
 alge947 Factoring a difference of squares in one variable: Advanced
 alge839 Factoring a difference of squares in two variables
 alge948 Factoring a polynomial involving a GCF and a difference of squares: Univariate
 alge833 Factoring a polynomial involving a GCF and a difference of squares: Multivariate
 alge041 Factoring a product of a quadratic trinomial and a monomial
 alge042 Factoring with repeated use of the difference of squares formula
 alge044 Factoring a sum or difference of two cubes
 alge681 Solving an equation written in factored form
 alge956 Finding the roots of a quadratic equation of the form $ax^2 + bx = 0$
 alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
 alge211 Solving a quadratic equation needing simplification
 alge703 Solving a word problem using a quadratic equation with rational roots
 alge713 Using the Pythagorean Theorem and a quadratic equation to find side lengths of a right triangle

Rational Expressions

alge049 Restriction on a variable in a denominator: Linear
 alge467 Restriction on a variable in a denominator: Quadratic
 alge468 Evaluating a rational function: Problem type 1
 alge469 Evaluating a rational function: Problem type 2
 alge715 Domain of a rational function: Excluded values
 alge454 Simplifying a ratio of factored polynomials: Linear factors
 alge455 Simplifying a ratio of factored polynomials: Factors with exponents
 alge456 Simplifying a ratio of polynomials using GCF factoring
 alge457 Simplifying a ratio of linear polynomials: 1, -1, and no simplification
 alge458 Simplifying a ratio of polynomials by factoring a quadratic with leading coefficient 1
 alge710 Simplifying a ratio of polynomials: Problem type 1
 alge682 Simplifying a ratio of polynomials: Problem type 2
 alge459 Simplifying a ratio of polynomials: Problem type 3
 alge034 Simplifying a ratio of multivariate polynomials
 alge053 Multiplying rational expressions involving multivariate monomials
 alge460 Multiplying rational expressions made up of linear expressions
 alge620 Multiplying rational expressions involving quadratics with leading coefficients of 1
 alge461 Multiplying rational expressions involving quadratics with leading coefficients greater than 1

alge462 Multiplying rational expressions involving multivariate quadratics
 alge054 Dividing rational expressions involving multivariate monomials
 alge463 Dividing rational expressions involving linear expressions
 alge766 Dividing rational expressions involving quadratics with leading coefficients of 1
 alge464 Dividing rational expressions involving quadratics with leading coefficients greater than 1
 alge465 Dividing rational expressions involving multivariate quadratics
 alge466 Multiplication and division of 3 rational expressions
 alge737 Introduction to the LCM of two monomials
 alge055 Least common multiple of two monomials
 alge427 Finding the LCD of rational expressions with linear denominators: Relatively prime
 alge428 Finding the LCD of rational expressions with linear denominators: Common factors
 alge429 Finding the LCD of rational expressions with quadratic denominators
 alge430 Writing equivalent rational expressions with monomial denominators
 alge431 Writing equivalent rational expressions with polynomial denominators
 alge304 Writing equivalent rational expressions involving opposite factors
 alge433 Adding rational expressions with common denominators and monomial numerators
 alge056 Adding rational expressions with common denominators and binomial numerators
 alge434 Adding rational expressions with common denominators and GCF factoring
 alge435 Adding rational expressions with common denominators and quadratic factoring
 alge437 Adding rational expressions with denominators ax and bx : Basic
 alge438 Adding rational expressions with denominators ax and bx : Advanced
 alge439 Adding rational expressions with denominators axn and bxm
 alge440 Adding rational expressions with multivariate monomial denominators: Basic
 alge226 Adding rational expressions with multivariate monomial denominators: Advanced
 alge441 Adding rational expressions with linear denominators without common factors: Basic
 alge442 Adding rational expressions with linear denominators without common factors: Advanced
 alge443 Adding rational expressions with linear denominators with common factors: Basic
 alge444 Adding rational expressions with linear denominators with common factors: Advanced
 alge445 Adding rational expressions with denominators $ax-b$ and $b-ax$
 alge661 Adding rational expressions involving different quadratic denominators
 alge446 Adding 3 rational expressions with different quadratic denominators
 alge470 Complex fraction involving univariate monomials
 alge058 Complex fraction involving multivariate monomials
 alge471 Complex fraction: GCF factoring
 alge472 Complex fraction: Quadratic factoring
 alge473 Complex fraction made of sums involving rational expressions: Problem type 1
 alge474 Complex fraction made of sums involving rational expressions: Problem type 2
 alge475 Complex fraction made of sums involving rational expressions: Problem type 3
 alge476 Complex fraction made of sums involving rational expressions: Problem type 4
 alge477 Complex fraction made of sums involving rational expressions: Problem type 5
 alge478 Complex fraction made of sums involving rational expressions: Problem type 6
 alge479 Complex fraction made of sums involving rational expressions: Multivariate
 alge480 Complex fraction with negative exponents: Problem type 1
 alge481 Complex fraction with negative exponents: Problem type 2
 alge162 Complex fraction that contains a complex fraction
 alge060 Solving a rational equation that simplifies to linear: Denominator x
 alge205 Solving a rational equation that simplifies to linear: Denominator $x+a$
 alge769 Solving a rational equation that simplifies to linear: Denominators a , x , or ax
 alge421 Solving a rational equation that simplifies to linear: Denominators ax and bx
 alge422 Solving a rational equation that simplifies to linear: Like binomial denominators
 alge206 Solving a rational equation that simplifies to linear: Unlike binomial denominators
 alge423 Solving a rational equation that simplifies to linear: Factorable quadratic denominator
 alge424 Solving a rational equation that simplifies to quadratic: Proportional form, basic
 alge425 Solving a rational equation that simplifies to quadratic: Denominator x
 alge212 Solving a rational equation that simplifies to quadratic: Binomial denominators, constant numerators
 alge062 Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators
 alge426 Solving a rational equation that simplifies to quadratic: Factorable quadratic denominator
 alge047 Solving a rational equation that simplifies to quadratic: Proportional form, advanced
 alge508 Solving for a variable in terms of other variables in a rational equation: Problem type 1
 alge509 Solving for a variable in terms of other variables in a rational equation: Problem type 2
 alge510 Solving for a variable in terms of other variables in a rational equation: Problem type 3
 arith612 Word problem involving multiple rates

alge770 Solving a work problem using a rational equation
 alge450 Solving a distance, rate, time problem using a rational equation
 alge059 Ordering fractions with variables
 alge982 Identifying direct variation equations
 alge938 Identifying direct variation from ordered pairs and writing equations
 alge904 Writing a direct variation equation
 alge175 Word problem on direct variation
 alge828 Interpreting direct variation from a graph
 alge905 Writing an inverse variation equation
 alge903 Identifying direct and inverse variation equations
 alge902 Identifying direct and inverse variation from ordered pairs and writing equations
 alge176 Word problem on inverse variation
 alge220 Word problem on inverse proportions
 pcalc681 Writing an equation that models variation
 alge772 Word problem on combined variation

Radicals and Quadratic Equations

alge413 Finding all square roots of a number
 arith760 Square roots of perfect squares with signs
 alge415 Introduction to simplifying a radical expression with an even exponent
 alge264 Square root of a perfect square monomial
 arith094 Cube root of an integer
 alge549 Finding n th roots of perfect n th powers with signs
 arith768 Finding the n th root of a perfect n th power fraction
 alge550 Finding the n th root of a perfect n th power monomial
 arith093 Simplifying the square root of a whole number less than 100
 arith762 Simplifying the square root of a whole number greater than 100
 alge080 Simplifying a radical expression with an even exponent
 alge520 Introduction to simplifying a radical expression with an odd exponent
 alge521 Simplifying a radical expression with an odd exponent
 alge275 Simplifying a radical expression with two variables
 alge273 Simplifying a higher root of a whole number
 alge551 Introduction to simplifying a higher radical expression
 alge552 Simplifying a higher radical expression: Univariate
 alge811 Simplifying a higher radical expression: Multivariate
 arith767 Introduction to square root addition or subtraction
 arith032 Square root addition or subtraction
 alge533 Square root addition or subtraction with three terms
 alge531 Introduction to simplifying a sum or difference of radical expressions: Univariate
 alge532 Simplifying a sum or difference of radical expressions: Univariate
 alge084 Simplifying a sum or difference of radical expressions: Multivariate
 alge554 Simplifying a sum or difference of higher roots
 alge555 Simplifying a sum or difference of higher radical expressions
 arith764 Introduction to square root multiplication
 arith765 Square root multiplication: Basic
 arith039 Square root multiplication: Advanced
 alge522 Introduction to simplifying a product of radical expressions: Univariate
 alge523 Simplifying a product of radical expressions: Univariate
 alge640 Simplifying a product of radical expressions: Multivariate
 alge556 Introduction to simplifying a product of higher roots
 alge557 Simplifying a product of higher radical expressions
 alge525 Introduction to simplifying a product involving square roots using the distributive property
 alge526 Simplifying a product involving square roots using the distributive property: Basic
 alge276 Simplifying a product involving square roots using the distributive property: Advanced
 alge774 Special products of radical expressions: Conjugates and squaring
 alge984 Classifying sums and products as rational or irrational
 arith766 Simplifying a quotient of square roots
 alge530 Simplifying a quotient involving a sum or difference with a square root
 alge527 Rationalizing a denominator: Quotient involving square roots

alge528 Rationalizing a denominator: Square root of a fraction
 alge529 Rationalizing a denominator: Quotient involving a monomial
 alge534 Rationalizing a denominator using conjugates: Integer numerator
 alge535 Rationalizing a denominator using conjugates: Square root in numerator
 alge536 Rationalizing a denominator using conjugates: Variable in denominator
 alge564 Rationalizing a denominator: Quotient involving a higher radical
 alge400 Introduction to solving a radical equation
 alge089 Solving a radical equation that simplifies to a linear equation: One radical, basic
 alge402 Solving a radical equation that simplifies to a linear equation: One radical, advanced
 alge090 Solving a radical equation that simplifies to a linear equation: Two radicals
 alge405 Solving a radical equation with two radicals that simplifies to $\sqrt{x} = a$
 alge403 Solving a radical equation that simplifies to a quadratic equation: One radical, basic
 alge404 Solving a radical equation that simplifies to a quadratic equation: One radical, advanced
 alge411 Solving a radical equation with a quadratic expression under the radical
 alge182 Solving a radical equation that simplifies to a quadratic equation: Two radicals
 alge410 Solving an equation with a root index greater than 2: Problem type 1
 alge417 Solving an equation with a root index greater than 2: Problem type 2
 alge412 Algebraic symbol manipulation with radicals
 alge542 Word problem involving radical equations: Basic
 alge409 Word problem involving radical equations: Advanced
 alge132 Distance between two points in the plane: Exact answers
 alge539 Table for a square root function
 alge540 Domain of a square root function: Basic
 pcalc763 Domain of a square root function: Advanced
 alge543 Graphing a square root function: Problem type 1
 alge544 Graphing a square root function: Problem type 2
 alge812 Converting between radical form and exponent form
 alge560 Rational exponents: Unit fraction exponents and whole number bases
 alge561 Rational exponents: Unit fraction exponents and bases involving signs
 alge250 Rational exponents: Non-unit fraction exponent with a whole number base
 alge251 Rational exponents: Negative exponents and fractional bases
 alge558 Rational exponents: Product rule
 alge559 Rational exponents: Quotient rule
 alge773 Rational exponents: Products and quotients with negative exponents
 alge562 Rational exponents: Power of a power rule
 alge249 Rational exponents: Powers of powers with negative exponents
 alge563 Simplifying products or quotients of higher radicals with different indices: Univariate
 alge778 Using i to rewrite square roots of negative numbers
 alge779 Simplifying a product and quotient involving square roots of negative numbers
 pcalc048 Adding or subtracting complex numbers
 pcalc049 Multiplying complex numbers
 pcalc050 Dividing complex numbers
 pcalc053 Simplifying a power of i
 alge962 Solving an equation of the form $x^2 = a$ using the square root property
 alge092 Solving a quadratic equation using the square root property: Exact answers, basic
 alge227 Solving a quadratic equation using the square root property: Exact answers, advanced
 alge094 Completing the square
 alge780 Solving a quadratic equation by completing the square: Exact answers
 alge095 Applying the quadratic formula: Exact answers
 alge963 Applying the quadratic formula: Decimal answers
 pcalc051 Solving a quadratic equation with complex roots
 alge214 Discriminant of a quadratic equation
 alge524 Solving a word problem using a quadratic equation with irrational roots
 alge974 Finding the vertex, x -intercepts, and axis of symmetry from the graph of a parabola
 alge953 Translating the graph of a parabola: One step
 alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
 alge569 Graphing a parabola of the form $y = x^2 + bx + c$
 pcalc746 Graphing a parabola of the form $y = ax^2 + bx + c$: Integer coefficients
 pcalc747 Graphing a parabola of the form $y = ax^2 + bx + c$: Rational coefficients
 alge277 Finding the x -intercept(s) and the vertex of a parabola
 pcalc774 Rewriting a quadratic function to find the vertex of its graph
 pcalc775 Finding the maximum or minimum of a quadratic function

alge785 Word problem involving the maximum or minimum of a quadratic function
 alge975 Domain and range from the graph of a parabola
 pcalc762 Range of a quadratic function
 alge957 Solving a quadratic equation by graphing
 alge996 Comparing properties of quadratic functions given in different forms
 alge702 Classifying the graph of a function
 alge723 How the leading coefficient affects the shape of a parabola
 alge965 Identifying linear, quadratic, and exponential functions given ordered pairs
 alge262 Graphing a cubic function of the form $y = ax^3$
 fun019 Sum, difference, and product of two functions
 fun022 Composition of two functions: Basic
 pcalc776 Expressing a function as a composition of two functions
 pcalc924 Determining whether an equation defines a function: Basic
 pcalc757 Determining whether an equation defines a function: Advanced

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Arithmetic Readiness

arith692 Writing expressions using exponents
 arith233 Introduction to exponents
 arith683 Power of 10: Positive exponent
 arith048 Order of operations with whole numbers
 arith051 Order of operations with whole numbers and grouping symbols
 arith693 Order of operations with whole numbers and exponents: Basic
 arith713 Order of operations with whole numbers and exponents: Advanced
 alge285 Evaluating an algebraic expression: Whole numbers with two operations
 alge832 Evaluating an algebraic expression: Whole number operations and exponents
 arith056 Factors
 arith034 Prime numbers
 arith035 Prime factorization
 arith033 Greatest common factor of 2 numbers
 arith070 Least common multiple of 2 numbers
 arith804 Least common multiple of 3 numbers
 arith240 Word problem with common multiples
 arith064 Solving a word problem on proportions using a unit rate
 arith212 Equivalent fractions
 arith067 Simplifying a fraction
 arith618 Addition or subtraction of fractions with the same denominator
 arith802 Addition or subtraction of fractions with the same denominator and simplification
 arith801 Finding the LCD of two fractions
 arith664 Introduction to addition or subtraction of fractions with different denominators
 arith230 Addition or subtraction of fractions with different denominators
 arith803 Addition and subtraction of 3 fractions with different denominators
 arith805 Word problem involving addition or subtraction of fractions with different denominators
 arith100 Fractional part of a circle
 arith079 Product of a unit fraction and a whole number
 arith086 Product of a fraction and a whole number: Problem type 1
 arith119 Introduction to fraction multiplication
 arith053 Fraction multiplication
 arith812 Product of a fraction and a whole number: Problem type 2
 arith813 Multiplication of 3 fractions
 arith821 Exponents and fractions
 arith818 Word problem involving fractions and multiplication
 arith095 Multi-step word problem involving fractions and multiplication
 arith088 The reciprocal of a number
 arith694 Division involving a whole number and a fraction
 arith022 Fraction division

arith819 Word problem involving fractions and division
arith859 Order of operations with fractions: Problem type 1
arith860 Order of operations with fractions: Problem type 2
arith861 Order of operations with fractions: Problem type 3
arith015 Writing an improper fraction as a mixed number
arith619 Writing a mixed number as an improper fraction
arith084 Addition of mixed numbers with the same denominator and carry
arith216 Subtraction of mixed numbers with the same denominator and borrowing
arith806 Addition or subtraction of mixed numbers with different denominators and no carry or borrow
arith808 Addition of mixed numbers with different denominators and carry
arith809 Subtraction of mixed numbers with different denominators and borrowing
arith807 Addition and subtraction of 3 mixed numbers with different denominators
arith810 Word problem involving addition or subtraction of mixed numbers with different denominators
arith815 Mixed number multiplication
arith816 Multiplication of a mixed number and a whole number
arith817 Division with a mixed number and a whole number
arith068 Mixed number division
arith820 Word problem involving multiplication or division with mixed numbers
arith110 Decimal place value: Tenths and hundredths
arith221 Rounding decimals
arith718 Converting a decimal to a proper fraction in simplest form: Basic
arith087 Converting a decimal to a proper fraction in simplest form: Advanced
arith722 Converting a decimal to a mixed number and an improper fraction in simplest form: Basic
arith724 Converting a decimal to a mixed number and an improper fraction in simplest form: Advanced
arith013 Decimal addition with 3 numbers
arith735 Decimal subtraction: Basic
arith736 Decimal subtraction: Advanced
arith737 Decimal addition and subtraction with 3 or more numbers
arith131 Estimating a decimal sum or difference
arith133 Word problem with addition of 3 or 4 decimals and whole numbers
arith134 Word problem with subtraction of a whole number and a decimal: Regrouping with zeros
arith017 Multiplication of a decimal by a whole number
arith055 Decimal multiplication: Problem type 1
arith082 Multiplication of a decimal by a power of ten
arith752 Estimating a product of decimals
arith753 Squaring decimal bases: Products greater than 0.1
arith741 Exponents and decimals: Products less than 0.1
arith137 Word problem with multiplication of two decimals
arith224 Word problem with decimal addition and multiplication
arith081 Division of a decimal by a whole number
arith743 Division of a decimal by a 1-digit decimal
arith019 Division of a decimal by a 2-digit decimal
arith083 Division of a decimal by a power of ten
arith138 Word problem with division of two decimals
arith227 Word problem with decimal subtraction and division
arith727 Converting a fraction to a terminating decimal: Basic
arith728 Converting a fraction to a terminating decimal: Advanced
arith730 Converting a fraction to a repeating decimal: Basic
arith731 Converting a fraction to a repeating decimal: Advanced
arith111 Converting a mixed number to a terminating decimal: Basic
arith112 Converting a mixed number to a terminating decimal: Advanced
arith720 Order of operations with decimals: Problem type 1
arith746 Order of operations with decimals: Problem type 2
arith747 Order of operations with decimals: Problem type 3
arith836 Converting a fraction with a denominator of 100 to a percentage
arith837 Converting a percentage to a fraction with a denominator of 100
arith723 Introduction to converting a percentage to a decimal
arith833 Introduction to converting a decimal to a percentage
arith834 Converting between percentages and decimals
arith841 Converting a mixed number percentage to a decimal
arith835 Converting between percentages and decimals in a real-world situation
arith090 Converting a percentage to a fraction in simplest form

arith839 Converting a decimal percentage to a fraction
arith838 Converting a fraction to a percentage: Denominator of 4, 5, or 10
arith002 Converting a fraction to a percentage: Denominator of 20, 25, or 50
arith843 Using a calculator to convert a fraction to a rounded percentage
arith842 Converting a fraction to a percentage in a real-world situation
mstat003 Mode of a data set
arith103 Average of two numbers
mstat001 Mean of a data set
mstat028 Mean and median of a data set
mstat066 Weighted mean
mstat024 Interpreting a bar graph
mstat007 Interpreting a line graph
geom339 Perimeter of a polygon
geom300 Perimeter of a square or a rectangle
geom618 Perimeter of a polygon involving mixed numbers and fractions
geom078 Sides of polygons having the same perimeter
geom019 Area of a square or a rectangle
geom350 Distinguishing between the area and perimeter of a rectangle
geom620 Area of a rectangle involving fractions
geom619 Area of a rectangle involving mixed numbers and fractions
geom221 Finding the missing length in a figure
geom340 Area of a piecewise rectangular figure
geom142 Word problem involving the area between two rectangles
geom801 Area of a triangle
geom022 Area of a parallelogram
geom023 Area of a trapezoid
geom016 Circumference of a circle
geom301 Perimeter involving rectangles and circles
geom802 Circumference and area of a circle
geom302 Area involving rectangles and circles
geom036 Word problem involving the area between two concentric circles
geom214 Area involving inscribed figures
geom311 Volume of a rectangular prism
geom090 Volume of a triangular prism
geom033 Volume of a pyramid
geom035 Volume of a cylinder
geom092 Word problem involving the rate of filling or emptying a cylinder
geom622 Volume of a cone
geom841 Volume of a sphere
geom031 Surface area of a cube or a rectangular prism
geom091 Surface area of a triangular prism
geom621 Surface area of a cylinder
geom842 Surface area of a sphere
geom303 Acute, obtuse, and right angles
geom039 Finding supplementary and complementary angles
geom306 Acute, obtuse, and right triangles
geom307 Classifying scalene, isosceles, and equilateral triangles by side lengths or angles

Real Numbers and Algebraic Expressions

arith687 Fractional position on a number line
arith829 Reading decimal position on a number line: Tenths
arith830 Reading decimal position on a number line: Hundredths
alge286 Plotting integers on a number line
arith605 Plotting rational numbers on a number line
arith699 Writing a signed number for a real-world situation
arith092 Using a common denominator to order fractions
arith129 Introduction to ordering decimals
arith608 Ordering decimals
arith609 Ordering fractions and decimals

arith691 Ordering integers
 arith016 Square root of a perfect square
 arith763 Using a calculator to approximate a square root
 arith602 Estimating a square root
 arith712 Ordering real numbers
 arith071 Absolute value of a number
 arith200 Integer addition: Problem type 1
 arith108 Integer addition: Problem type 2
 arith688 Integer subtraction: Problem type 1
 arith689 Integer subtraction: Problem type 2
 arith690 Integer subtraction: Problem type 3
 arith754 Addition and subtraction with 3 integers
 arith755 Addition and subtraction with 4 or 5 integers
 arith701 Word problem with addition or subtraction of integers
 arith231 Integer multiplication and division
 arith800 Multiplication of 3 or 4 integers
 arith711 Division involving zero
 alge001 Identifying numbers as integers or non-integers
 alge002 Identifying numbers as rational or irrational
 arith116 Signed fraction addition or subtraction: Basic
 arith864 Signed fraction subtraction involving double negation
 arith106 Signed fraction addition or subtraction: Advanced
 arith811 Addition and subtraction of 3 fractions involving signs
 arith822 Signed fraction multiplication: Basic
 arith105 Signed fraction multiplication: Advanced
 arith814 Signed fraction division
 arith117 Signed decimal addition and subtraction
 arith234 Signed decimal addition and subtraction with 3 numbers
 arith750 Signed decimal multiplication
 arith751 Signed decimal division
 arith104 Operations with absolute value: Problem type 2
 geom525 Computing distances between decimals on the number line
 arith702 Exponents and integers: Problem type 1
 arith703 Exponents and integers: Problem type 2
 arith704 Exponents and signed fractions
 arith118 Order of operations with integers
 arith600 Order of operations with integers and exponents
 alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge004 Evaluating a quadratic expression: Integers
 alge808 Evaluating a linear expression: Signed fraction multiplication with addition or subtraction
 alge302 Evaluating a linear expression: Signed decimal addition and subtraction
 alge303 Evaluating a linear expression: Signed decimal multiplication with addition or subtraction
 alge700 Combining like terms: Whole number coefficients
 alge607 Combining like terms: Integer coefficients
 arith655 Introduction to properties of addition
 alge187 Properties of addition
 arith657 Understanding the distributive property
 alge310 Multiplying a constant and a linear monomial
 alge606 Distributive property: Whole number coefficients
 alge604 Distributive property: Integer coefficients
 arith656 Introduction to properties of multiplication
 alge188 Properties of real numbers
 alge608 Using distribution and combining like terms to simplify: Univariate
 alge609 Using distribution with double negation and combining like terms to simplify: Multivariate
 alge293 Combining like terms in a quadratic expression

Linear Equations

alge009 Additive property of equality with whole numbers
 alge801 Additive property of equality with fractions and mixed numbers

alge800 Additive property of equality with decimals
alge010 Additive property of equality with integers
alge836 Additive property of equality with signed fractions
alge008 Multiplicative property of equality with whole numbers
alge820 Multiplicative property of equality with fractions
alge825 Multiplicative property of equality with decimals
alge797 Multiplicative property of equality with integers
alge012 Multiplicative property of equality with signed fractions
alge834 Identifying solutions to a linear equation in one variable: Two-step equations
alge803 Using two steps to solve an equation with whole numbers
alge266 Additive property of equality with a negative coefficient
alge006 Solving a two-step equation with integers
alge200 Solving an equation to find the value of an expression
alge920 Introduction to solving an equation with parentheses
alge837 Solving a multi-step equation given in fractional form
alge986 Identifying properties used to solve a linear equation
alge824 Solving a two-step equation with signed decimals
alge838 Introduction to solving an equation with variables on the same side
alge862 Solving a linear equation with several occurrences of the variable: Variables on the same side
alge863 Solving a linear equation with several occurrences of the variable: Variables on both sides
alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
alge420 Solving a linear equation with several occurrences of the variable: Fractional forms with monomial numerators
alge208 Solving a two-step equation with signed fractions
alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
alge742 Solving equations with zero, one, or infinitely many solutions
alge603 Introduction to solving an absolute value equation
alge864 Solving an absolute value equation: Problem type 1
alge272 Solving a proportion of the form $x/a = b/c$
alge840 Solving a proportion of the form $(x+a) \div b = c \div d$
alge511 Solving for a variable in terms of other variables using addition or subtraction: Basic
alge512 Solving for a variable in terms of other variables using addition or subtraction: Advanced
alge513 Solving for a variable in terms of other variables using multiplication or division: Basic
alge514 Solving for a variable in terms of other variables using multiplication or division: Advanced
alge517 Solving for a variable in terms of other variables using addition or subtraction with division
alge518 Solving for a variable inside parentheses in terms of other variables
alge507 Solving for a variable in terms of other variables in a linear equation with fractions
alge733 Writing a one-step expression for a real-world situation
alge831 Translating a phrase into a one-step expression
alge291 Translating a phrase into a two-step expression
alge016 Translating a sentence into a one-step equation
alge841 Translating a sentence into a multi-step equation
alge802 Solving a fraction word problem using a linear equation of the form $Ax = B$
alge014 Solving a word problem with two unknowns using a linear equation
alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
alge219 Solving a decimal word problem using a linear equation with the variable on both sides
alge704 Solving a fraction word problem using a linear equation with the variable on both sides
alge792 Solving a word problem with three unknowns using a linear equation
alge842 Solving a word problem involving consecutive integers
alge730 Writing a multi-step equation for a real-world situation
alge794 Solving a value mixture problem using a linear equation
alge823 Solving a one-step word problem using the formula $d = rt$
alge218 Solving a word problem involving rates and time conversion
alge796 Solving a distance, rate, time problem using a linear equation

mstat065 Converting between temperatures in Fahrenheit and Celsius
 geom217 Finding the side length of a rectangle given its perimeter or area
 geom817 Finding a side length given the perimeter and side lengths with variables
 geom143 Finding the perimeter or area of a rectangle given one of these values
 geom218 Finding the radius or the diameter of a circle given its circumference
 geom530 Solving equations involving vertical angles
 geom001 Finding an angle measure of a triangle given two angles
 geom623 Finding angle measures of a triangle given angles with variables
 geom502 Finding angle measures of a right or isosceles triangle given angles with variables
 geom812 Finding an angle measure given extended triangles
 geom813 Finding an angle measure given a triangle and parallel lines
 stat803 Finding the value for a new score that will yield a given mean
 arith840 Finding a percentage of a whole number
 arith030 Finding a percentage of a whole number without a calculator: Basic
 arith844 Finding a percentage of a whole number without a calculator: Advanced
 arith862 Applying the percent equation: Problem type 1
 arith863 Applying the percent equation: Problem type 2
 arith845 Finding a percentage of a total amount: Real-world situations
 arith846 Finding a percentage of a total amount without a calculator: Sales tax, commission, discount
 arith857 Estimating a tip without a calculator
 arith069 Writing a ratio as a percentage without a calculator
 mstat049 Computing a percentage from a table of values
 arith850 Finding the rate of a tax or commission
 arith849 Finding the total amount given the percentage of a partial amount
 arith852 Finding the multiplier to give a final amount after a percentage increase or decrease
 arith851 Finding the final amount given the original amount and a percentage increase or decrease
 arith847 Finding the sale price given the original price and percent discount
 arith074 Finding the sale price without a calculator given the original price and percent discount
 arith848 Finding the total cost including tax or markup
 arith855 Finding the original amount given the result of a percentage increase or decrease
 arith031 Finding the original price given the sale price and percent discount
 arith858 Finding the percentage increase or decrease: Basic
 arith225 Finding the percentage increase or decrease: Advanced
 unit052 Finding the absolute error and percent error of a measurement
 arith854 Computing a percent mixture
 alge795 Solving a percent mixture problem using a linear equation
 stat804 Interpreting a circle graph or pie chart
 arith856 Finding a percentage of a total amount in a circle graph
 stat801 Computations from a circle graph
 arith232 Finding simple interest without a calculator

Linear Inequalities

alge015 Translating a sentence by using an inequality symbol
 alge845 Translating a sentence into a one-step inequality
 alge846 Translating a sentence into a multi-step inequality
 alge748 Writing an inequality for a real-world situation
 alge017 Graphing a linear inequality on the number line
 alge822 Writing an inequality given a graph on the number line
 alge186 Translating a sentence into a compound inequality
 alge166 Graphing a compound inequality on the number line
 alge847 Writing a compound inequality given a graph on the number line
 set001 Set builder notation
 set004 Set builder and interval notation
 set002 Union and intersection of finite sets
 alge844 Identifying solutions to a two-step linear inequality in one variable
 alge848 Additive property of inequality with whole numbers
 alge849 Additive property of inequality with integers
 alge852 Additive property of inequality with signed fractions
 alge853 Additive property of inequality with signed decimals

alge854 Multiplicative property of inequality with integers
 alge964 Multiplicative property of inequality with signed fractions
 alge855 Solving a two-step linear inequality: Problem type 1
 alge856 Solving a two-step linear inequality: Problem type 2
 alge857 Solving a two-step linear inequality with a fractional coefficient
 alge977 Solving a linear inequality with multiple occurrences of the variable: Problem type 1
 alge858 Solving a linear inequality with multiple occurrences of the variable: Problem type 2
 alge859 Solving a linear inequality with multiple occurrences of the variable: Problem type 3
 alge860 Solving inequalities with no solution or all real numbers as solutions
 alge746 Solving a compound linear inequality: Graph solution, basic
 alge747 Solving a compound linear inequality: Interval notation
 alge868 Solving an absolute value inequality: Problem type 1
 alge749 Solving a decimal word problem using a two-step linear inequality
 alge750 Solving a decimal word problem using a linear inequality with the variable on both sides

Lines and Functions

alge064 Reading a point in the coordinate plane
 alge067 Plotting a point in the coordinate plane
 alge850 Table for a linear equation
 alge873 Identifying solutions to a linear equation in two variables
 alge066 Finding a solution to a linear equation in two variables
 alge191 Midpoint of a line segment in the plane
 alge877 Graphing a linear equation of the form $y = mx$
 alge878 Graphing a line given its equation in slope-intercept form: Integer slope
 alge879 Graphing a line given its equation in slope-intercept form: Fractional slope
 alge880 Graphing a line given its equation in standard form
 alge198 Graphing a vertical or horizontal line
 alge884 Finding x - and y -intercepts given the graph of a line on a grid
 alge924 Finding x - and y -intercepts of a line given the equation: Basic
 alge210 Finding x - and y -intercepts of a line given the equation: Advanced
 alge197 Graphing a line given its x - and y -intercepts
 alge881 Graphing a line by first finding its x - and y -intercepts
 alge875 Classifying slopes given graphs of lines
 alge886 Finding slope given the graph of a line on a grid
 alge887 Finding slope given two points on the line
 alge885 Finding the slope of horizontal and vertical lines
 alge888 Finding the coordinate that yields a given slope
 alge259 Graphing a line given its slope and y -intercept
 alge196 Graphing a line through a given point with a given slope
 alge876 Identifying linear equations: Advanced
 alge874 Identifying linear functions given ordered pairs
 alge891 Rewriting a linear equation in the form $Ax + By = C$
 alge889 Finding the slope and y -intercept of a line given its equation in the form $y = mx + b$
 alge890 Finding the slope and y -intercept of a line given its equation in the form $Ax + By = C$
 alge882 Graphing a line by first finding its slope and y -intercept
 alge258 Writing an equation of a line given its slope and y -intercept
 alge892 Writing an equation and graphing a line given its slope and y -intercept
 alge893 Writing an equation in slope-intercept form given the slope and a point
 alge883 Graphing a line given its equation in point-slope form
 alge894 Writing an equation in point-slope form given the slope and a point
 alge070 Writing an equation of a line given the y -intercept and another point
 alge072 Writing the equation of the line through two given points
 alge073 Writing the equations of vertical and horizontal lines through a given point
 geom806 Finding slopes of lines parallel and perpendicular to a line given in slope-intercept form
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 alge895 Identifying parallel and perpendicular lines from equations
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 alge897 Writing and evaluating a function that models a real-world situation: Advanced
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced

fun005 Writing a function rule given a table of ordered pairs: One-step rules
 fun006 Writing a function rule given a table of ordered pairs: Two-step rules
 alge992 Combining functions to write a new function that models a real-world situation
 alge987 Comparing properties of linear functions given in different forms
 alge989 Interpreting the parameters of a linear function that models a real-world situation
 alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
 alge806 Application problem with a linear function: Finding a coordinate given two points
 mstat052 Identifying independent and dependent variables from equations or real-world situations
 alge991 Solving a linear equation by graphing
 mstat030 Sketching the line of best fit
 mstat023 Scatter plots and correlation
 mstat068 Predictions from the line of best fit
 mstat067 Approximating the equation of a line of best fit and making predictions
 mstat069 Computing residuals
 mstat070 Interpreting residual plots
 mstat071 Linear relationship and the correlation coefficient
 mstat074 Identifying correlation and causation
 alge898 Translating the graph of an absolute value function: One step
 alge899 Translating the graph of an absolute value function: Two steps
 alge913 Graphing an absolute value equation of the form $y = A - x -$
 alge900 Graphing an absolute value equation in the plane: Basic
 alge168 Graphing an absolute value equation in the plane: Advanced
 alge901 How the leading coefficient affects the graph of an absolute value function
 fun032 Identifying functions from relations
 fun010 Vertical line test
 fun016 Domain and range from ordered pairs
 fun001 Table for a linear function
 pcalc760 Evaluating functions: Linear and quadratic or cubic
 fun033 Variable expressions as inputs of functions: Problem type 1
 alge294 Finding outputs of a one-step function that models a real-world situation: Function notation
 alge295 Finding outputs of a two-step function with decimals that models a real-world situation: Function notation
 alge296 Finding inputs and outputs of a two-step function that models a real-world situation: Function notation
 alge990 Domain and range of a linear function that models a real-world situation
 fun026 Finding an output of a function from its graph
 pcalc761 Finding inputs and outputs of a function from its graph
 fun007 Domain and range from the graph of a discrete relation
 fun024 Domain and range from the graph of a continuous function
 alge896 Graphing an integer function and finding its range for a given domain
 alge570 Graphing a function of the form $f(x) = ax + b$: Integer slope
 alge571 Graphing a function of the form $f(x) = ax + b$: Fractional slope
 alge954 Graphing a parabola of the form $y = ax^2$
 alge955 Graphing a parabola of the form $y = ax^2 + c$
 alge572 Graphing a function of the form $f(x) = ax^2$
 alge573 Graphing a function of the form $f(x) = ax^2 + c$
 pcalc750 Finding intercepts of a nonlinear function given its graph
 pcalc751 Finding where a function is increasing, decreasing, or constant given the graph: Interval notation
 pcalc752 Finding local maxima and minima of a function given the graph
 mstat018 Choosing a graph to fit a narrative: Basic
 mstat051 Choosing a graph to fit a narrative: Advanced

Systems

alge914 Identifying solutions to a system of linear equations
 alge075 Classifying systems of linear equations from graphs
 alge725 Graphically solving a system of linear equations
 alge751 Solving a system of linear equations using substitution
 alge915 Solving a system of linear equations using elimination with addition
 alge076 Solving a system of linear equations using elimination with multiplication and addition
 alge916 Solving a system of linear equations with fractional coefficients

alge917 Solving a system of linear equations with decimal coefficients
 alge752 Solving a 2x2 system of linear equations that is inconsistent or consistent dependent
 alge988 Identifying the operations used to create equivalent systems of equations
 alge753 Solving a 3x3 system of linear equations: Problem type 1
 alge263 Interpreting the graphs of two functions
 alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations
 alge919 Solving a word problem using a system of linear equations of the form $Ax + By = C$
 alge918 Solving a word problem using a system of linear equations of the form $y = mx + b$
 alge184 Solving a value mixture problem using a system of linear equations
 alge192 Solving a percent mixture problem using a system of linear equations
 alge224 Solving a distance, rate, time problem using a system of linear equations
 alge172 Solving a tax rate or interest rate problem using a system of linear equations
 alge793 Solving a word problem using a 3x3 system of linear equations: Problem type 1
 alge912 Identifying solutions to a linear inequality in two variables
 alge225 Graphing a linear inequality in the plane: Vertical or horizontal line
 alge720 Graphing a linear inequality in the plane: Slope-intercept form
 alge018 Graphing a linear inequality in the plane: Standard form
 alge079 Graphing a system of two linear inequalities: Basic
 alge921 Graphing a system of two linear inequalities: Advanced
 alge922 Graphing a system of three linear inequalities
 alge729 Writing a multi-step inequality for a real-world situation
 pcalc093 Solving a word problem using a system of linear inequalities: Problem type 1

Exponents

alge821 Understanding the product rule of exponents
 alge024 Introduction to the product rule of exponents
 alge311 Product rule with positive exponents: Univariate
 alge030 Product rule with positive exponents: Multivariate
 arith029 Ordering numbers with positive exponents
 alge826 Understanding the power rules of exponents
 alge306 Introduction to the power of a power rule of exponents
 alge305 Introduction to the power of a product rule of exponents
 alge307 Power rules with positive exponents: Multivariate products
 alge308 Power rules with positive exponents: Multivariate quotients
 alge756 Power and product rules with positive exponents
 alge451 Simplifying a ratio of multivariate monomials: Basic
 alge827 Introduction to the quotient rule of exponents
 alge452 Simplifying a ratio of univariate monomials
 alge026 Quotient of expressions involving exponents
 alge453 Simplifying a ratio of multivariate monomials: Advanced
 alge927 Power and quotient rules with positive exponents
 alge790 Evaluating expressions with exponents of zero
 arith684 Power of 10: Negative exponent
 arith729 Evaluating an expression with a negative exponent: Whole number base
 arith042 Evaluating an expression with a negative exponent: Positive fraction base
 arith043 Evaluating an expression with a negative exponent: Negative integer base
 arith024 Ordering numbers with negative exponents
 alge791 Rewriting an algebraic expression without a negative exponent
 alge961 Introduction to the product rule with negative exponents
 alge028 Product rule with negative exponents
 alge755 Quotient rule with negative exponents: Problem type 1
 alge926 Quotient rule with negative exponents: Problem type 2
 alge025 Power of a power rule with negative exponents
 alge799 Power rules with negative exponents
 alge928 Power and quotient rules with negative exponents: Problem type 1
 alge929 Power and quotient rules with negative exponents: Problem type 2
 alge757 Power, product, and quotient rules with negative exponents
 arith036 Scientific notation with positive exponent
 arith037 Scientific notation with negative exponent

scinot012 Converting between scientific notation and standard form in a real-world situation
 scinot008 Multiplying numbers written in scientific notation: Basic
 scinot009 Multiplying numbers written in scientific notation: Advanced
 scinot010 Dividing numbers written in scientific notation: Basic
 scinot011 Dividing numbers written in scientific notation: Advanced
 alge971 Table for an exponential function
 alge830 Evaluating an exponential function that models a real-world situation
 arith853 Introduction to compound interest
 alge177 Finding a final amount in a word problem on exponential growth or decay
 alge741 Finding the final amount in a word problem on compound interest
 alge966 Finding the initial amount and rate of change given an exponential function
 alge968 Writing an equation that models exponential growth or decay
 alge301 Solving an exponential equation by finding common bases: Linear exponents
 alge969 Graphing an exponential function: $f(x) = ax$
 alge970 Graphing an exponential function: $f(x) = a(b)^x$
 alge967 Writing an exponential function rule given a table of ordered pairs
 alge993 Comparing linear, polynomial, and exponential functions

Polynomials and Factoring

alge758 Degree and leading coefficient of a univariate polynomial
 alge031 Degree of a multivariate polynomial
 alge798 Simplifying a sum or difference of two univariate polynomials
 alge029 Simplifying a sum or difference of three univariate polynomials
 alge932 Simplifying a sum or difference of multivariate polynomials
 alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
 alge972 Multiplying a univariate polynomial by a monomial with a negative coefficient
 alge835 Multiplying a multivariate polynomial by a monomial
 alge033 Multiplying binomials with leading coefficients of 1
 alge983 Multiplying binomials with leading coefficients greater than 1
 alge765 Multiplying binomials in two variables
 alge764 Multiplying conjugate binomials: Univariate
 alge081 Multiplying conjugate binomials: Multivariate
 alge032 Squaring a binomial: Univariate
 alge068 Squaring a binomial: Multivariate
 alge973 Multiplying binomials with negative coefficients
 alge935 Multiplication involving binomials and trinomials in one variable
 alge180 Multiplication involving binomials and trinomials in two variables
 alge759 Dividing a polynomial by a monomial: Univariate
 alge760 Dividing a polynomial by a monomial: Multivariate
 alge761 Polynomial long division: Problem type 1
 alge762 Polynomial long division: Problem type 2
 alge763 Polynomial long division: Problem type 3
 alge985 Closure properties of integers and polynomials
 alge605 Factoring a linear binomial
 alge736 Introduction to the GCF of two monomials
 alge930 Greatest common factor of three univariate monomials
 alge037 Greatest common factor of two multivariate monomials
 alge738 Factoring out a monomial from a polynomial: Univariate
 alge739 Factoring out a monomial from a polynomial: Multivariate
 alge949 Factoring out a binomial from a polynomial: GCF factoring, basic
 alge923 Factoring a univariate polynomial by grouping: Problem type 1
 alge950 Factoring a univariate polynomial by grouping: Problem type 2
 alge951 Factoring a multivariate polynomial by grouping: Problem type 1
 alge952 Factoring a multivariate polynomial by grouping: Problem type 2
 alge039 Factoring a quadratic with leading coefficient 1
 alge942 Factoring a quadratic in two variables with leading coefficient 1
 alge936 Factoring out a constant before factoring a quadratic
 alge939 Factoring a quadratic with leading coefficient greater than 1: Problem type 1
 alge940 Factoring a quadratic with leading coefficient greater than 1: Problem type 2

alge941 Factoring a quadratic with leading coefficient greater than 1: Problem type 3
 alge978 Factoring a quadratic by the ac-method
 alge265 Factoring a quadratic in two variables with leading coefficient greater than 1
 alge937 Factoring a quadratic with a negative leading coefficient
 alge944 Factoring a perfect square trinomial with leading coefficient 1
 alge945 Factoring a perfect square trinomial with leading coefficient greater than 1
 alge946 Factoring a perfect square trinomial in two variables
 alge290 Factoring a difference of squares in one variable: Basic
 alge947 Factoring a difference of squares in one variable: Advanced
 alge839 Factoring a difference of squares in two variables
 alge948 Factoring a polynomial involving a GCF and a difference of squares: Univariate
 alge833 Factoring a polynomial involving a GCF and a difference of squares: Multivariate
 alge041 Factoring a product of a quadratic trinomial and a monomial
 alge042 Factoring with repeated use of the difference of squares formula
 alge044 Factoring a sum or difference of two cubes
 alge681 Solving an equation written in factored form
 alge956 Finding the roots of a quadratic equation of the form $ax^2 + bx = 0$
 alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
 alge211 Solving a quadratic equation needing simplification
 alge703 Solving a word problem using a quadratic equation with rational roots
 alge407 Introduction to the Pythagorean Theorem
 geom044 Pythagorean Theorem
 alge408 Word problem involving the Pythagorean Theorem
 alge713 Using the Pythagorean Theorem and a quadratic equation to find side lengths of a right triangle

Rational Expressions

alge049 Restriction on a variable in a denominator: Linear
 alge467 Restriction on a variable in a denominator: Quadratic
 alge468 Evaluating a rational function: Problem type 1
 alge469 Evaluating a rational function: Problem type 2
 alge715 Domain of a rational function: Excluded values
 alge454 Simplifying a ratio of factored polynomials: Linear factors
 alge455 Simplifying a ratio of factored polynomials: Factors with exponents
 alge456 Simplifying a ratio of polynomials using GCF factoring
 alge457 Simplifying a ratio of linear polynomials: 1, -1, and no simplification
 alge458 Simplifying a ratio of polynomials by factoring a quadratic with leading coefficient 1
 alge710 Simplifying a ratio of polynomials: Problem type 1
 alge682 Simplifying a ratio of polynomials: Problem type 2
 alge459 Simplifying a ratio of polynomials: Problem type 3
 alge034 Simplifying a ratio of multivariate polynomials
 alge053 Multiplying rational expressions involving multivariate monomials
 alge460 Multiplying rational expressions made up of linear expressions
 alge620 Multiplying rational expressions involving quadratics with leading coefficients of 1
 alge461 Multiplying rational expressions involving quadratics with leading coefficients greater than 1
 alge462 Multiplying rational expressions involving multivariate quadratics
 alge054 Dividing rational expressions involving multivariate monomials
 alge463 Dividing rational expressions involving linear expressions
 alge766 Dividing rational expressions involving quadratics with leading coefficients of 1
 alge464 Dividing rational expressions involving quadratics with leading coefficients greater than 1
 alge465 Dividing rational expressions involving multivariate quadratics
 alge466 Multiplication and division of 3 rational expressions
 alge737 Introduction to the LCM of two monomials
 alge055 Least common multiple of two monomials
 alge427 Finding the LCD of rational expressions with linear denominators: Relatively prime
 alge428 Finding the LCD of rational expressions with linear denominators: Common factors
 alge429 Finding the LCD of rational expressions with quadratic denominators
 alge430 Writing equivalent rational expressions with monomial denominators
 alge431 Writing equivalent rational expressions with polynomial denominators

alge304 Writing equivalent rational expressions involving opposite factors
 alge432 Introduction to adding fractions with variables and common denominators
 alge433 Adding rational expressions with common denominators and monomial numerators
 alge056 Adding rational expressions with common denominators and binomial numerators
 alge434 Adding rational expressions with common denominators and GCF factoring
 alge435 Adding rational expressions with common denominators and quadratic factoring
 alge436 Adding rational expressions with different denominators and a single occurrence of a variable
 alge437 Adding rational expressions with denominators ax and bx : Basic
 alge438 Adding rational expressions with denominators ax and bx : Advanced
 alge439 Adding rational expressions with denominators axn and bxm
 alge440 Adding rational expressions with multivariate monomial denominators: Basic
 alge226 Adding rational expressions with multivariate monomial denominators: Advanced
 alge441 Adding rational expressions with linear denominators without common factors: Basic
 alge442 Adding rational expressions with linear denominators without common factors: Advanced
 alge443 Adding rational expressions with linear denominators with common factors: Basic
 alge444 Adding rational expressions with linear denominators with common factors: Advanced
 alge445 Adding rational expressions with denominators $ax-b$ and $b-ax$
 alge661 Adding rational expressions involving different quadratic denominators
 alge446 Adding 3 rational expressions with different quadratic denominators
 arith695 Complex fraction without variables: Problem type 1
 arith696 Complex fraction without variables: Problem type 2
 alge470 Complex fraction involving univariate monomials
 alge058 Complex fraction involving multivariate monomials
 alge471 Complex fraction: GCF factoring
 alge472 Complex fraction: Quadratic factoring
 alge473 Complex fraction made of sums involving rational expressions: Problem type 1
 alge474 Complex fraction made of sums involving rational expressions: Problem type 2
 alge475 Complex fraction made of sums involving rational expressions: Problem type 3
 alge476 Complex fraction made of sums involving rational expressions: Problem type 4
 alge477 Complex fraction made of sums involving rational expressions: Problem type 5
 alge478 Complex fraction made of sums involving rational expressions: Problem type 6
 alge479 Complex fraction made of sums involving rational expressions: Multivariate
 alge480 Complex fraction with negative exponents: Problem type 1
 alge481 Complex fraction with negative exponents: Problem type 2
 alge162 Complex fraction that contains a complex fraction
 alge271 Solving a proportion of the form $a/(x+b) = c/x$
 alge060 Solving a rational equation that simplifies to linear: Denominator x
 alge205 Solving a rational equation that simplifies to linear: Denominator $x+a$
 alge769 Solving a rational equation that simplifies to linear: Denominators a , x , or ax
 alge421 Solving a rational equation that simplifies to linear: Denominators ax and bx
 alge422 Solving a rational equation that simplifies to linear: Like binomial denominators
 alge206 Solving a rational equation that simplifies to linear: Unlike binomial denominators
 alge423 Solving a rational equation that simplifies to linear: Factorable quadratic denominator
 alge424 Solving a rational equation that simplifies to quadratic: Proportional form, basic
 alge425 Solving a rational equation that simplifies to quadratic: Denominator x
 alge212 Solving a rational equation that simplifies to quadratic: Binomial denominators, constant numerators
 alge062 Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators
 alge426 Solving a rational equation that simplifies to quadratic: Factorable quadratic denominator
 alge047 Solving a rational equation that simplifies to quadratic: Proportional form, advanced
 arith823 Writing ratios using different notations
 arith663 Writing ratios for real-world situations
 arith824 Simplifying a ratio of whole numbers: Problem type 1
 arith826 Simplifying a ratio of whole numbers: Problem type 2
 arith825 Simplifying a ratio of decimals
 arith827 Finding a unit price
 arith828 Computing unit prices to find the better buy
 arith228 Word problem on unit rates associated with ratios of whole numbers: Decimal answers
 unit005 U.S. Customary unit conversion with whole number values
 unit001 Metric distance conversion with whole number values
 unit034 Converting between metric and U.S. Customary unit systems
 unit035 Converting between compound units: Basic
 unit036 Converting between compound units: Advanced

alge508 Solving for a variable in terms of other variables in a rational equation: Problem type 1
 alge509 Solving for a variable in terms of other variables in a rational equation: Problem type 2
 alge510 Solving for a variable in terms of other variables in a rational equation: Problem type 3
 arith610 Word problem on proportions: Problem type 1
 arith611 Word problem on proportions: Problem type 2
 geom037 Similar polygons
 geom038 Similar right triangles
 geom337 Indirect measurement
 geom838 Circumference ratios
 arith612 Word problem involving multiple rates
 alge770 Solving a work problem using a rational equation
 alge450 Solving a distance, rate, time problem using a rational equation
 alge059 Ordering fractions with variables
 alge982 Identifying direct variation equations
 alge938 Identifying direct variation from ordered pairs and writing equations
 alge904 Writing a direct variation equation
 alge175 Word problem on direct variation
 alge828 Interpreting direct variation from a graph
 alge905 Writing an inverse variation equation
 alge903 Identifying direct and inverse variation equations
 alge902 Identifying direct and inverse variation from ordered pairs and writing equations
 alge176 Word problem on inverse variation
 alge220 Word problem on inverse proportions
 pcalc681 Writing an equation that models variation
 alge772 Word problem on combined variation

Radicals

alge413 Finding all square roots of a number
 arith601 Square root of a rational perfect square
 arith760 Square roots of perfect squares with signs
 alge415 Introduction to simplifying a radical expression with an even exponent
 alge264 Square root of a perfect square monomial
 arith094 Cube root of an integer
 alge549 Finding n th roots of perfect n th powers with signs
 arith768 Finding the n th root of a perfect n th power fraction
 alge550 Finding the n th root of a perfect n th power monomial
 arith093 Simplifying the square root of a whole number less than 100
 arith762 Simplifying the square root of a whole number greater than 100
 alge080 Simplifying a radical expression with an even exponent
 alge520 Introduction to simplifying a radical expression with an odd exponent
 alge521 Simplifying a radical expression with an odd exponent
 alge275 Simplifying a radical expression with two variables
 alge273 Simplifying a higher root of a whole number
 alge551 Introduction to simplifying a higher radical expression
 alge552 Simplifying a higher radical expression: Univariate
 alge811 Simplifying a higher radical expression: Multivariate
 arith767 Introduction to square root addition or subtraction
 arith032 Square root addition or subtraction
 alge533 Square root addition or subtraction with three terms
 alge531 Introduction to simplifying a sum or difference of radical expressions: Univariate
 alge532 Simplifying a sum or difference of radical expressions: Univariate
 alge084 Simplifying a sum or difference of radical expressions: Multivariate
 alge554 Simplifying a sum or difference of higher roots
 alge555 Simplifying a sum or difference of higher radical expressions
 arith764 Introduction to square root multiplication
 arith765 Square root multiplication: Basic
 arith039 Square root multiplication: Advanced
 alge522 Introduction to simplifying a product of radical expressions: Univariate
 alge523 Simplifying a product of radical expressions: Univariate

alge640 Simplifying a product of radical expressions: Multivariate
 alge556 Introduction to simplifying a product of higher roots
 alge557 Simplifying a product of higher radical expressions
 alge525 Introduction to simplifying a product involving square roots using the distributive property
 alge526 Simplifying a product involving square roots using the distributive property: Basic
 alge276 Simplifying a product involving square roots using the distributive property: Advanced
 alge774 Special products of radical expressions: Conjugates and squaring
 alge984 Classifying sums and products as rational or irrational
 arith766 Simplifying a quotient of square roots
 alge530 Simplifying a quotient involving a sum or difference with a square root
 alge527 Rationalizing a denominator: Quotient involving square roots
 alge528 Rationalizing a denominator: Square root of a fraction
 alge529 Rationalizing a denominator: Quotient involving a monomial
 alge534 Rationalizing a denominator using conjugates: Integer numerator
 alge535 Rationalizing a denominator using conjugates: Square root in numerator
 alge536 Rationalizing a denominator using conjugates: Variable in denominator
 alge564 Rationalizing a denominator: Quotient involving a higher radical
 alge400 Introduction to solving a radical equation
 alge089 Solving a radical equation that simplifies to a linear equation: One radical, basic
 alge402 Solving a radical equation that simplifies to a linear equation: One radical, advanced
 alge090 Solving a radical equation that simplifies to a linear equation: Two radicals
 alge405 Solving a radical equation with two radicals that simplifies to $\sqrt{x} = a$
 alge403 Solving a radical equation that simplifies to a quadratic equation: One radical, basic
 alge404 Solving a radical equation that simplifies to a quadratic equation: One radical, advanced
 alge411 Solving a radical equation with a quadratic expression under the radical
 alge182 Solving a radical equation that simplifies to a quadratic equation: Two radicals
 alge410 Solving an equation with a root index greater than 2: Problem type 1
 alge417 Solving an equation with a root index greater than 2: Problem type 2
 alge412 Algebraic symbol manipulation with radicals
 alge542 Word problem involving radical equations: Basic
 alge409 Word problem involving radical equations: Advanced
 alge132 Distance between two points in the plane: Exact answers
 alge539 Table for a square root function
 alge540 Domain of a square root function: Basic
 pcalc763 Domain of a square root function: Advanced
 alge543 Graphing a square root function: Problem type 1
 alge544 Graphing a square root function: Problem type 2
 alge812 Converting between radical form and exponent form
 alge560 Rational exponents: Unit fraction exponents and whole number bases
 alge561 Rational exponents: Unit fraction exponents and bases involving signs
 alge250 Rational exponents: Non-unit fraction exponent with a whole number base
 alge251 Rational exponents: Negative exponents and fractional bases
 alge558 Rational exponents: Product rule
 alge559 Rational exponents: Quotient rule
 alge773 Rational exponents: Products and quotients with negative exponents
 alge562 Rational exponents: Power of a power rule
 alge249 Rational exponents: Powers of powers with negative exponents
 alge563 Simplifying products or quotients of higher radicals with different indices: Univariate

Complex Numbers and Quadratic Equations

alge778 Using i to rewrite square roots of negative numbers
 alge779 Simplifying a product and quotient involving square roots of negative numbers
 pcalc048 Adding or subtracting complex numbers
 pcalc049 Multiplying complex numbers
 pcalc050 Dividing complex numbers
 pcalc053 Simplifying a power of i
 alge962 Solving an equation of the form $x^2 = a$ using the square root property
 alge092 Solving a quadratic equation using the square root property: Exact answers, basic
 alge227 Solving a quadratic equation using the square root property: Exact answers, advanced

alge094 Completing the square
 alge780 Solving a quadratic equation by completing the square: Exact answers
 alge095 Applying the quadratic formula: Exact answers
 alge963 Applying the quadratic formula: Decimal answers
 pcalc051 Solving a quadratic equation with complex roots
 alge214 Discriminant of a quadratic equation
 alge524 Solving a word problem using a quadratic equation with irrational roots
 alge974 Finding the vertex, x-intercepts, and axis of symmetry from the graph of a parabola
 alge953 Translating the graph of a parabola: One step
 alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
 alge569 Graphing a parabola of the form $y = x^2 + bx + c$
 pcalc746 Graphing a parabola of the form $y = ax^2 + bx + c$: Integer coefficients
 pcalc747 Graphing a parabola of the form $y = ax^2 + bx + c$: Rational coefficients
 alge277 Finding the x-intercept(s) and the vertex of a parabola
 pcalc774 Rewriting a quadratic function to find the vertex of its graph
 pcalc775 Finding the maximum or minimum of a quadratic function
 alge785 Word problem involving the maximum or minimum of a quadratic function
 alge975 Domain and range from the graph of a parabola
 pcalc762 Range of a quadratic function
 alge957 Solving a quadratic equation by graphing
 alge996 Comparing properties of quadratic functions given in different forms
 alge702 Classifying the graph of a function
 alge723 How the leading coefficient affects the shape of a parabola
 alge965 Identifying linear, quadratic, and exponential functions given ordered pairs
 alge262 Graphing a cubic function of the form $y = ax^3$
 fun019 Sum, difference, and product of two functions
 fun022 Composition of two functions: Basic
 pcalc776 Expressing a function as a composition of two functions
 pcalc924 Determining whether an equation defines a function: Basic
 pcalc757 Determining whether an equation defines a function: Advanced

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Whole Numbers

arith124 Whole number place value: Problem type 1
 arith125 Whole number place value: Problem type 2
 arith066 Expanded form
 arith643 Expanded form with zeros
 arith028 Numeral translation: Problem type 1
 arith060 Numeral translation: Problem type 2
 arith633 One-digit addition with carry
 arith634 Addition of 3 or 4 one-digit numbers
 arith001 Addition without carry
 arith635 Adding a 2-digit number and a 1-digit number with carry
 arith050 Addition with carry
 arith630 Addition with carry to the hundreds place
 arith012 Addition of large numbers
 arith636 Subtracting a 1-digit number from a 2-digit number
 arith007 Subtraction without borrowing
 arith128 Adding or subtracting 10, 100, or 1000
 arith006 Subtraction with borrowing
 arith682 Subtraction with multiple regrouping steps
 arith637 Subtraction and regrouping with zeros
 arith613 Word problem with addition or subtraction of whole numbers
 arith655 Introduction to properties of addition
 arith126 Multiplication as repeated addition
 arith008 One-digit multiplication

arith679 Multiplication by 10, 100, and 1000
arith003 Multiplication without carry
arith004 Multiplication with carry
arith632 Multiplication with trailing zeros: Problem type 1
arith615 Introduction to multiplication of large numbers
arith638 Multiplication with trailing zeros: Problem type 2
arith014 Multiplication of large numbers
arith641 Multiples: Problem type 1
arith642 Multiples: Problem type 2
arith656 Introduction to properties of multiplication
arith075 Division facts
arith614 Word problem with multiplication or division of whole numbers
arith130 Word problem with multiplication and addition or subtraction of whole numbers
arith243 Division of whole numbers given in fractional form
arith711 Division involving zero
arith052 Division without carry
arith005 Division with carry
arith680 Division with trailing zeros: Problem type 1
arith649 Division with trailing zeros: Problem type 2
arith616 Quotient and remainder: Problem type 1
arith644 Word problem on quotient and remainder
arith617 Quotient and remainder: Problem type 2
arith631 Quotient and remainder: Problem type 3
arith650 Division involving quotients with intermediate zeros
arith023 Word problem with division of whole numbers and rounding
arith651 Introduction to inequalities
arith077 Ordering large numbers
arith078 Rounding to tens or hundreds
arith123 Rounding to hundreds or thousands
arith061 Rounding to thousands, ten thousands, or hundred thousands
arith101 Estimating a sum of whole numbers
arith102 Estimating a difference of whole numbers
arith604 Estimating a product or quotient of whole numbers
arith692 Writing expressions using exponents
arith233 Introduction to exponents
arith683 Power of 10: Positive exponent
arith645 Introduction to parentheses
arith681 Introduction to order of operations
arith048 Order of operations with whole numbers
arith051 Order of operations with whole numbers and grouping symbols
arith693 Order of operations with whole numbers and exponents: Basic
arith713 Order of operations with whole numbers and exponents: Advanced
arith657 Understanding the distributive property
alge284 Evaluating an algebraic expression: Whole number addition or subtraction
alge683 Evaluating an algebraic expression: Whole number multiplication or division
alge285 Evaluating an algebraic expression: Whole numbers with two operations
alge832 Evaluating an algebraic expression: Whole number operations and exponents
alge009 Additive property of equality with whole numbers
alge008 Multiplicative property of equality with whole numbers
alge803 Using two steps to solve an equation with whole numbers
arith646 Even and odd numbers
arith647 Divisibility rules for 2, 5, and 10
arith648 Divisibility rules for 3 and 9
arith056 Factors
arith034 Prime numbers
arith035 Prime factorization
arith033 Greatest common factor of 2 numbers
arith070 Least common multiple of 2 numbers
arith804 Least common multiple of 3 numbers
arith240 Word problem with common multiples
alge925 Finding the next terms of an arithmetic sequence with whole numbers
alge933 Finding the next terms of a geometric sequence with whole numbers

alge732 Finding patterns in shapes

Fractions

arith665 Understanding equivalent fractions
arith212 Equivalent fractions
arith666 Introduction to simplifying a fraction
arith067 Simplifying a fraction
arith687 Fractional position on a number line
arith667 Plotting fractions on a number line
arith044 Ordering fractions with the same denominator
arith091 Ordering fractions with the same numerator
arith092 Using a common denominator to order fractions
arith086 Product of a fraction and a whole number: Problem type 1
arith119 Introduction to fraction multiplication
arith053 Fraction multiplication
arith812 Product of a fraction and a whole number: Problem type 2
arith813 Multiplication of 3 fractions
arith818 Word problem involving fractions and multiplication
arith095 Multi-step word problem involving fractions and multiplication
arith088 The reciprocal of a number
arith694 Division involving a whole number and a fraction
arith022 Fraction division
arith819 Word problem involving fractions and division
arith618 Addition or subtraction of fractions with the same denominator
arith802 Addition or subtraction of fractions with the same denominator and simplification
arith801 Finding the LCD of two fractions
arith109 Addition or subtraction of unit fractions
arith664 Introduction to addition or subtraction of fractions with different denominators
arith230 Addition or subtraction of fractions with different denominators
arith803 Addition and subtraction of 3 fractions with different denominators
arith805 Word problem involving addition or subtraction of fractions with different denominators
arith100 Fractional part of a circle
arith662 Writing a mixed number and an improper fraction for a shaded region
arith015 Writing an improper fraction as a mixed number
arith619 Writing a mixed number as an improper fraction
arith215 Addition or subtraction of mixed numbers with the same denominator
arith084 Addition of mixed numbers with the same denominator and carry
arith216 Subtraction of mixed numbers with the same denominator and borrowing
arith806 Addition or subtraction of mixed numbers with different denominators and no carry or borrow
arith808 Addition of mixed numbers with different denominators and carry
arith809 Subtraction of mixed numbers with different denominators and borrowing
arith807 Addition and subtraction of 3 mixed numbers with different denominators
arith810 Word problem involving addition or subtraction of mixed numbers with different denominators
arith815 Mixed number multiplication
arith816 Multiplication of a mixed number and a whole number
arith817 Division with a mixed number and a whole number
arith068 Mixed number division
arith820 Word problem involving multiplication or division with mixed numbers
arith821 Exponents and fractions
arith859 Order of operations with fractions: Problem type 1
arith860 Order of operations with fractions: Problem type 2
arith861 Order of operations with fractions: Problem type 3
arith695 Complex fraction without variables: Problem type 1

Decimals, Proportions, and Percents

arith127 Writing a decimal and a fraction for a shaded region
arith220 Decimal place value: Hundreds to ten thousandths

arith714 Writing a decimal number less than 1 given its name
arith715 Writing a decimal number greater than 1 given its name
arith716 Writing a decimal number given its name: Advanced
arith829 Reading decimal position on a number line: Tenths
arith830 Reading decimal position on a number line: Hundredths
arith831 Understanding decimal position on a number line using zoom: Hundredths
arith832 Understanding decimal position on a number line using zoom: Thousandths
arith129 Introduction to ordering decimals
arith608 Ordering decimals
arith717 Converting a decimal to a proper fraction without simplifying: Basic
arith719 Converting a decimal to a proper fraction without simplifying: Advanced
arith718 Converting a decimal to a proper fraction in simplest form: Basic
arith087 Converting a decimal to a proper fraction in simplest form: Advanced
arith721 Converting a decimal to a mixed number and an improper fraction without simplifying
arith722 Converting a decimal to a mixed number and an improper fraction in simplest form: Basic
arith724 Converting a decimal to a mixed number and an improper fraction in simplest form: Advanced
arith013 Decimal addition with 3 numbers
arith734 Subtraction of aligned decimals
arith735 Decimal subtraction: Basic
arith736 Decimal subtraction: Advanced
arith737 Decimal addition and subtraction with 3 or more numbers
arith131 Estimating a decimal sum or difference
arith132 Word problem with addition or subtraction of 2 decimals
arith133 Word problem with addition of 3 or 4 decimals and whole numbers
arith134 Word problem with subtraction of a whole number and a decimal: Regrouping with zeros
arith739 Introduction to decimal multiplication
arith017 Multiplication of a decimal by a whole number
arith055 Decimal multiplication: Problem type 1
arith046 Decimal multiplication: Problem type 2
arith082 Multiplication of a decimal by a power of ten
arith738 Multiplication of a decimal by a power of 0.1
arith740 Multiplication of decimals that have a product less than 0.1
arith752 Estimating a product of decimals
arith135 Word problem with multiplication of a decimal and a whole number
arith137 Word problem with multiplication of two decimals
arith224 Word problem with decimal addition and multiplication
arith744 Whole number division with decimal answers
arith081 Division of a decimal by a whole number
arith743 Division of a decimal by a 1-digit decimal
arith019 Division of a decimal by a 2-digit decimal
arith083 Division of a decimal by a power of ten
arith742 Division of a decimal by a power of 0.1
arith745 Decimal division with rounding
arith136 Word problem with division of a decimal and a whole number
arith138 Word problem with division of two decimals
arith227 Word problem with decimal subtraction and division
alge823 Solving a one-step word problem using the formula $d = rt$
arith725 Converting a fraction with a denominator of 10 or 100 to a decimal
arith726 Converting a fraction with a denominator of 100 or 1000 to a decimal
arith609 Ordering fractions and decimals
arith727 Converting a fraction to a terminating decimal: Basic
arith728 Converting a fraction to a terminating decimal: Advanced
arith730 Converting a fraction to a repeating decimal: Basic
arith731 Converting a fraction to a repeating decimal: Advanced
arith733 Using a calculator to convert a fraction to a rounded decimal
arith111 Converting a mixed number to a terminating decimal: Basic
arith112 Converting a mixed number to a terminating decimal: Advanced
arith732 Converting a fraction or mixed number to a rounded decimal
arith753 Squaring decimal bases: Products greater than 0.1
arith741 Exponents and decimals: Products less than 0.1
arith720 Order of operations with decimals: Problem type 1
arith746 Order of operations with decimals: Problem type 2

arith747 Order of operations with decimals: Problem type 3
arith748 Addition or subtraction with a decimal and a mixed number
arith749 Multiplication with a decimal and a fraction
arith823 Writing ratios using different notations
arith663 Writing ratios for real-world situations
arith824 Simplifying a ratio of whole numbers: Problem type 1
arith825 Simplifying a ratio of decimals
arith827 Finding a unit price
arith828 Computing unit prices to find the better buy
arith064 Solving a word problem on proportions using a unit rate
arith228 Word problem on unit rates associated with ratios of whole numbers: Decimal answers
alge272 Solving a proportion of the form $x/a = b/c$
arith610 Word problem on proportions: Problem type 1
arith611 Word problem on proportions: Problem type 2
alge063 Word problem on mixed number proportions
arith045 Word problem with powers of ten
arith836 Converting a fraction with a denominator of 100 to a percentage
arith837 Converting a percentage to a fraction with a denominator of 100
arith674 Finding the percentage of a grid that is shaded
arith723 Introduction to converting a percentage to a decimal
arith833 Introduction to converting a decimal to a percentage
arith834 Converting between percentages and decimals
arith841 Converting a mixed number percentage to a decimal
arith835 Converting between percentages and decimals in a real-world situation
arith090 Converting a percentage to a fraction in simplest form
arith839 Converting a decimal percentage to a fraction
arith838 Converting a fraction to a percentage: Denominator of 4, 5, or 10
arith002 Converting a fraction to a percentage: Denominator of 20, 25, or 50
arith843 Using a calculator to convert a fraction to a rounded percentage
arith842 Converting a fraction to a percentage in a real-world situation
arith840 Finding a percentage of a whole number
arith030 Finding a percentage of a whole number without a calculator: Basic
arith844 Finding a percentage of a whole number without a calculator: Advanced
arith862 Applying the percent equation: Problem type 1
arith863 Applying the percent equation: Problem type 2
arith845 Finding a percentage of a total amount: Real-world situations
arith846 Finding a percentage of a total amount without a calculator: Sales tax, commission, discount
arith857 Estimating a tip without a calculator
arith069 Writing a ratio as a percentage without a calculator
mstat049 Computing a percentage from a table of values
arith850 Finding the rate of a tax or commission
arith849 Finding the total amount given the percentage of a partial amount
arith852 Finding the multiplier to give a final amount after a percentage increase or decrease
arith851 Finding the final amount given the original amount and a percentage increase or decrease
arith847 Finding the sale price given the original price and percent discount
arith074 Finding the sale price without a calculator given the original price and percent discount
arith848 Finding the total cost including tax or markup
arith855 Finding the original amount given the result of a percentage increase or decrease
arith031 Finding the original price given the sale price and percent discount
arith858 Finding the percentage increase or decrease: Basic
arith225 Finding the percentage increase or decrease: Advanced
arith232 Finding simple interest without a calculator
arith856 Finding a percentage of a total amount in a circle graph
stat801 Computations from a circle graph

Geometry

arith623 Introduction to fractions
arith079 Product of a unit fraction and a whole number
arith110 Decimal place value: Tenths and hundredths

arith221 Rounding decimals
arith624 Addition of aligned decimals
geom339 Perimeter of a polygon
geom300 Perimeter of a square or a rectangle
geom618 Perimeter of a polygon involving mixed numbers and fractions
geom078 Sides of polygons having the same perimeter
geom221 Finding the missing length in a figure
geom353 Perimeter of a piecewise rectangular figure
geom358 Identifying parallel and perpendicular lines
geom349 Naming segments, rays, and lines
geom151 Measuring an angle with the protractor
geom152 Drawing an angle with the protractor
geom303 Acute, obtuse, and right angles
geom039 Finding supplementary and complementary angles
geom305 Identifying supplementary and vertical angles
geom304 Identifying corresponding and alternate angles
geom306 Acute, obtuse, and right triangles
geom307 Classifying scalene, isosceles, and equilateral triangles by side lengths or angles
geom001 Finding an angle measure of a triangle given two angles
geom908 Finding an angle measure for a triangle with an extended side
geom812 Finding an angle measure given extended triangles
geom813 Finding an angle measure given a triangle and parallel lines
geom361 Naming polygons
mstat042 Interpreting a Venn diagram of 2 sets
geom867 Identifying parallelograms, rectangles, and squares
geom310 Properties of quadrilaterals
geom532 Classifying parallelograms
geom019 Area of a square or a rectangle
geom866 Perimeter and area on a grid
geom620 Area of a rectangle involving fractions
geom619 Area of a rectangle involving mixed numbers and fractions
geom350 Distinguishing between the area and perimeter of a rectangle
geom351 Areas of rectangles with the same perimeter
geom217 Finding the side length of a rectangle given its perimeter or area
geom340 Area of a piecewise rectangular figure
geom142 Word problem involving the area between two rectangles
geom801 Area of a triangle
geom344 Area involving rectangles and triangles
geom022 Area of a parallelogram
geom023 Area of a trapezoid
geom347 Introduction to a circle: Diameter, radius, and chord
geom016 Circumference of a circle
geom301 Perimeter involving rectangles and circles
geom802 Circumference and area of a circle
geom302 Area involving rectangles and circles
geom036 Word problem involving the area between two concentric circles
geom214 Area involving inscribed figures
geom814 Angle measure in a circle graph
geom868 Classifying solids
geom348 Vertices, edges, and faces of a solid
geom830 Counting the cubes in a solid made of cubes
geom354 Volume of a rectangular prism made of unit cubes
geom311 Volume of a rectangular prism
geom505 Volume of a piecewise rectangular prism
geom090 Volume of a triangular prism
geom033 Volume of a pyramid
geom035 Volume of a cylinder
geom092 Word problem involving the rate of filling or emptying a cylinder
geom622 Volume of a cone
geom841 Volume of a sphere
geom219 Nets of solids
geom816 Side views of a solid made of cubes

geom031 Surface area of a cube or a rectangular prism
 geom345 Surface area of a piecewise rectangular prism made of unit cubes
 geom091 Surface area of a triangular prism
 geom621 Surface area of a cylinder
 geom842 Surface area of a sphere
 arith016 Square root of a perfect square
 arith763 Using a calculator to approximate a square root
 arith602 Estimating a square root
 arith601 Square root of a rational perfect square
 alge407 Introduction to the Pythagorean Theorem
 geom044 Pythagorean Theorem
 alge408 Word problem involving the Pythagorean Theorem
 geom359 Identifying congruent shapes on a grid
 geom520 Identifying and naming congruent triangles
 geom360 Identifying similar or congruent shapes on a grid
 geom037 Similar polygons
 geom038 Similar right triangles
 geom337 Indirect measurement

Measurement and Data Analysis

mstat059 Choosing U.S. Customary measurement units
 unit005 U.S. Customary unit conversion with whole number values
 mstat035 Conversions involving measurements in feet and inches
 mstat036 Adding measurements in feet and inches
 unit006 U.S. Customary unit conversion with whole number values: Two-step conversion
 unit007 U.S. Customary unit conversion with mixed number values: One-step conversion
 unit008 U.S. Customary unit conversion with mixed number values: Two-step conversion
 unit009 U.S. Customary area unit conversion with whole number values
 mstat060 Choosing metric measurement units
 unit001 Metric distance conversion with whole number values
 unit002 Metric mass or capacity conversion with whole number values
 unit003 Metric distance conversion with decimal values
 unit004 Metric conversion with decimal values: Two-step problem
 unit010 Metric area unit conversion with decimal values
 unit012 Time unit conversion with whole number values
 time006 Adding time
 time007 Elapsed time
 arith063 Word problem with clocks
 mstat065 Converting between temperatures in Fahrenheit and Celsius
 arith826 Simplifying a ratio of whole numbers: Problem type 2
 unit034 Converting between metric and U.S. Customary unit systems
 unit035 Converting between compound units: Basic
 unit036 Converting between compound units: Advanced
 mstat056 Interpreting a tally table
 mstat037 Constructing a line plot
 mstat005 Constructing a bar graph for non-numerical data
 mstat004 Constructing a histogram for numerical data
 mstat024 Interpreting a bar graph
 mstat044 Interpreting a double bar graph
 mstat057 Interpreting a pictograph table
 mstat007 Interpreting a line graph
 mstat031 Interpreting a stem-and-leaf plot
 stat804 Interpreting a circle graph or pie chart
 stat020 Calculating relative frequencies in a contingency table
 stat805 Making a reasonable inference based on proportion statistics
 mstat025 Finding if a question can be answered by the data
 mstat003 Mode of a data set
 mstat055 Finding the mode and range of a data set
 arith103 Average of two numbers

mstat001 Mean of a data set
 mstat028 Mean and median of a data set
 mstat029 How changing a value affects the mean and median
 mstat053 Choosing the best measure to describe data
 stat802 Rejecting unreasonable claims based on average statistics
 mstat066 Weighted mean
 mstat027 Using back-to-back stem-and-leaf plots to compare data sets
 mstat072 Five-number summary and interquartile range
 mstat006 Constructing a box-and-whisker plot
 mstat073 Using box-and-whisker plots to compare data sets
 mstat043 Interpreting a Venn diagram of 3 sets
 mstat041 Interpreting a tree diagram
 mstat040 Introduction to the counting principle
 mstat015 Counting principle
 pcalc082 Factorial expressions
 mstat017 Computing permutations and combinations
 mstat008 Word problem involving permutations
 mstat009 Word problem involving combinations
 mstat026 Introduction to the probability of an event
 mstat010 Probability of an event
 mstat039 Understanding likelihood
 mstat048 Odds of an event
 stat106 Outcomes and event probability
 stat112 Probabilities involving two dice
 mstat011 Area as probability
 mstat046 Experimental and theoretical probability
 mstat047 Introduction to expectation
 mstat012 Probability of independent events
 mstat013 Probability of dependent events
 mstat032 Probability of the union of two events

Integers

alge286 Plotting integers on a number line
 arith605 Plotting rational numbers on a number line
 mstat038 Reading the temperature from a thermometer
 arith699 Writing a signed number for a real-world situation
 arith691 Ordering integers
 arith712 Ordering real numbers
 arith071 Absolute value of a number
 arith200 Integer addition: Problem type 1
 arith108 Integer addition: Problem type 2
 arith688 Integer subtraction: Problem type 1
 arith689 Integer subtraction: Problem type 2
 arith690 Integer subtraction: Problem type 3
 arith754 Addition and subtraction with 3 integers
 arith755 Addition and subtraction with 4 or 5 integers
 arith701 Word problem with addition or subtraction of integers
 arith231 Integer multiplication and division
 arith800 Multiplication of 3 or 4 integers
 alge001 Identifying numbers as integers or non-integers
 alge002 Identifying numbers as rational or irrational
 arith116 Signed fraction addition or subtraction: Basic
 arith864 Signed fraction subtraction involving double negation
 arith106 Signed fraction addition or subtraction: Advanced
 arith811 Addition and subtraction of 3 fractions involving signs
 arith822 Signed fraction multiplication: Basic
 arith105 Signed fraction multiplication: Advanced
 arith814 Signed fraction division
 arith117 Signed decimal addition and subtraction

arith234 Signed decimal addition and subtraction with 3 numbers
 arith750 Signed decimal multiplication
 arith751 Signed decimal division
 arith104 Operations with absolute value: Problem type 2
 geom525 Computing distances between decimals on the number line
 unit052 Finding the absolute error and percent error of a measurement
 arith702 Exponents and integers: Problem type 1
 arith703 Exponents and integers: Problem type 2
 arith704 Exponents and signed fractions
 arith118 Order of operations with integers
 arith600 Order of operations with integers and exponents
 arith696 Complex fraction without variables: Problem type 2
 alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge808 Evaluating a linear expression: Signed fraction multiplication with addition or subtraction
 alge302 Evaluating a linear expression: Signed decimal addition and subtraction
 alge303 Evaluating a linear expression: Signed decimal multiplication with addition or subtraction
 alge004 Evaluating a quadratic expression: Integers
 alge700 Combining like terms: Whole number coefficients
 alge607 Combining like terms: Integer coefficients
 alge187 Properties of addition
 alge310 Multiplying a constant and a linear monomial
 alge606 Distributive property: Whole number coefficients
 alge604 Distributive property: Integer coefficients
 alge188 Properties of real numbers
 alge608 Using distribution and combining like terms to simplify: Univariate
 alge609 Using distribution with double negation and combining like terms to simplify: Multivariate
 alge293 Combining like terms in a quadratic expression
 alge432 Introduction to adding fractions with variables and common denominators
 alge436 Adding rational expressions with different denominators and a single occurrence of a variable

Linear Equations and Inequalities

alge801 Additive property of equality with fractions and mixed numbers
 alge800 Additive property of equality with decimals
 alge010 Additive property of equality with integers
 alge836 Additive property of equality with signed fractions
 alge820 Multiplicative property of equality with fractions
 alge825 Multiplicative property of equality with decimals
 alge797 Multiplicative property of equality with integers
 alge012 Multiplicative property of equality with signed fractions
 alge834 Identifying solutions to a linear equation in one variable: Two-step equations
 alge266 Additive property of equality with a negative coefficient
 alge006 Solving a two-step equation with integers
 alge200 Solving an equation to find the value of an expression
 alge920 Introduction to solving an equation with parentheses
 alge837 Solving a multi-step equation given in fractional form
 alge986 Identifying properties used to solve a linear equation
 alge824 Solving a two-step equation with signed decimals
 alge838 Introduction to solving an equation with variables on the same side
 alge862 Solving a linear equation with several occurrences of the variable: Variables on the same side
 alge863 Solving a linear equation with several occurrences of the variable: Variables on both sides
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
 alge420 Solving a linear equation with several occurrences of the variable: Fractional forms with monomial numerators
 alge208 Solving a two-step equation with signed fractions

alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
 alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
 alge742 Solving equations with zero, one, or infinitely many solutions
 alge840 Solving a proportion of the form $(x+a)\div b = c\div d$
 alge271 Solving a proportion of the form $a/(x+b) = c/x$
 alge603 Introduction to solving an absolute value equation
 alge864 Solving an absolute value equation: Problem type 1
 alge511 Solving for a variable in terms of other variables using addition or subtraction: Basic
 alge512 Solving for a variable in terms of other variables using addition or subtraction: Advanced
 alge513 Solving for a variable in terms of other variables using multiplication or division: Basic
 alge514 Solving for a variable in terms of other variables using multiplication or division: Advanced
 alge517 Solving for a variable in terms of other variables using addition or subtraction with division
 alge518 Solving for a variable inside parentheses in terms of other variables
 alge507 Solving for a variable in terms of other variables in a linear equation with fractions
 alge733 Writing a one-step expression for a real-world situation
 alge831 Translating a phrase into a one-step expression
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 alge016 Translating a sentence into a one-step equation
 alge841 Translating a sentence into a multi-step equation
 alge802 Solving a fraction word problem using a linear equation of the form $Ax = B$
 alge014 Solving a word problem with two unknowns using a linear equation
 alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
 alge730 Writing a multi-step equation for a real-world situation
 alge219 Solving a decimal word problem using a linear equation with the variable on both sides
 alge704 Solving a fraction word problem using a linear equation with the variable on both sides
 alge792 Solving a word problem with three unknowns using a linear equation
 alge842 Solving a word problem involving consecutive integers
 alge794 Solving a value mixture problem using a linear equation
 alge218 Solving a word problem involving rates and time conversion
 alge796 Solving a distance, rate, time problem using a linear equation
 arith854 Computing a percent mixture
 alge795 Solving a percent mixture problem using a linear equation
 geom817 Finding a side length given the perimeter and side lengths with variables
 geom143 Finding the perimeter or area of a rectangle given one of these values
 geom218 Finding the radius or the diameter of a circle given its circumference
 geom838 Circumference ratios
 geom530 Solving equations involving vertical angles
 geom531 Solving equations involving angles and a pair of parallel lines
 geom623 Finding angle measures of a triangle given angles with variables
 geom502 Finding angle measures of a right or isosceles triangle given angles with variables
 stat803 Finding the value for a new score that will yield a given mean
 alge015 Translating a sentence by using an inequality symbol
 alge845 Translating a sentence into a one-step inequality
 alge846 Translating a sentence into a multi-step inequality
 alge748 Writing an inequality for a real-world situation
 alge017 Graphing a linear inequality on the number line
 alge822 Writing an inequality given a graph on the number line
 alge186 Translating a sentence into a compound inequality
 alge166 Graphing a compound inequality on the number line
 alge847 Writing a compound inequality given a graph on the number line
 set001 Set builder notation
 set004 Set builder and interval notation
 set002 Union and intersection of finite sets
 alge844 Identifying solutions to a two-step linear inequality in one variable
 alge848 Additive property of inequality with whole numbers
 alge849 Additive property of inequality with integers
 alge852 Additive property of inequality with signed fractions
 alge853 Additive property of inequality with signed decimals
 alge854 Multiplicative property of inequality with integers
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alge855 Solving a two-step linear inequality: Problem type 1
 alge856 Solving a two-step linear inequality: Problem type 2
 alge857 Solving a two-step linear inequality with a fractional coefficient
 alge977 Solving a linear inequality with multiple occurrences of the variable: Problem type 1
 alge858 Solving a linear inequality with multiple occurrences of the variable: Problem type 2
 alge859 Solving a linear inequality with multiple occurrences of the variable: Problem type 3
 alge860 Solving inequalities with no solution or all real numbers as solutions
 alge746 Solving a compound linear inequality: Graph solution, basic
 alge747 Solving a compound linear inequality: Interval notation
 alge868 Solving an absolute value inequality: Problem type 1
 alge749 Solving a decimal word problem using a two-step linear inequality
 alge750 Solving a decimal word problem using a linear inequality with the variable on both sides

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 alge067 Plotting a point in the coordinate plane
 alge850 Table for a linear equation
 alge873 Identifying solutions to a linear equation in two variables
 alge066 Finding a solution to a linear equation in two variables
 alge191 Midpoint of a line segment in the plane
 alge877 Graphing a linear equation of the form $y = mx$
 alge878 Graphing a line given its equation in slope-intercept form: Integer slope
 alge879 Graphing a line given its equation in slope-intercept form: Fractional slope
 alge880 Graphing a line given its equation in standard form
 alge198 Graphing a vertical or horizontal line
 alge884 Finding x - and y -intercepts given the graph of a line on a grid
 alge924 Finding x - and y -intercepts of a line given the equation: Basic
 alge210 Finding x - and y -intercepts of a line given the equation: Advanced
 alge197 Graphing a line given its x - and y -intercepts
 alge881 Graphing a line by first finding its x - and y -intercepts
 alge875 Classifying slopes given graphs of lines
 alge886 Finding slope given the graph of a line on a grid
 alge887 Finding slope given two points on the line
 alge885 Finding the slope of horizontal and vertical lines
 alge888 Finding the coordinate that yields a given slope
 alge259 Graphing a line given its slope and y -intercept
 alge196 Graphing a line through a given point with a given slope
 alge876 Identifying linear equations: Advanced
 alge874 Identifying linear functions given ordered pairs
 alge891 Rewriting a linear equation in the form $Ax + By = C$
 alge889 Finding the slope and y -intercept of a line given its equation in the form $y = mx + b$
 alge890 Finding the slope and y -intercept of a line given its equation in the form $Ax + By = C$
 alge882 Graphing a line by first finding its slope and y -intercept
 alge258 Writing an equation of a line given its slope and y -intercept
 alge892 Writing an equation and graphing a line given its slope and y -intercept
 alge893 Writing an equation in slope-intercept form given the slope and a point
 alge883 Graphing a line given its equation in point-slope form
 alge894 Writing an equation in point-slope form given the slope and a point
 alge070 Writing an equation of a line given the y -intercept and another point
 alge072 Writing the equation of the line through two given points
 alge073 Writing the equations of vertical and horizontal lines through a given point
 geom806 Finding slopes of lines parallel and perpendicular to a line given in slope-intercept form
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 alge895 Identifying parallel and perpendicular lines from equations
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 alge897 Writing and evaluating a function that models a real-world situation: Advanced
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 fun005 Writing a function rule given a table of ordered pairs: One-step rules
 fun006 Writing a function rule given a table of ordered pairs: Two-step rules

alge992 Combining functions to write a new function that models a real-world situation
 alge987 Comparing properties of linear functions given in different forms
 alge989 Interpreting the parameters of a linear function that models a real-world situation
 alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
 alge806 Application problem with a linear function: Finding a coordinate given two points
 mstat052 Identifying independent and dependent variables from equations or real-world situations
 alge991 Solving a linear equation by graphing
 mstat030 Sketching the line of best fit
 mstat023 Scatter plots and correlation
 mstat068 Predictions from the line of best fit
 mstat067 Approximating the equation of a line of best fit and making predictions
 mstat069 Computing residuals
 mstat070 Interpreting residual plots
 mstat071 Linear relationship and the correlation coefficient
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 alge898 Translating the graph of an absolute value function: One step
 alge899 Translating the graph of an absolute value function: Two steps
 alge913 Graphing an absolute value equation of the form $y = A|x - h| + k$
 alge900 Graphing an absolute value equation in the plane: Basic
 alge168 Graphing an absolute value equation in the plane: Advanced
 alge901 How the leading coefficient affects the graph of an absolute value function
 fun032 Identifying functions from relations
 fun010 Vertical line test
 fun016 Domain and range from ordered pairs
 fun001 Table for a linear function
 pcalc760 Evaluating functions: Linear and quadratic or cubic
 fun033 Variable expressions as inputs of functions: Problem type 1
 alge294 Finding outputs of a one-step function that models a real-world situation: Function notation
 alge295 Finding outputs of a two-step function with decimals that models a real-world situation: Function notation
 alge296 Finding inputs and outputs of a two-step function that models a real-world situation: Function notation
 alge990 Domain and range of a linear function that models a real-world situation
 fun026 Finding an output of a function from its graph
 pcalc761 Finding inputs and outputs of a function from its graph
 fun007 Domain and range from the graph of a discrete relation
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 alge896 Graphing an integer function and finding its range for a given domain
 alge570 Graphing a function of the form $f(x) = ax + b$: Integer slope
 alge571 Graphing a function of the form $f(x) = ax + b$: Fractional slope
 alge954 Graphing a parabola of the form $y = ax^2$
 alge955 Graphing a parabola of the form $y = ax^2 + c$
 alge572 Graphing a function of the form $f(x) = ax^2$
 alge573 Graphing a function of the form $f(x) = ax^2 + c$
 pcalc750 Finding intercepts of a nonlinear function given its graph
 pcalc751 Finding where a function is increasing, decreasing, or constant given the graph: Interval notation
 pcalc752 Finding local maxima and minima of a function given the graph
 mstat018 Choosing a graph to fit a narrative: Basic
 mstat051 Choosing a graph to fit a narrative: Advanced

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alge914 Identifying solutions to a system of linear equations
 alge075 Classifying systems of linear equations from graphs
 alge725 Graphically solving a system of linear equations
 alge751 Solving a system of linear equations using substitution
 alge915 Solving a system of linear equations using elimination with addition
 alge076 Solving a system of linear equations using elimination with multiplication and addition
 alge916 Solving a system of linear equations with fractional coefficients
 alge917 Solving a system of linear equations with decimal coefficients
 alge752 Solving a 2x2 system of linear equations that is inconsistent or consistent dependent

alge988 Identifying the operations used to create equivalent systems of equations
 alge753 Solving a 3x3 system of linear equations: Problem type 1
 alge263 Interpreting the graphs of two functions
 alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations
 alge919 Solving a word problem using a system of linear equations of the form $Ax + By = C$
 alge918 Solving a word problem using a system of linear equations of the form $y = mx + b$
 alge184 Solving a value mixture problem using a system of linear equations
 alge192 Solving a percent mixture problem using a system of linear equations
 alge224 Solving a distance, rate, time problem using a system of linear equations
 alge172 Solving a tax rate or interest rate problem using a system of linear equations
 alge793 Solving a word problem using a 3x3 system of linear equations: Problem type 1
 alge912 Identifying solutions to a linear inequality in two variables
 alge225 Graphing a linear inequality in the plane: Vertical or horizontal line
 alge720 Graphing a linear inequality in the plane: Slope-intercept form
 alge018 Graphing a linear inequality in the plane: Standard form
 alge079 Graphing a system of two linear inequalities: Basic
 alge921 Graphing a system of two linear inequalities: Advanced
 alge922 Graphing a system of three linear inequalities
 alge729 Writing a multi-step inequality for a real-world situation
 pcalc093 Solving a word problem using a system of linear inequalities: Problem type 1

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 alge024 Introduction to the product rule of exponents
 alge311 Product rule with positive exponents: Univariate
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 arith029 Ordering numbers with positive exponents
 alge826 Understanding the power rules of exponents
 alge306 Introduction to the power of a power rule of exponents
 alge305 Introduction to the power of a product rule of exponents
 alge307 Power rules with positive exponents: Multivariate products
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 alge756 Power and product rules with positive exponents
 alge451 Simplifying a ratio of multivariate monomials: Basic
 alge827 Introduction to the quotient rule of exponents
 alge452 Simplifying a ratio of univariate monomials
 alge026 Quotient of expressions involving exponents
 alge453 Simplifying a ratio of multivariate monomials: Advanced
 alge927 Power and quotient rules with positive exponents
 alge790 Evaluating expressions with exponents of zero
 arith684 Power of 10: Negative exponent
 arith729 Evaluating an expression with a negative exponent: Whole number base
 arith042 Evaluating an expression with a negative exponent: Positive fraction base
 arith043 Evaluating an expression with a negative exponent: Negative integer base
 arith024 Ordering numbers with negative exponents
 alge791 Rewriting an algebraic expression without a negative exponent
 alge961 Introduction to the product rule with negative exponents
 alge028 Product rule with negative exponents
 alge755 Quotient rule with negative exponents: Problem type 1
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 alge025 Power of a power rule with negative exponents
 alge799 Power rules with negative exponents
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 alge929 Power and quotient rules with negative exponents: Problem type 2
 alge757 Power, product, and quotient rules with negative exponents
 arith036 Scientific notation with positive exponent
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 scinot012 Converting between scientific notation and standard form in a real-world situation
 scinot008 Multiplying numbers written in scientific notation: Basic

scinot009 Multiplying numbers written in scientific notation: Advanced
 scinot010 Dividing numbers written in scientific notation: Basic
 scinot011 Dividing numbers written in scientific notation: Advanced
 alge971 Table for an exponential function
 alge830 Evaluating an exponential function that models a real-world situation
 arith853 Introduction to compound interest
 alge177 Finding a final amount in a word problem on exponential growth or decay
 alge741 Finding the final amount in a word problem on compound interest
 alge966 Finding the initial amount and rate of change given an exponential function
 alge968 Writing an equation that models exponential growth or decay
 alge301 Solving an exponential equation by finding common bases: Linear exponents
 alge969 Graphing an exponential function: $f(x) = ax$
 alge970 Graphing an exponential function: $f(x) = a(b)^x$
 alge967 Writing an exponential function rule given a table of ordered pairs
 alge993 Comparing linear, polynomial, and exponential functions
 alge758 Degree and leading coefficient of a univariate polynomial
 alge031 Degree of a multivariate polynomial
 alge798 Simplifying a sum or difference of two univariate polynomials
 alge029 Simplifying a sum or difference of three univariate polynomials
 alge932 Simplifying a sum or difference of multivariate polynomials
 alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
 alge972 Multiplying a univariate polynomial by a monomial with a negative coefficient
 alge835 Multiplying a multivariate polynomial by a monomial
 alge033 Multiplying binomials with leading coefficients of 1
 alge983 Multiplying binomials with leading coefficients greater than 1
 alge765 Multiplying binomials in two variables
 alge764 Multiplying conjugate binomials: Univariate
 alge081 Multiplying conjugate binomials: Multivariate
 alge032 Squaring a binomial: Univariate
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 alge973 Multiplying binomials with negative coefficients
 alge935 Multiplication involving binomials and trinomials in one variable
 alge180 Multiplication involving binomials and trinomials in two variables
 alge759 Dividing a polynomial by a monomial: Univariate
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 alge761 Polynomial long division: Problem type 1
 alge762 Polynomial long division: Problem type 2
 alge763 Polynomial long division: Problem type 3
 alge985 Closure properties of integers and polynomials
 alge605 Factoring a linear binomial
 alge736 Introduction to the GCF of two monomials
 alge930 Greatest common factor of three univariate monomials
 alge037 Greatest common factor of two multivariate monomials
 alge738 Factoring out a monomial from a polynomial: Univariate
 alge739 Factoring out a monomial from a polynomial: Multivariate
 alge949 Factoring out a binomial from a polynomial: GCF factoring, basic
 alge923 Factoring a univariate polynomial by grouping: Problem type 1
 alge950 Factoring a univariate polynomial by grouping: Problem type 2
 alge951 Factoring a multivariate polynomial by grouping: Problem type 1
 alge952 Factoring a multivariate polynomial by grouping: Problem type 2
 alge039 Factoring a quadratic with leading coefficient 1
 alge942 Factoring a quadratic in two variables with leading coefficient 1
 alge936 Factoring out a constant before factoring a quadratic
 alge939 Factoring a quadratic with leading coefficient greater than 1: Problem type 1
 alge940 Factoring a quadratic with leading coefficient greater than 1: Problem type 2
 alge941 Factoring a quadratic with leading coefficient greater than 1: Problem type 3
 alge978 Factoring a quadratic by the ac-method
 alge265 Factoring a quadratic in two variables with leading coefficient greater than 1
 alge937 Factoring a quadratic with a negative leading coefficient
 alge944 Factoring a perfect square trinomial with leading coefficient 1
 alge945 Factoring a perfect square trinomial with leading coefficient greater than 1
 alge946 Factoring a perfect square trinomial in two variables

alge290 Factoring a difference of squares in one variable: Basic
 alge947 Factoring a difference of squares in one variable: Advanced
 alge839 Factoring a difference of squares in two variables
 alge948 Factoring a polynomial involving a GCF and a difference of squares: Univariate
 alge833 Factoring a polynomial involving a GCF and a difference of squares: Multivariate
 alge041 Factoring a product of a quadratic trinomial and a monomial
 alge042 Factoring with repeated use of the difference of squares formula
 alge044 Factoring a sum or difference of two cubes
 alge681 Solving an equation written in factored form
 alge956 Finding the roots of a quadratic equation of the form $ax^2 + bx = 0$
 alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
 alge211 Solving a quadratic equation needing simplification
 alge703 Solving a word problem using a quadratic equation with rational roots
 alge713 Using the Pythagorean Theorem and a quadratic equation to find side lengths of a right triangle

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 alge467 Restriction on a variable in a denominator: Quadratic
 alge468 Evaluating a rational function: Problem type 1
 alge469 Evaluating a rational function: Problem type 2
 alge715 Domain of a rational function: Excluded values
 alge454 Simplifying a ratio of factored polynomials: Linear factors
 alge455 Simplifying a ratio of factored polynomials: Factors with exponents
 alge456 Simplifying a ratio of polynomials using GCF factoring
 alge457 Simplifying a ratio of linear polynomials: 1, -1, and no simplification
 alge458 Simplifying a ratio of polynomials by factoring a quadratic with leading coefficient 1
 alge710 Simplifying a ratio of polynomials: Problem type 1
 alge682 Simplifying a ratio of polynomials: Problem type 2
 alge459 Simplifying a ratio of polynomials: Problem type 3
 alge034 Simplifying a ratio of multivariate polynomials
 alge053 Multiplying rational expressions involving multivariate monomials
 alge460 Multiplying rational expressions made up of linear expressions
 alge620 Multiplying rational expressions involving quadratics with leading coefficients of 1
 alge461 Multiplying rational expressions involving quadratics with leading coefficients greater than 1
 alge462 Multiplying rational expressions involving multivariate quadratics
 alge054 Dividing rational expressions involving multivariate monomials
 alge463 Dividing rational expressions involving linear expressions
 alge766 Dividing rational expressions involving quadratics with leading coefficients of 1
 alge464 Dividing rational expressions involving quadratics with leading coefficients greater than 1
 alge465 Dividing rational expressions involving multivariate quadratics
 alge466 Multiplication and division of 3 rational expressions
 alge737 Introduction to the LCM of two monomials
 alge055 Least common multiple of two monomials
 alge427 Finding the LCD of rational expressions with linear denominators: Relatively prime
 alge428 Finding the LCD of rational expressions with linear denominators: Common factors
 alge429 Finding the LCD of rational expressions with quadratic denominators
 alge430 Writing equivalent rational expressions with monomial denominators
 alge431 Writing equivalent rational expressions with polynomial denominators
 alge304 Writing equivalent rational expressions involving opposite factors
 alge433 Adding rational expressions with common denominators and monomial numerators
 alge056 Adding rational expressions with common denominators and binomial numerators
 alge434 Adding rational expressions with common denominators and GCF factoring
 alge435 Adding rational expressions with common denominators and quadratic factoring
 alge437 Adding rational expressions with denominators ax and bx : Basic
 alge438 Adding rational expressions with denominators ax and bx : Advanced
 alge439 Adding rational expressions with denominators axn and bxm
 alge440 Adding rational expressions with multivariate monomial denominators: Basic
 alge226 Adding rational expressions with multivariate monomial denominators: Advanced

alge441 Adding rational expressions with linear denominators without common factors: Basic
 alge442 Adding rational expressions with linear denominators without common factors: Advanced
 alge443 Adding rational expressions with linear denominators with common factors: Basic
 alge444 Adding rational expressions with linear denominators with common factors: Advanced
 alge445 Adding rational expressions with denominators $ax-b$ and $b-ax$
 alge661 Adding rational expressions involving different quadratic denominators
 alge446 Adding 3 rational expressions with different quadratic denominators
 alge470 Complex fraction involving univariate monomials
 alge058 Complex fraction involving multivariate monomials
 alge471 Complex fraction: GCF factoring
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 alge473 Complex fraction made of sums involving rational expressions: Problem type 1
 alge474 Complex fraction made of sums involving rational expressions: Problem type 2
 alge475 Complex fraction made of sums involving rational expressions: Problem type 3
 alge476 Complex fraction made of sums involving rational expressions: Problem type 4
 alge477 Complex fraction made of sums involving rational expressions: Problem type 5
 alge478 Complex fraction made of sums involving rational expressions: Problem type 6
 alge479 Complex fraction made of sums involving rational expressions: Multivariate
 alge480 Complex fraction with negative exponents: Problem type 1
 alge481 Complex fraction with negative exponents: Problem type 2
 alge162 Complex fraction that contains a complex fraction
 alge060 Solving a rational equation that simplifies to linear: Denominator x
 alge205 Solving a rational equation that simplifies to linear: Denominator $x+a$
 alge769 Solving a rational equation that simplifies to linear: Denominators a , x , or ax
 alge421 Solving a rational equation that simplifies to linear: Denominators ax and bx
 alge422 Solving a rational equation that simplifies to linear: Like binomial denominators
 alge206 Solving a rational equation that simplifies to linear: Unlike binomial denominators
 alge423 Solving a rational equation that simplifies to linear: Factorable quadratic denominator
 alge424 Solving a rational equation that simplifies to quadratic: Proportional form, basic
 alge425 Solving a rational equation that simplifies to quadratic: Denominator x
 alge212 Solving a rational equation that simplifies to quadratic: Binomial denominators, constant numerators
 alge062 Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators
 alge426 Solving a rational equation that simplifies to quadratic: Factorable quadratic denominator
 alge047 Solving a rational equation that simplifies to quadratic: Proportional form, advanced
 alge508 Solving for a variable in terms of other variables in a rational equation: Problem type 1
 alge509 Solving for a variable in terms of other variables in a rational equation: Problem type 2
 alge510 Solving for a variable in terms of other variables in a rational equation: Problem type 3
 arith612 Word problem involving multiple rates
 alge770 Solving a work problem using a rational equation
 alge450 Solving a distance, rate, time problem using a rational equation
 alge059 Ordering fractions with variables
 alge982 Identifying direct variation equations
 alge938 Identifying direct variation from ordered pairs and writing equations
 alge904 Writing a direct variation equation
 alge175 Word problem on direct variation
 alge828 Interpreting direct variation from a graph
 alge905 Writing an inverse variation equation
 alge903 Identifying direct and inverse variation equations
 alge902 Identifying direct and inverse variation from ordered pairs and writing equations
 alge176 Word problem on inverse variation
 alge220 Word problem on inverse proportions
 pcalc681 Writing an equation that models variation
 alge772 Word problem on combined variation

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alge413 Finding all square roots of a number
 arith760 Square roots of perfect squares with signs
 alge415 Introduction to simplifying a radical expression with an even exponent
 alge264 Square root of a perfect square monomial

arith094 Cube root of an integer
alge549 Finding nth roots of perfect nth powers with signs
arith768 Finding the nth root of a perfect nth power fraction
alge550 Finding the nth root of a perfect nth power monomial
arith093 Simplifying the square root of a whole number less than 100
arith762 Simplifying the square root of a whole number greater than 100
alge080 Simplifying a radical expression with an even exponent
alge520 Introduction to simplifying a radical expression with an odd exponent
alge521 Simplifying a radical expression with an odd exponent
alge275 Simplifying a radical expression with two variables
alge273 Simplifying a higher root of a whole number
alge551 Introduction to simplifying a higher radical expression
alge552 Simplifying a higher radical expression: Univariate
alge811 Simplifying a higher radical expression: Multivariate
arith767 Introduction to square root addition or subtraction
arith032 Square root addition or subtraction
alge533 Square root addition or subtraction with three terms
alge531 Introduction to simplifying a sum or difference of radical expressions: Univariate
alge532 Simplifying a sum or difference of radical expressions: Univariate
alge084 Simplifying a sum or difference of radical expressions: Multivariate
alge554 Simplifying a sum or difference of higher roots
alge555 Simplifying a sum or difference of higher radical expressions
arith764 Introduction to square root multiplication
arith765 Square root multiplication: Basic
arith039 Square root multiplication: Advanced
alge522 Introduction to simplifying a product of radical expressions: Univariate
alge523 Simplifying a product of radical expressions: Univariate
alge640 Simplifying a product of radical expressions: Multivariate
alge556 Introduction to simplifying a product of higher roots
alge557 Simplifying a product of higher radical expressions
alge525 Introduction to simplifying a product involving square roots using the distributive property
alge526 Simplifying a product involving square roots using the distributive property: Basic
alge276 Simplifying a product involving square roots using the distributive property: Advanced
alge774 Special products of radical expressions: Conjugates and squaring
alge984 Classifying sums and products as rational or irrational
arith766 Simplifying a quotient of square roots
alge530 Simplifying a quotient involving a sum or difference with a square root
alge527 Rationalizing a denominator: Quotient involving square roots
alge528 Rationalizing a denominator: Square root of a fraction
alge529 Rationalizing a denominator: Quotient involving a monomial
alge534 Rationalizing a denominator using conjugates: Integer numerator
alge535 Rationalizing a denominator using conjugates: Square root in numerator
alge536 Rationalizing a denominator using conjugates: Variable in denominator
alge564 Rationalizing a denominator: Quotient involving a higher radical
alge400 Introduction to solving a radical equation
alge089 Solving a radical equation that simplifies to a linear equation: One radical, basic
alge402 Solving a radical equation that simplifies to a linear equation: One radical, advanced
alge090 Solving a radical equation that simplifies to a linear equation: Two radicals
alge405 Solving a radical equation with two radicals that simplifies to $\sqrt{x} = a$
alge403 Solving a radical equation that simplifies to a quadratic equation: One radical, basic
alge404 Solving a radical equation that simplifies to a quadratic equation: One radical, advanced
alge411 Solving a radical equation with a quadratic expression under the radical
alge182 Solving a radical equation that simplifies to a quadratic equation: Two radicals
alge410 Solving an equation with a root index greater than 2: Problem type 1
alge417 Solving an equation with a root index greater than 2: Problem type 2
alge412 Algebraic symbol manipulation with radicals
alge542 Word problem involving radical equations: Basic
alge409 Word problem involving radical equations: Advanced
alge132 Distance between two points in the plane: Exact answers
alge539 Table for a square root function
alge540 Domain of a square root function: Basic
pcalc763 Domain of a square root function: Advanced

alge543 Graphing a square root function: Problem type 1
 alge544 Graphing a square root function: Problem type 2
 alge812 Converting between radical form and exponent form
 alge560 Rational exponents: Unit fraction exponents and whole number bases
 alge561 Rational exponents: Unit fraction exponents and bases involving signs
 alge250 Rational exponents: Non-unit fraction exponent with a whole number base
 alge251 Rational exponents: Negative exponents and fractional bases
 alge558 Rational exponents: Product rule
 alge559 Rational exponents: Quotient rule
 alge773 Rational exponents: Products and quotients with negative exponents
 alge562 Rational exponents: Power of a power rule
 alge249 Rational exponents: Powers of powers with negative exponents
 alge563 Simplifying products or quotients of higher radicals with different indices: Univariate
 alge778 Using i to rewrite square roots of negative numbers
 alge779 Simplifying a product and quotient involving square roots of negative numbers
 pcalc048 Adding or subtracting complex numbers
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 pcalc053 Simplifying a power of i
 alge962 Solving an equation of the form $x^2 = a$ using the square root property
 alge092 Solving a quadratic equation using the square root property: Exact answers, basic
 alge227 Solving a quadratic equation using the square root property: Exact answers, advanced
 alge094 Completing the square
 alge780 Solving a quadratic equation by completing the square: Exact answers
 alge095 Applying the quadratic formula: Exact answers
 alge963 Applying the quadratic formula: Decimal answers
 pcalc051 Solving a quadratic equation with complex roots
 alge214 Discriminant of a quadratic equation
 alge524 Solving a word problem using a quadratic equation with irrational roots
 alge974 Finding the vertex, x -intercepts, and axis of symmetry from the graph of a parabola
 alge953 Translating the graph of a parabola: One step
 alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
 alge569 Graphing a parabola of the form $y = x^2 + bx + c$
 pcalc746 Graphing a parabola of the form $y = ax^2 + bx + c$: Integer coefficients
 pcalc747 Graphing a parabola of the form $y = ax^2 + bx + c$: Rational coefficients
 alge277 Finding the x -intercept(s) and the vertex of a parabola
 pcalc774 Rewriting a quadratic function to find the vertex of its graph
 pcalc775 Finding the maximum or minimum of a quadratic function
 alge785 Word problem involving the maximum or minimum of a quadratic function
 alge975 Domain and range from the graph of a parabola
 pcalc762 Range of a quadratic function
 alge957 Solving a quadratic equation by graphing
 alge996 Comparing properties of quadratic functions given in different forms
 alge702 Classifying the graph of a function
 alge723 How the leading coefficient affects the shape of a parabola
 alge965 Identifying linear, quadratic, and exponential functions given ordered pairs
 alge262 Graphing a cubic function of the form $y = ax^3$
 fun019 Sum, difference, and product of two functions
 fun022 Composition of two functions: Basic
 pcalc776 Expressing a function as a composition of two functions
 pcalc924 Determining whether an equation defines a function: Basic
 pcalc757 Determining whether an equation defines a function: Advanced

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Whole Numbers

arith124 Whole number place value: Problem type 1

arith125 Whole number place value: Problem type 2
arith066 Expanded form
arith643 Expanded form with zeros
arith028 Numeral translation: Problem type 1
arith060 Numeral translation: Problem type 2
arith633 One-digit addition with carry
arith634 Addition of 3 or 4 one-digit numbers
arith001 Addition without carry
arith635 Adding a 2-digit number and a 1-digit number with carry
arith050 Addition with carry
arith630 Addition with carry to the hundreds place
arith012 Addition of large numbers
arith636 Subtracting a 1-digit number from a 2-digit number
arith007 Subtraction without borrowing
arith128 Adding or subtracting 10, 100, or 1000
arith006 Subtraction with borrowing
arith682 Subtraction with multiple regrouping steps
arith637 Subtraction and regrouping with zeros
arith613 Word problem with addition or subtraction of whole numbers
arith655 Introduction to properties of addition
arith126 Multiplication as repeated addition
arith008 One-digit multiplication
arith679 Multiplication by 10, 100, and 1000
arith003 Multiplication without carry
arith004 Multiplication with carry
arith632 Multiplication with trailing zeros: Problem type 1
arith615 Introduction to multiplication of large numbers
arith638 Multiplication with trailing zeros: Problem type 2
arith014 Multiplication of large numbers
arith641 Multiples: Problem type 1
arith642 Multiples: Problem type 2
arith656 Introduction to properties of multiplication
arith075 Division facts
arith614 Word problem with multiplication or division of whole numbers
arith130 Word problem with multiplication and addition or subtraction of whole numbers
arith243 Division of whole numbers given in fractional form
arith711 Division involving zero
arith052 Division without carry
arith005 Division with carry
arith680 Division with trailing zeros: Problem type 1
arith649 Division with trailing zeros: Problem type 2
arith616 Quotient and remainder: Problem type 1
arith644 Word problem on quotient and remainder
arith617 Quotient and remainder: Problem type 2
arith631 Quotient and remainder: Problem type 3
arith650 Division involving quotients with intermediate zeros
arith023 Word problem with division of whole numbers and rounding
arith651 Introduction to inequalities
arith077 Ordering large numbers
arith078 Rounding to tens or hundreds
arith123 Rounding to hundreds or thousands
arith061 Rounding to thousands, ten thousands, or hundred thousands
arith101 Estimating a sum of whole numbers
arith102 Estimating a difference of whole numbers
arith604 Estimating a product or quotient of whole numbers
arith692 Writing expressions using exponents
arith233 Introduction to exponents
arith645 Introduction to parentheses
arith681 Introduction to order of operations
arith048 Order of operations with whole numbers
arith051 Order of operations with whole numbers and grouping symbols
arith693 Order of operations with whole numbers and exponents: Basic

arith713 Order of operations with whole numbers and exponents: Advanced
 arith657 Understanding the distributive property
 alge284 Evaluating an algebraic expression: Whole number addition or subtraction
 alge683 Evaluating an algebraic expression: Whole number multiplication or division
 alge285 Evaluating an algebraic expression: Whole numbers with two operations
 alge832 Evaluating an algebraic expression: Whole number operations and exponents
 alge009 Additive property of equality with whole numbers
 alge008 Multiplicative property of equality with whole numbers
 alge803 Using two steps to solve an equation with whole numbers
 arith646 Even and odd numbers
 arith647 Divisibility rules for 2, 5, and 10
 arith648 Divisibility rules for 3 and 9
 arith056 Factors
 arith034 Prime numbers
 arith035 Prime factorization
 arith033 Greatest common factor of 2 numbers
 arith070 Least common multiple of 2 numbers
 arith804 Least common multiple of 3 numbers
 arith240 Word problem with common multiples
 alge925 Finding the next terms of an arithmetic sequence with whole numbers
 alge933 Finding the next terms of a geometric sequence with whole numbers
 alge732 Finding patterns in shapes

Fractions

arith623 Introduction to fractions
 arith665 Understanding equivalent fractions
 arith212 Equivalent fractions
 arith666 Introduction to simplifying a fraction
 arith067 Simplifying a fraction
 arith687 Fractional position on a number line
 arith667 Plotting fractions on a number line
 arith044 Ordering fractions with the same denominator
 arith091 Ordering fractions with the same numerator
 arith092 Using a common denominator to order fractions
 arith079 Product of a unit fraction and a whole number
 arith086 Product of a fraction and a whole number: Problem type 1
 arith119 Introduction to fraction multiplication
 arith053 Fraction multiplication
 arith812 Product of a fraction and a whole number: Problem type 2
 arith813 Multiplication of 3 fractions
 arith818 Word problem involving fractions and multiplication
 arith095 Multi-step word problem involving fractions and multiplication
 arith088 The reciprocal of a number
 arith694 Division involving a whole number and a fraction
 arith022 Fraction division
 arith819 Word problem involving fractions and division
 arith618 Addition or subtraction of fractions with the same denominator
 arith802 Addition or subtraction of fractions with the same denominator and simplification
 arith801 Finding the LCD of two fractions
 arith109 Addition or subtraction of unit fractions
 arith664 Introduction to addition or subtraction of fractions with different denominators
 arith230 Addition or subtraction of fractions with different denominators
 arith803 Addition and subtraction of 3 fractions with different denominators
 arith805 Word problem involving addition or subtraction of fractions with different denominators
 arith100 Fractional part of a circle
 arith662 Writing a mixed number and an improper fraction for a shaded region
 arith015 Writing an improper fraction as a mixed number
 arith619 Writing a mixed number as an improper fraction
 arith215 Addition or subtraction of mixed numbers with the same denominator

arith084 Addition of mixed numbers with the same denominator and carry
 arith216 Subtraction of mixed numbers with the same denominator and borrowing
 arith806 Addition or subtraction of mixed numbers with different denominators and no carry or borrow
 arith808 Addition of mixed numbers with different denominators and carry
 arith809 Subtraction of mixed numbers with different denominators and borrowing
 arith807 Addition and subtraction of 3 mixed numbers with different denominators
 arith810 Word problem involving addition or subtraction of mixed numbers with different denominators
 arith815 Mixed number multiplication
 arith816 Multiplication of a mixed number and a whole number
 arith817 Division with a mixed number and a whole number
 arith068 Mixed number division
 arith820 Word problem involving multiplication or division with mixed numbers
 arith821 Exponents and fractions
 arith859 Order of operations with fractions: Problem type 1
 arith860 Order of operations with fractions: Problem type 2
 arith861 Order of operations with fractions: Problem type 3
 arith695 Complex fraction without variables: Problem type 1

Decimals

arith127 Writing a decimal and a fraction for a shaded region
 arith110 Decimal place value: Tenths and hundredths
 arith220 Decimal place value: Hundreds to ten thousandths
 arith714 Writing a decimal number less than 1 given its name
 arith715 Writing a decimal number greater than 1 given its name
 arith716 Writing a decimal number given its name: Advanced
 arith829 Reading decimal position on a number line: Tenths
 arith830 Reading decimal position on a number line: Hundredths
 arith831 Understanding decimal position on a number line using zoom: Hundredths
 arith832 Understanding decimal position on a number line using zoom: Thousandths
 arith129 Introduction to ordering decimals
 arith608 Ordering decimals
 arith221 Rounding decimals
 arith717 Converting a decimal to a proper fraction without simplifying: Basic
 arith719 Converting a decimal to a proper fraction without simplifying: Advanced
 arith718 Converting a decimal to a proper fraction in simplest form: Basic
 arith087 Converting a decimal to a proper fraction in simplest form: Advanced
 arith721 Converting a decimal to a mixed number and an improper fraction without simplifying
 arith722 Converting a decimal to a mixed number and an improper fraction in simplest form: Basic
 arith724 Converting a decimal to a mixed number and an improper fraction in simplest form: Advanced
 arith624 Addition of aligned decimals
 arith013 Decimal addition with 3 numbers
 arith734 Subtraction of aligned decimals
 arith735 Decimal subtraction: Basic
 arith736 Decimal subtraction: Advanced
 arith737 Decimal addition and subtraction with 3 or more numbers
 arith131 Estimating a decimal sum or difference
 arith132 Word problem with addition or subtraction of 2 decimals
 arith133 Word problem with addition of 3 or 4 decimals and whole numbers
 arith134 Word problem with subtraction of a whole number and a decimal: Regrouping with zeros
 arith739 Introduction to decimal multiplication
 arith017 Multiplication of a decimal by a whole number
 arith055 Decimal multiplication: Problem type 1
 arith046 Decimal multiplication: Problem type 2
 arith082 Multiplication of a decimal by a power of ten
 arith738 Multiplication of a decimal by a power of 0.1
 arith740 Multiplication of decimals that have a product less than 0.1
 arith752 Estimating a product of decimals
 arith135 Word problem with multiplication of a decimal and a whole number
 arith137 Word problem with multiplication of two decimals

arith224 Word problem with decimal addition and multiplication
arith744 Whole number division with decimal answers
arith081 Division of a decimal by a whole number
arith743 Division of a decimal by a 1-digit decimal
arith019 Division of a decimal by a 2-digit decimal
arith083 Division of a decimal by a power of ten
arith742 Division of a decimal by a power of 0.1
arith745 Decimal division with rounding
arith136 Word problem with division of a decimal and a whole number
arith138 Word problem with division of two decimals
arith227 Word problem with decimal subtraction and division
alge823 Solving a one-step word problem using the formula $d = rt$
arith725 Converting a fraction with a denominator of 10 or 100 to a decimal
arith726 Converting a fraction with a denominator of 100 or 1000 to a decimal
arith609 Ordering fractions and decimals
arith727 Converting a fraction to a terminating decimal: Basic
arith728 Converting a fraction to a terminating decimal: Advanced
arith730 Converting a fraction to a repeating decimal: Basic
arith731 Converting a fraction to a repeating decimal: Advanced
arith733 Using a calculator to convert a fraction to a rounded decimal
arith111 Converting a mixed number to a terminating decimal: Basic
arith112 Converting a mixed number to a terminating decimal: Advanced
arith732 Converting a fraction or mixed number to a rounded decimal
arith753 Squaring decimal bases: Products greater than 0.1
arith741 Exponents and decimals: Products less than 0.1
arith720 Order of operations with decimals: Problem type 1
arith746 Order of operations with decimals: Problem type 2
arith747 Order of operations with decimals: Problem type 3
arith748 Addition or subtraction with a decimal and a mixed number
arith749 Multiplication with a decimal and a fraction
arith823 Writing ratios using different notations
arith663 Writing ratios for real-world situations
arith824 Simplifying a ratio of whole numbers: Problem type 1
arith825 Simplifying a ratio of decimals
arith827 Finding a unit price
arith828 Computing unit prices to find the better buy
arith064 Solving a word problem on proportions using a unit rate
arith228 Word problem on unit rates associated with ratios of whole numbers: Decimal answers
alge272 Solving a proportion of the form $x/a = b/c$
arith610 Word problem on proportions: Problem type 1
arith611 Word problem on proportions: Problem type 2
alge063 Word problem on mixed number proportions
arith045 Word problem with powers of ten
arith836 Converting a fraction with a denominator of 100 to a percentage
arith837 Converting a percentage to a fraction with a denominator of 100
arith674 Finding the percentage of a grid that is shaded
arith723 Introduction to converting a percentage to a decimal
arith833 Introduction to converting a decimal to a percentage
arith834 Converting between percentages and decimals
arith841 Converting a mixed number percentage to a decimal
arith835 Converting between percentages and decimals in a real-world situation
arith090 Converting a percentage to a fraction in simplest form
arith839 Converting a decimal percentage to a fraction
arith838 Converting a fraction to a percentage: Denominator of 4, 5, or 10
arith002 Converting a fraction to a percentage: Denominator of 20, 25, or 50
arith843 Using a calculator to convert a fraction to a rounded percentage
arith842 Converting a fraction to a percentage in a real-world situation
arith840 Finding a percentage of a whole number
arith030 Finding a percentage of a whole number without a calculator: Basic
arith844 Finding a percentage of a whole number without a calculator: Advanced
arith862 Applying the percent equation: Problem type 1
arith863 Applying the percent equation: Problem type 2

arith845 Finding a percentage of a total amount: Real-world situations
 arith846 Finding a percentage of a total amount without a calculator: Sales tax, commission, discount
 arith857 Estimating a tip without a calculator
 arith069 Writing a ratio as a percentage without a calculator
 mstat049 Computing a percentage from a table of values
 arith850 Finding the rate of a tax or commission
 arith849 Finding the total amount given the percentage of a partial amount
 arith852 Finding the multiplier to give a final amount after a percentage increase or decrease
 arith851 Finding the final amount given the original amount and a percentage increase or decrease
 arith847 Finding the sale price given the original price and percent discount
 arith074 Finding the sale price without a calculator given the original price and percent discount
 arith848 Finding the total cost including tax or markup
 arith855 Finding the original amount given the result of a percentage increase or decrease
 arith031 Finding the original price given the sale price and percent discount
 arith858 Finding the percentage increase or decrease: Basic
 arith225 Finding the percentage increase or decrease: Advanced
 arith232 Finding simple interest without a calculator
 arith856 Finding a percentage of a total amount in a circle graph
 stat801 Computations from a circle graph

Geometry

geom339 Perimeter of a polygon
 geom300 Perimeter of a square or a rectangle
 geom618 Perimeter of a polygon involving mixed numbers and fractions
 geom078 Sides of polygons having the same perimeter
 geom221 Finding the missing length in a figure
 geom353 Perimeter of a piecewise rectangular figure
 geom358 Identifying parallel and perpendicular lines
 geom349 Naming segments, rays, and lines
 geom151 Measuring an angle with the protractor
 geom152 Drawing an angle with the protractor
 geom303 Acute, obtuse, and right angles
 geom039 Finding supplementary and complementary angles
 geom305 Identifying supplementary and vertical angles
 geom304 Identifying corresponding and alternate angles
 geom306 Acute, obtuse, and right triangles
 geom307 Classifying scalene, isosceles, and equilateral triangles by side lengths or angles
 geom001 Finding an angle measure of a triangle given two angles
 geom908 Finding an angle measure for a triangle with an extended side
 geom812 Finding an angle measure given extended triangles
 geom813 Finding an angle measure given a triangle and parallel lines
 geom361 Naming polygons
 mstat042 Interpreting a Venn diagram of 2 sets
 geom867 Identifying parallelograms, rectangles, and squares
 geom310 Properties of quadrilaterals
 geom532 Classifying parallelograms
 geom019 Area of a square or a rectangle
 geom866 Perimeter and area on a grid
 geom620 Area of a rectangle involving fractions
 geom619 Area of a rectangle involving mixed numbers and fractions
 geom350 Distinguishing between the area and perimeter of a rectangle
 geom351 Areas of rectangles with the same perimeter
 geom217 Finding the side length of a rectangle given its perimeter or area
 geom340 Area of a piecewise rectangular figure
 geom142 Word problem involving the area between two rectangles
 geom801 Area of a triangle
 geom344 Area involving rectangles and triangles
 geom022 Area of a parallelogram
 geom023 Area of a trapezoid

geom347 Introduction to a circle: Diameter, radius, and chord
 geom016 Circumference of a circle
 geom301 Perimeter involving rectangles and circles
 geom802 Circumference and area of a circle
 geom302 Area involving rectangles and circles
 geom036 Word problem involving the area between two concentric circles
 geom214 Area involving inscribed figures
 geom814 Angle measure in a circle graph
 geom868 Classifying solids
 geom348 Vertices, edges, and faces of a solid
 geom830 Counting the cubes in a solid made of cubes
 geom354 Volume of a rectangular prism made of unit cubes
 geom311 Volume of a rectangular prism
 geom505 Volume of a piecewise rectangular prism
 geom090 Volume of a triangular prism
 geom033 Volume of a pyramid
 geom035 Volume of a cylinder
 geom092 Word problem involving the rate of filling or emptying a cylinder
 geom622 Volume of a cone
 geom841 Volume of a sphere
 geom219 Nets of solids
 geom816 Side views of a solid made of cubes
 geom031 Surface area of a cube or a rectangular prism
 geom345 Surface area of a piecewise rectangular prism made of unit cubes
 geom091 Surface area of a triangular prism
 geom621 Surface area of a cylinder
 geom842 Surface area of a sphere
 arith016 Square root of a perfect square
 arith763 Using a calculator to approximate a square root
 arith602 Estimating a square root
 arith601 Square root of a rational perfect square
 alge407 Introduction to the Pythagorean Theorem
 geom044 Pythagorean Theorem
 alge408 Word problem involving the Pythagorean Theorem
 geom359 Identifying congruent shapes on a grid
 geom520 Identifying and naming congruent triangles
 geom360 Identifying similar or congruent shapes on a grid
 geom037 Similar polygons
 geom038 Similar right triangles
 geom337 Indirect measurement

Measurement and Data Analysis

mstat059 Choosing U.S. Customary measurement units
 unit005 U.S. Customary unit conversion with whole number values
 mstat035 Conversions involving measurements in feet and inches
 mstat036 Adding measurements in feet and inches
 unit006 U.S. Customary unit conversion with whole number values: Two-step conversion
 unit007 U.S. Customary unit conversion with mixed number values: One-step conversion
 unit008 U.S. Customary unit conversion with mixed number values: Two-step conversion
 unit009 U.S. Customary area unit conversion with whole number values
 mstat060 Choosing metric measurement units
 unit001 Metric distance conversion with whole number values
 unit002 Metric mass or capacity conversion with whole number values
 unit003 Metric distance conversion with decimal values
 unit004 Metric conversion with decimal values: Two-step problem
 unit010 Metric area unit conversion with decimal values
 unit012 Time unit conversion with whole number values
 time006 Adding time
 time007 Elapsed time

arith063 Word problem with clocks
 mstat065 Converting between temperatures in Fahrenheit and Celsius
 arith826 Simplifying a ratio of whole numbers: Problem type 2
 unit034 Converting between metric and U.S. Customary unit systems
 unit035 Converting between compound units: Basic
 unit036 Converting between compound units: Advanced
 mstat056 Interpreting a tally table
 mstat037 Constructing a line plot
 mstat005 Constructing a bar graph for non-numerical data
 mstat004 Constructing a histogram for numerical data
 mstat024 Interpreting a bar graph
 mstat044 Interpreting a double bar graph
 mstat057 Interpreting a pictograph table
 mstat007 Interpreting a line graph
 mstat031 Interpreting a stem-and-leaf plot
 stat804 Interpreting a circle graph or pie chart
 stat020 Calculating relative frequencies in a contingency table
 stat805 Making a reasonable inference based on proportion statistics
 mstat025 Finding if a question can be answered by the data
 mstat003 Mode of a data set
 mstat055 Finding the mode and range of a data set
 arith103 Average of two numbers
 mstat001 Mean of a data set
 mstat028 Mean and median of a data set
 mstat029 How changing a value affects the mean and median
 mstat053 Choosing the best measure to describe data
 stat802 Rejecting unreasonable claims based on average statistics
 mstat066 Weighted mean
 mstat027 Using back-to-back stem-and-leaf plots to compare data sets
 mstat072 Five-number summary and interquartile range
 mstat006 Constructing a box-and-whisker plot
 mstat073 Using box-and-whisker plots to compare data sets
 mstat043 Interpreting a Venn diagram of 3 sets
 mstat041 Interpreting a tree diagram
 mstat040 Introduction to the counting principle
 mstat015 Counting principle
 pcalc082 Factorial expressions
 mstat017 Computing permutations and combinations
 mstat008 Word problem involving permutations
 mstat009 Word problem involving combinations
 mstat026 Introduction to the probability of an event
 mstat010 Probability of an event
 mstat039 Understanding likelihood
 mstat048 Odds of an event
 stat106 Outcomes and event probability
 stat112 Probabilities involving two dice
 mstat011 Area as probability
 mstat046 Experimental and theoretical probability
 mstat047 Introduction to expectation
 mstat012 Probability of independent events
 mstat013 Probability of dependent events
 mstat032 Probability of the union of two events

Signed Numbers

alge286 Plotting integers on a number line
 arith605 Plotting rational numbers on a number line
 mstat038 Reading the temperature from a thermometer
 arith699 Writing a signed number for a real-world situation
 arith691 Ordering integers

arith712 Ordering real numbers
 arith071 Absolute value of a number
 arith200 Integer addition: Problem type 1
 arith108 Integer addition: Problem type 2
 arith688 Integer subtraction: Problem type 1
 arith689 Integer subtraction: Problem type 2
 arith690 Integer subtraction: Problem type 3
 arith754 Addition and subtraction with 3 integers
 arith755 Addition and subtraction with 4 or 5 integers
 arith701 Word problem with addition or subtraction of integers
 arith231 Integer multiplication and division
 arith800 Multiplication of 3 or 4 integers
 alge001 Identifying numbers as integers or non-integers
 alge002 Identifying numbers as rational or irrational
 arith116 Signed fraction addition or subtraction: Basic
 arith864 Signed fraction subtraction involving double negation
 arith106 Signed fraction addition or subtraction: Advanced
 arith811 Addition and subtraction of 3 fractions involving signs
 arith822 Signed fraction multiplication: Basic
 arith105 Signed fraction multiplication: Advanced
 arith814 Signed fraction division
 arith117 Signed decimal addition and subtraction
 arith234 Signed decimal addition and subtraction with 3 numbers
 arith750 Signed decimal multiplication
 arith751 Signed decimal division
 arith104 Operations with absolute value: Problem type 2
 geom525 Computing distances between decimals on the number line
 unit052 Finding the absolute error and percent error of a measurement
 arith702 Exponents and integers: Problem type 1
 arith703 Exponents and integers: Problem type 2
 arith704 Exponents and signed fractions
 arith118 Order of operations with integers
 arith600 Order of operations with integers and exponents
 arith696 Complex fraction without variables: Problem type 2
 alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge808 Evaluating a linear expression: Signed fraction multiplication with addition or subtraction
 alge302 Evaluating a linear expression: Signed decimal addition and subtraction
 alge303 Evaluating a linear expression: Signed decimal multiplication with addition or subtraction
 alge004 Evaluating a quadratic expression: Integers
 alge700 Combining like terms: Whole number coefficients
 alge607 Combining like terms: Integer coefficients
 alge187 Properties of addition
 alge310 Multiplying a constant and a linear monomial
 alge606 Distributive property: Whole number coefficients
 alge604 Distributive property: Integer coefficients
 alge188 Properties of real numbers
 alge608 Using distribution and combining like terms to simplify: Univariate
 alge609 Using distribution with double negation and combining like terms to simplify: Multivariate
 alge293 Combining like terms in a quadratic expression
 alge432 Introduction to adding fractions with variables and common denominators
 alge436 Adding rational expressions with different denominators and a single occurrence of a variable
 arith683 Power of 10: Positive exponent
 arith684 Power of 10: Negative exponent
 arith036 Scientific notation with positive exponent
 arith037 Scientific notation with negative exponent

Linear Equations and Inequalities

alge801 Additive property of equality with fractions and mixed numbers
 alge800 Additive property of equality with decimals

alge010 Additive property of equality with integers
alge836 Additive property of equality with signed fractions
alge820 Multiplicative property of equality with fractions
alge825 Multiplicative property of equality with decimals
alge797 Multiplicative property of equality with integers
alge012 Multiplicative property of equality with signed fractions
alge834 Identifying solutions to a linear equation in one variable: Two-step equations
alge266 Additive property of equality with a negative coefficient
alge006 Solving a two-step equation with integers
alge200 Solving an equation to find the value of an expression
alge920 Introduction to solving an equation with parentheses
alge837 Solving a multi-step equation given in fractional form
alge986 Identifying properties used to solve a linear equation
alge824 Solving a two-step equation with signed decimals
alge838 Introduction to solving an equation with variables on the same side
alge862 Solving a linear equation with several occurrences of the variable: Variables on the same side
alge863 Solving a linear equation with several occurrences of the variable: Variables on both sides
alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
alge420 Solving a linear equation with several occurrences of the variable: Fractional forms with monomial numerators
alge208 Solving a two-step equation with signed fractions
alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
alge742 Solving equations with zero, one, or infinitely many solutions
alge840 Solving a proportion of the form $(x+a)\div b = c\div d$
alge271 Solving a proportion of the form $a/(x+b) = c/x$
alge603 Introduction to solving an absolute value equation
alge864 Solving an absolute value equation: Problem type 1
alge511 Solving for a variable in terms of other variables using addition or subtraction: Basic
alge512 Solving for a variable in terms of other variables using addition or subtraction: Advanced
alge513 Solving for a variable in terms of other variables using multiplication or division: Basic
alge514 Solving for a variable in terms of other variables using multiplication or division: Advanced
alge517 Solving for a variable in terms of other variables using addition or subtraction with division
alge518 Solving for a variable inside parentheses in terms of other variables
alge507 Solving for a variable in terms of other variables in a linear equation with fractions
alge733 Writing a one-step expression for a real-world situation
alge831 Translating a phrase into a one-step expression
alge291 Translating a phrase into a two-step expression
alge016 Translating a sentence into a one-step equation
alge841 Translating a sentence into a multi-step equation
alge802 Solving a fraction word problem using a linear equation of the form $Ax = B$
alge014 Solving a word problem with two unknowns using a linear equation
alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
alge730 Writing a multi-step equation for a real-world situation
alge219 Solving a decimal word problem using a linear equation with the variable on both sides
alge704 Solving a fraction word problem using a linear equation with the variable on both sides
alge792 Solving a word problem with three unknowns using a linear equation
alge842 Solving a word problem involving consecutive integers
alge794 Solving a value mixture problem using a linear equation
alge218 Solving a word problem involving rates and time conversion
alge796 Solving a distance, rate, time problem using a linear equation
arith854 Computing a percent mixture
alge795 Solving a percent mixture problem using a linear equation
geom817 Finding a side length given the perimeter and side lengths with variables
geom143 Finding the perimeter or area of a rectangle given one of these values

geom218 Finding the radius or the diameter of a circle given its circumference
 geom838 Circumference ratios
 geom530 Solving equations involving vertical angles
 geom531 Solving equations involving angles and a pair of parallel lines
 geom623 Finding angle measures of a triangle given angles with variables
 geom502 Finding angle measures of a right or isosceles triangle given angles with variables
 stat803 Finding the value for a new score that will yield a given mean
 alge015 Translating a sentence by using an inequality symbol
 alge845 Translating a sentence into a one-step inequality
 alge846 Translating a sentence into a multi-step inequality
 alge748 Writing an inequality for a real-world situation
 alge017 Graphing a linear inequality on the number line
 alge822 Writing an inequality given a graph on the number line
 alge186 Translating a sentence into a compound inequality
 alge166 Graphing a compound inequality on the number line
 alge847 Writing a compound inequality given a graph on the number line
 set001 Set builder notation
 set004 Set builder and interval notation
 set002 Union and intersection of finite sets
 alge844 Identifying solutions to a two-step linear inequality in one variable
 alge848 Additive property of inequality with whole numbers
 alge849 Additive property of inequality with integers
 alge852 Additive property of inequality with signed fractions
 alge853 Additive property of inequality with signed decimals
 alge854 Multiplicative property of inequality with integers
 alge964 Multiplicative property of inequality with signed fractions
 alge855 Solving a two-step linear inequality: Problem type 1
 alge856 Solving a two-step linear inequality: Problem type 2
 alge857 Solving a two-step linear inequality with a fractional coefficient
 alge977 Solving a linear inequality with multiple occurrences of the variable: Problem type 1
 alge858 Solving a linear inequality with multiple occurrences of the variable: Problem type 2
 alge859 Solving a linear inequality with multiple occurrences of the variable: Problem type 3
 alge860 Solving inequalities with no solution or all real numbers as solutions
 alge746 Solving a compound linear inequality: Graph solution, basic
 alge747 Solving a compound linear inequality: Interval notation
 alge868 Solving an absolute value inequality: Problem type 1
 alge749 Solving a decimal word problem using a two-step linear inequality
 alge750 Solving a decimal word problem using a linear inequality with the variable on both sides

Lines and Functions

alge064 Reading a point in the coordinate plane
 alge067 Plotting a point in the coordinate plane
 alge850 Table for a linear equation
 alge873 Identifying solutions to a linear equation in two variables
 alge066 Finding a solution to a linear equation in two variables
 alge191 Midpoint of a line segment in the plane
 alge877 Graphing a linear equation of the form $y = mx$
 alge878 Graphing a line given its equation in slope-intercept form: Integer slope
 alge879 Graphing a line given its equation in slope-intercept form: Fractional slope
 alge880 Graphing a line given its equation in standard form
 alge198 Graphing a vertical or horizontal line
 alge884 Finding x - and y -intercepts given the graph of a line on a grid
 alge924 Finding x - and y -intercepts of a line given the equation: Basic
 alge210 Finding x - and y -intercepts of a line given the equation: Advanced
 alge197 Graphing a line given its x - and y -intercepts
 alge881 Graphing a line by first finding its x - and y -intercepts
 alge875 Classifying slopes given graphs of lines
 alge886 Finding slope given the graph of a line on a grid
 alge887 Finding slope given two points on the line

alge885 Finding the slope of horizontal and vertical lines
 alge888 Finding the coordinate that yields a given slope
 alge259 Graphing a line given its slope and y-intercept
 alge196 Graphing a line through a given point with a given slope
 alge876 Identifying linear equations: Advanced
 alge874 Identifying linear functions given ordered pairs
 alge891 Rewriting a linear equation in the form $Ax + By = C$
 alge889 Finding the slope and y-intercept of a line given its equation in the form $y = mx + b$
 alge890 Finding the slope and y-intercept of a line given its equation in the form $Ax + By = C$
 alge882 Graphing a line by first finding its slope and y-intercept
 alge258 Writing an equation of a line given its slope and y-intercept
 alge892 Writing an equation and graphing a line given its slope and y-intercept
 alge893 Writing an equation in slope-intercept form given the slope and a point
 alge883 Graphing a line given its equation in point-slope form
 alge894 Writing an equation in point-slope form given the slope and a point
 alge070 Writing an equation of a line given the y-intercept and another point
 alge072 Writing the equation of the line through two given points
 alge073 Writing the equations of vertical and horizontal lines through a given point
 geom806 Finding slopes of lines parallel and perpendicular to a line given in slope-intercept form
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 alge895 Identifying parallel and perpendicular lines from equations
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 alge897 Writing and evaluating a function that models a real-world situation: Advanced
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 fun005 Writing a function rule given a table of ordered pairs: One-step rules
 fun006 Writing a function rule given a table of ordered pairs: Two-step rules
 alge992 Combining functions to write a new function that models a real-world situation
 alge987 Comparing properties of linear functions given in different forms
 alge989 Interpreting the parameters of a linear function that models a real-world situation
 alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
 alge806 Application problem with a linear function: Finding a coordinate given two points
 mstat052 Identifying independent and dependent variables from equations or real-world situations
 alge991 Solving a linear equation by graphing
 mstat030 Sketching the line of best fit
 mstat023 Scatter plots and correlation
 mstat068 Predictions from the line of best fit
 mstat067 Approximating the equation of a line of best fit and making predictions
 mstat069 Computing residuals
 mstat070 Interpreting residual plots
 mstat071 Linear relationship and the correlation coefficient
 mstat074 Identifying correlation and causation
 alge898 Translating the graph of an absolute value function: One step
 alge899 Translating the graph of an absolute value function: Two steps
 alge913 Graphing an absolute value equation of the form $y = A - x -$
 alge900 Graphing an absolute value equation in the plane: Basic
 alge168 Graphing an absolute value equation in the plane: Advanced
 alge901 How the leading coefficient affects the graph of an absolute value function
 fun032 Identifying functions from relations
 fun010 Vertical line test
 fun016 Domain and range from ordered pairs
 fun001 Table for a linear function
 pcalc760 Evaluating functions: Linear and quadratic or cubic
 fun033 Variable expressions as inputs of functions: Problem type 1
 alge294 Finding outputs of a one-step function that models a real-world situation: Function notation
 alge295 Finding outputs of a two-step function with decimals that models a real-world situation: Function notation
 alge296 Finding inputs and outputs of a two-step function that models a real-world situation: Function notation
 alge990 Domain and range of a linear function that models a real-world situation
 fun026 Finding an output of a function from its graph
 pcalc761 Finding inputs and outputs of a function from its graph
 fun007 Domain and range from the graph of a discrete relation
 fun024 Domain and range from the graph of a continuous function

alge896 Graphing an integer function and finding its range for a given domain
 alge570 Graphing a function of the form $f(x) = ax + b$: Integer slope
 alge571 Graphing a function of the form $f(x) = ax + b$: Fractional slope
 alge954 Graphing a parabola of the form $y = ax^2$
 alge955 Graphing a parabola of the form $y = ax^2 + c$
 alge572 Graphing a function of the form $f(x) = ax^2$
 alge573 Graphing a function of the form $f(x) = ax^2 + c$
 pcalc750 Finding intercepts of a nonlinear function given its graph
 pcalc751 Finding where a function is increasing, decreasing, or constant given the graph: Interval notation
 pcalc752 Finding local maxima and minima of a function given the graph
 mstat018 Choosing a graph to fit a narrative: Basic
 mstat051 Choosing a graph to fit a narrative: Advanced

Systems

alge914 Identifying solutions to a system of linear equations
 alge075 Classifying systems of linear equations from graphs
 alge725 Graphically solving a system of linear equations
 alge751 Solving a system of linear equations using substitution
 alge915 Solving a system of linear equations using elimination with addition
 alge076 Solving a system of linear equations using elimination with multiplication and addition
 alge916 Solving a system of linear equations with fractional coefficients
 alge917 Solving a system of linear equations with decimal coefficients
 alge752 Solving a 2×2 system of linear equations that is inconsistent or consistent dependent
 alge988 Identifying the operations used to create equivalent systems of equations
 alge753 Solving a 3×3 system of linear equations: Problem type 1
 alge263 Interpreting the graphs of two functions
 alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations
 alge919 Solving a word problem using a system of linear equations of the form $Ax + By = C$
 alge918 Solving a word problem using a system of linear equations of the form $y = mx + b$
 alge184 Solving a value mixture problem using a system of linear equations
 alge192 Solving a percent mixture problem using a system of linear equations
 alge224 Solving a distance, rate, time problem using a system of linear equations
 alge172 Solving a tax rate or interest rate problem using a system of linear equations
 alge793 Solving a word problem using a 3×3 system of linear equations: Problem type 1
 alge912 Identifying solutions to a linear inequality in two variables
 alge225 Graphing a linear inequality in the plane: Vertical or horizontal line
 alge720 Graphing a linear inequality in the plane: Slope-intercept form
 alge018 Graphing a linear inequality in the plane: Standard form
 alge079 Graphing a system of two linear inequalities: Basic
 alge921 Graphing a system of two linear inequalities: Advanced
 alge922 Graphing a system of three linear inequalities
 alge729 Writing a multi-step inequality for a real-world situation
 pcalc093 Solving a word problem using a system of linear inequalities: Problem type 1

Exponents and Polynomials

alge821 Understanding the product rule of exponents
 alge024 Introduction to the product rule of exponents
 alge311 Product rule with positive exponents: Univariate
 alge030 Product rule with positive exponents: Multivariate
 arith029 Ordering numbers with positive exponents
 alge826 Understanding the power rules of exponents
 alge306 Introduction to the power of a power rule of exponents
 alge305 Introduction to the power of a product rule of exponents
 alge307 Power rules with positive exponents: Multivariate products
 alge308 Power rules with positive exponents: Multivariate quotients
 alge756 Power and product rules with positive exponents

alge451 Simplifying a ratio of multivariate monomials: Basic
alge827 Introduction to the quotient rule of exponents
alge452 Simplifying a ratio of univariate monomials
alge026 Quotient of expressions involving exponents
alge453 Simplifying a ratio of multivariate monomials: Advanced
alge927 Power and quotient rules with positive exponents
alge790 Evaluating expressions with exponents of zero
arith729 Evaluating an expression with a negative exponent: Whole number base
arith042 Evaluating an expression with a negative exponent: Positive fraction base
arith043 Evaluating an expression with a negative exponent: Negative integer base
arith024 Ordering numbers with negative exponents
alge791 Rewriting an algebraic expression without a negative exponent
alge961 Introduction to the product rule with negative exponents
alge028 Product rule with negative exponents
alge755 Quotient rule with negative exponents: Problem type 1
alge926 Quotient rule with negative exponents: Problem type 2
alge025 Power of a power rule with negative exponents
alge799 Power rules with negative exponents
alge928 Power and quotient rules with negative exponents: Problem type 1
alge929 Power and quotient rules with negative exponents: Problem type 2
alge757 Power, product, and quotient rules with negative exponents
scinot012 Converting between scientific notation and standard form in a real-world situation
scinot008 Multiplying numbers written in scientific notation: Basic
scinot009 Multiplying numbers written in scientific notation: Advanced
scinot010 Dividing numbers written in scientific notation: Basic
scinot011 Dividing numbers written in scientific notation: Advanced
alge971 Table for an exponential function
alge830 Evaluating an exponential function that models a real-world situation
arith853 Introduction to compound interest
alge177 Finding a final amount in a word problem on exponential growth or decay
alge741 Finding the final amount in a word problem on compound interest
alge966 Finding the initial amount and rate of change given an exponential function
alge968 Writing an equation that models exponential growth or decay
alge301 Solving an exponential equation by finding common bases: Linear exponents
alge969 Graphing an exponential function: $f(x) = ax$
alge970 Graphing an exponential function: $f(x) = a(b)^x$
alge967 Writing an exponential function rule given a table of ordered pairs
alge993 Comparing linear, polynomial, and exponential functions
alge758 Degree and leading coefficient of a univariate polynomial
alge031 Degree of a multivariate polynomial
alge798 Simplifying a sum or difference of two univariate polynomials
alge029 Simplifying a sum or difference of three univariate polynomials
alge932 Simplifying a sum or difference of multivariate polynomials
alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
alge972 Multiplying a univariate polynomial by a monomial with a negative coefficient
alge835 Multiplying a multivariate polynomial by a monomial
alge033 Multiplying binomials with leading coefficients of 1
alge983 Multiplying binomials with leading coefficients greater than 1
alge765 Multiplying binomials in two variables
alge764 Multiplying conjugate binomials: Univariate
alge081 Multiplying conjugate binomials: Multivariate
alge032 Squaring a binomial: Univariate
alge068 Squaring a binomial: Multivariate
alge973 Multiplying binomials with negative coefficients
alge935 Multiplication involving binomials and trinomials in one variable
alge180 Multiplication involving binomials and trinomials in two variables
alge759 Dividing a polynomial by a monomial: Univariate
alge760 Dividing a polynomial by a monomial: Multivariate
alge761 Polynomial long division: Problem type 1
alge762 Polynomial long division: Problem type 2
alge763 Polynomial long division: Problem type 3
alge985 Closure properties of integers and polynomials

alge605 Factoring a linear binomial
 alge736 Introduction to the GCF of two monomials
 alge930 Greatest common factor of three univariate monomials
 alge037 Greatest common factor of two multivariate monomials
 alge738 Factoring out a monomial from a polynomial: Univariate
 alge739 Factoring out a monomial from a polynomial: Multivariate
 alge949 Factoring out a binomial from a polynomial: GCF factoring, basic
 alge923 Factoring a univariate polynomial by grouping: Problem type 1
 alge950 Factoring a univariate polynomial by grouping: Problem type 2
 alge951 Factoring a multivariate polynomial by grouping: Problem type 1
 alge952 Factoring a multivariate polynomial by grouping: Problem type 2
 alge039 Factoring a quadratic with leading coefficient 1
 alge942 Factoring a quadratic in two variables with leading coefficient 1
 alge936 Factoring out a constant before factoring a quadratic
 alge939 Factoring a quadratic with leading coefficient greater than 1: Problem type 1
 alge940 Factoring a quadratic with leading coefficient greater than 1: Problem type 2
 alge941 Factoring a quadratic with leading coefficient greater than 1: Problem type 3
 alge978 Factoring a quadratic by the ac-method
 alge265 Factoring a quadratic in two variables with leading coefficient greater than 1
 alge937 Factoring a quadratic with a negative leading coefficient
 alge944 Factoring a perfect square trinomial with leading coefficient 1
 alge945 Factoring a perfect square trinomial with leading coefficient greater than 1
 alge946 Factoring a perfect square trinomial in two variables
 alge290 Factoring a difference of squares in one variable: Basic
 alge947 Factoring a difference of squares in one variable: Advanced
 alge839 Factoring a difference of squares in two variables
 alge948 Factoring a polynomial involving a GCF and a difference of squares: Univariate
 alge833 Factoring a polynomial involving a GCF and a difference of squares: Multivariate
 alge041 Factoring a product of a quadratic trinomial and a monomial
 alge042 Factoring with repeated use of the difference of squares formula
 alge044 Factoring a sum or difference of two cubes
 alge681 Solving an equation written in factored form
 alge956 Finding the roots of a quadratic equation of the form $ax^2 + bx = 0$
 alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
 alge211 Solving a quadratic equation needing simplification
 alge703 Solving a word problem using a quadratic equation with rational roots
 alge713 Using the Pythagorean Theorem and a quadratic equation to find side lengths of a right triangle

Rational Expressions

alge049 Restriction on a variable in a denominator: Linear
 alge467 Restriction on a variable in a denominator: Quadratic
 alge468 Evaluating a rational function: Problem type 1
 alge469 Evaluating a rational function: Problem type 2
 alge715 Domain of a rational function: Excluded values
 alge454 Simplifying a ratio of factored polynomials: Linear factors
 alge455 Simplifying a ratio of factored polynomials: Factors with exponents
 alge456 Simplifying a ratio of polynomials using GCF factoring
 alge457 Simplifying a ratio of linear polynomials: 1, -1, and no simplification
 alge458 Simplifying a ratio of polynomials by factoring a quadratic with leading coefficient 1
 alge710 Simplifying a ratio of polynomials: Problem type 1
 alge682 Simplifying a ratio of polynomials: Problem type 2
 alge459 Simplifying a ratio of polynomials: Problem type 3
 alge034 Simplifying a ratio of multivariate polynomials
 alge053 Multiplying rational expressions involving multivariate monomials
 alge460 Multiplying rational expressions made up of linear expressions
 alge620 Multiplying rational expressions involving quadratics with leading coefficients of 1
 alge461 Multiplying rational expressions involving quadratics with leading coefficients greater than 1
 alge462 Multiplying rational expressions involving multivariate quadratics

alge054 Dividing rational expressions involving multivariate monomials
alge463 Dividing rational expressions involving linear expressions
alge766 Dividing rational expressions involving quadratics with leading coefficients of 1
alge464 Dividing rational expressions involving quadratics with leading coefficients greater than 1
alge465 Dividing rational expressions involving multivariate quadratics
alge466 Multiplication and division of 3 rational expressions
alge737 Introduction to the LCM of two monomials
alge055 Least common multiple of two monomials
alge427 Finding the LCD of rational expressions with linear denominators: Relatively prime
alge428 Finding the LCD of rational expressions with linear denominators: Common factors
alge429 Finding the LCD of rational expressions with quadratic denominators
alge430 Writing equivalent rational expressions with monomial denominators
alge431 Writing equivalent rational expressions with polynomial denominators
alge304 Writing equivalent rational expressions involving opposite factors
alge433 Adding rational expressions with common denominators and monomial numerators
alge056 Adding rational expressions with common denominators and binomial numerators
alge434 Adding rational expressions with common denominators and GCF factoring
alge435 Adding rational expressions with common denominators and quadratic factoring
alge437 Adding rational expressions with denominators ax and bx : Basic
alge438 Adding rational expressions with denominators ax and bx : Advanced
alge439 Adding rational expressions with denominators axn and bxm
alge440 Adding rational expressions with multivariate monomial denominators: Basic
alge226 Adding rational expressions with multivariate monomial denominators: Advanced
alge441 Adding rational expressions with linear denominators without common factors: Basic
alge442 Adding rational expressions with linear denominators without common factors: Advanced
alge443 Adding rational expressions with linear denominators with common factors: Basic
alge444 Adding rational expressions with linear denominators with common factors: Advanced
alge445 Adding rational expressions with denominators $ax-b$ and $b-ax$
alge661 Adding rational expressions involving different quadratic denominators
alge446 Adding 3 rational expressions with different quadratic denominators
alge470 Complex fraction involving univariate monomials
alge058 Complex fraction involving multivariate monomials
alge471 Complex fraction: GCF factoring
alge472 Complex fraction: Quadratic factoring
alge473 Complex fraction made of sums involving rational expressions: Problem type 1
alge474 Complex fraction made of sums involving rational expressions: Problem type 2
alge475 Complex fraction made of sums involving rational expressions: Problem type 3
alge476 Complex fraction made of sums involving rational expressions: Problem type 4
alge477 Complex fraction made of sums involving rational expressions: Problem type 5
alge478 Complex fraction made of sums involving rational expressions: Problem type 6
alge479 Complex fraction made of sums involving rational expressions: Multivariate
alge480 Complex fraction with negative exponents: Problem type 1
alge481 Complex fraction with negative exponents: Problem type 2
alge162 Complex fraction that contains a complex fraction
alge060 Solving a rational equation that simplifies to linear: Denominator x
alge205 Solving a rational equation that simplifies to linear: Denominator $x+a$
alge769 Solving a rational equation that simplifies to linear: Denominators a , x , or ax
alge421 Solving a rational equation that simplifies to linear: Denominators ax and bx
alge422 Solving a rational equation that simplifies to linear: Like binomial denominators
alge206 Solving a rational equation that simplifies to linear: Unlike binomial denominators
alge423 Solving a rational equation that simplifies to linear: Factorable quadratic denominator
alge424 Solving a rational equation that simplifies to quadratic: Proportional form, basic
alge425 Solving a rational equation that simplifies to quadratic: Denominator x
alge212 Solving a rational equation that simplifies to quadratic: Binomial denominators, constant numerators
alge062 Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators
alge426 Solving a rational equation that simplifies to quadratic: Factorable quadratic denominator
alge047 Solving a rational equation that simplifies to quadratic: Proportional form, advanced
alge508 Solving for a variable in terms of other variables in a rational equation: Problem type 1
alge509 Solving for a variable in terms of other variables in a rational equation: Problem type 2
alge510 Solving for a variable in terms of other variables in a rational equation: Problem type 3
arith612 Word problem involving multiple rates
alge770 Solving a work problem using a rational equation

alge450 Solving a distance, rate, time problem using a rational equation
 alge059 Ordering fractions with variables
 alge982 Identifying direct variation equations
 alge938 Identifying direct variation from ordered pairs and writing equations
 alge904 Writing a direct variation equation
 alge175 Word problem on direct variation
 alge828 Interpreting direct variation from a graph
 alge905 Writing an inverse variation equation
 alge903 Identifying direct and inverse variation equations
 alge902 Identifying direct and inverse variation from ordered pairs and writing equations
 alge176 Word problem on inverse variation
 alge220 Word problem on inverse proportions
 pcalc681 Writing an equation that models variation
 alge772 Word problem on combined variation

Radicals and Quadratic Equations

alge413 Finding all square roots of a number
 arith760 Square roots of perfect squares with signs
 alge415 Introduction to simplifying a radical expression with an even exponent
 alge264 Square root of a perfect square monomial
 arith094 Cube root of an integer
 alge549 Finding n th roots of perfect n th powers with signs
 arith768 Finding the n th root of a perfect n th power fraction
 alge550 Finding the n th root of a perfect n th power monomial
 arith093 Simplifying the square root of a whole number less than 100
 arith762 Simplifying the square root of a whole number greater than 100
 alge080 Simplifying a radical expression with an even exponent
 alge520 Introduction to simplifying a radical expression with an odd exponent
 alge521 Simplifying a radical expression with an odd exponent
 alge275 Simplifying a radical expression with two variables
 alge273 Simplifying a higher root of a whole number
 alge551 Introduction to simplifying a higher radical expression
 alge552 Simplifying a higher radical expression: Univariate
 alge811 Simplifying a higher radical expression: Multivariate
 arith767 Introduction to square root addition or subtraction
 arith032 Square root addition or subtraction
 alge533 Square root addition or subtraction with three terms
 alge531 Introduction to simplifying a sum or difference of radical expressions: Univariate
 alge532 Simplifying a sum or difference of radical expressions: Univariate
 alge084 Simplifying a sum or difference of radical expressions: Multivariate
 alge554 Simplifying a sum or difference of higher roots
 alge555 Simplifying a sum or difference of higher radical expressions
 arith764 Introduction to square root multiplication
 arith765 Square root multiplication: Basic
 arith039 Square root multiplication: Advanced
 alge522 Introduction to simplifying a product of radical expressions: Univariate
 alge523 Simplifying a product of radical expressions: Univariate
 alge640 Simplifying a product of radical expressions: Multivariate
 alge556 Introduction to simplifying a product of higher roots
 alge557 Simplifying a product of higher radical expressions
 alge525 Introduction to simplifying a product involving square roots using the distributive property
 alge526 Simplifying a product involving square roots using the distributive property: Basic
 alge276 Simplifying a product involving square roots using the distributive property: Advanced
 alge774 Special products of radical expressions: Conjugates and squaring
 alge984 Classifying sums and products as rational or irrational
 arith766 Simplifying a quotient of square roots
 alge530 Simplifying a quotient involving a sum or difference with a square root
 alge527 Rationalizing a denominator: Quotient involving square roots
 alge528 Rationalizing a denominator: Square root of a fraction

alge529 Rationalizing a denominator: Quotient involving a monomial
alge534 Rationalizing a denominator using conjugates: Integer numerator
alge535 Rationalizing a denominator using conjugates: Square root in numerator
alge536 Rationalizing a denominator using conjugates: Variable in denominator
alge564 Rationalizing a denominator: Quotient involving a higher radical
alge400 Introduction to solving a radical equation
alge089 Solving a radical equation that simplifies to a linear equation: One radical, basic
alge402 Solving a radical equation that simplifies to a linear equation: One radical, advanced
alge090 Solving a radical equation that simplifies to a linear equation: Two radicals
alge405 Solving a radical equation with two radicals that simplifies to $\sqrt{x} = a$
alge403 Solving a radical equation that simplifies to a quadratic equation: One radical, basic
alge404 Solving a radical equation that simplifies to a quadratic equation: One radical, advanced
alge411 Solving a radical equation with a quadratic expression under the radical
alge182 Solving a radical equation that simplifies to a quadratic equation: Two radicals
alge410 Solving an equation with a root index greater than 2: Problem type 1
alge417 Solving an equation with a root index greater than 2: Problem type 2
alge412 Algebraic symbol manipulation with radicals
alge542 Word problem involving radical equations: Basic
alge409 Word problem involving radical equations: Advanced
alge132 Distance between two points in the plane: Exact answers
alge539 Table for a square root function
alge540 Domain of a square root function: Basic
pcalc763 Domain of a square root function: Advanced
alge543 Graphing a square root function: Problem type 1
alge544 Graphing a square root function: Problem type 2
alge812 Converting between radical form and exponent form
alge560 Rational exponents: Unit fraction exponents and whole number bases
alge561 Rational exponents: Unit fraction exponents and bases involving signs
alge250 Rational exponents: Non-unit fraction exponent with a whole number base
alge251 Rational exponents: Negative exponents and fractional bases
alge558 Rational exponents: Product rule
alge559 Rational exponents: Quotient rule
alge773 Rational exponents: Products and quotients with negative exponents
alge562 Rational exponents: Power of a power rule
alge249 Rational exponents: Powers of powers with negative exponents
alge563 Simplifying products or quotients of higher radicals with different indices: Univariate
alge778 Using i to rewrite square roots of negative numbers
alge779 Simplifying a product and quotient involving square roots of negative numbers
pcalc048 Adding or subtracting complex numbers
pcalc049 Multiplying complex numbers
pcalc050 Dividing complex numbers
pcalc053 Simplifying a power of i
alge962 Solving an equation of the form $x^2 = a$ using the square root property
alge092 Solving a quadratic equation using the square root property: Exact answers, basic
alge227 Solving a quadratic equation using the square root property: Exact answers, advanced
alge094 Completing the square
alge780 Solving a quadratic equation by completing the square: Exact answers
alge095 Applying the quadratic formula: Exact answers
alge963 Applying the quadratic formula: Decimal answers
pcalc051 Solving a quadratic equation with complex roots
alge214 Discriminant of a quadratic equation
alge524 Solving a word problem using a quadratic equation with irrational roots
alge974 Finding the vertex, x -intercepts, and axis of symmetry from the graph of a parabola
alge953 Translating the graph of a parabola: One step
alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
alge569 Graphing a parabola of the form $y = x^2 + bx + c$
pcalc746 Graphing a parabola of the form $y = ax^2 + bx + c$: Integer coefficients
pcalc747 Graphing a parabola of the form $y = ax^2 + bx + c$: Rational coefficients
alge277 Finding the x -intercept(s) and the vertex of a parabola
pcalc774 Rewriting a quadratic function to find the vertex of its graph
pcalc775 Finding the maximum or minimum of a quadratic function
alge785 Word problem involving the maximum or minimum of a quadratic function

alge975 Domain and range from the graph of a parabola
 pcalc762 Range of a quadratic function
 alge957 Solving a quadratic equation by graphing
 alge996 Comparing properties of quadratic functions given in different forms
 alge702 Classifying the graph of a function
 alge723 How the leading coefficient affects the shape of a parabola
 alge965 Identifying linear, quadratic, and exponential functions given ordered pairs
 alge262 Graphing a cubic function of the form $y = ax^3$
 fun019 Sum, difference, and product of two functions
 fun022 Composition of two functions: Basic
 pcalc776 Expressing a function as a composition of two functions
 pcalc924 Determining whether an equation defines a function: Basic
 pcalc757 Determining whether an equation defines a function: Advanced

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Whole Numbers

arith124 Whole number place value: Problem type 1
 arith125 Whole number place value: Problem type 2
 arith066 Expanded form
 arith643 Expanded form with zeros
 arith028 Numeral translation: Problem type 1
 arith060 Numeral translation: Problem type 2
 arith633 One-digit addition with carry
 arith634 Addition of 3 or 4 one-digit numbers
 arith001 Addition without carry
 arith635 Adding a 2-digit number and a 1-digit number with carry
 arith050 Addition with carry
 arith630 Addition with carry to the hundreds place
 arith012 Addition of large numbers
 arith636 Subtracting a 1-digit number from a 2-digit number
 arith007 Subtraction without borrowing
 arith128 Adding or subtracting 10, 100, or 1000
 arith006 Subtraction with borrowing
 arith682 Subtraction with multiple regrouping steps
 arith637 Subtraction and regrouping with zeros
 arith613 Word problem with addition or subtraction of whole numbers
 arith655 Introduction to properties of addition
 arith126 Multiplication as repeated addition
 arith008 One-digit multiplication
 arith679 Multiplication by 10, 100, and 1000
 arith003 Multiplication without carry
 arith004 Multiplication with carry
 arith632 Multiplication with trailing zeros: Problem type 1
 arith615 Introduction to multiplication of large numbers
 arith638 Multiplication with trailing zeros: Problem type 2
 arith014 Multiplication of large numbers
 arith641 Multiples: Problem type 1
 arith642 Multiples: Problem type 2
 arith656 Introduction to properties of multiplication
 arith075 Division facts
 arith614 Word problem with multiplication or division of whole numbers
 arith130 Word problem with multiplication and addition or subtraction of whole numbers
 arith243 Division of whole numbers given in fractional form
 arith711 Division involving zero
 arith052 Division without carry
 arith005 Division with carry

arith680 Division with trailing zeros: Problem type 1
arith649 Division with trailing zeros: Problem type 2
arith616 Quotient and remainder: Problem type 1
arith644 Word problem on quotient and remainder
arith617 Quotient and remainder: Problem type 2
arith631 Quotient and remainder: Problem type 3
arith650 Division involving quotients with intermediate zeros
arith023 Word problem with division of whole numbers and rounding
arith651 Introduction to inequalities
arith077 Ordering large numbers
arith078 Rounding to tens or hundreds
arith123 Rounding to hundreds or thousands
arith061 Rounding to thousands, ten thousands, or hundred thousands
arith101 Estimating a sum of whole numbers
arith102 Estimating a difference of whole numbers
arith604 Estimating a product or quotient of whole numbers
arith692 Writing expressions using exponents
arith233 Introduction to exponents
arith683 Power of 10: Positive exponent
arith645 Introduction to parentheses
arith681 Introduction to order of operations
arith048 Order of operations with whole numbers
arith051 Order of operations with whole numbers and grouping symbols
arith693 Order of operations with whole numbers and exponents: Basic
arith713 Order of operations with whole numbers and exponents: Advanced
arith657 Understanding the distributive property
alge284 Evaluating an algebraic expression: Whole number addition or subtraction
alge683 Evaluating an algebraic expression: Whole number multiplication or division
alge285 Evaluating an algebraic expression: Whole numbers with two operations
alge832 Evaluating an algebraic expression: Whole number operations and exponents
alge009 Additive property of equality with whole numbers
alge008 Multiplicative property of equality with whole numbers
alge803 Using two steps to solve an equation with whole numbers
arith646 Even and odd numbers
arith647 Divisibility rules for 2, 5, and 10
arith648 Divisibility rules for 3 and 9
arith056 Factors
arith034 Prime numbers
arith035 Prime factorization
arith033 Greatest common factor of 2 numbers
arith070 Least common multiple of 2 numbers
arith804 Least common multiple of 3 numbers
arith240 Word problem with common multiples
alge925 Finding the next terms of an arithmetic sequence with whole numbers
alge933 Finding the next terms of a geometric sequence with whole numbers
alge732 Finding patterns in shapes

Fractions and Decimals

arith623 Introduction to fractions
arith665 Understanding equivalent fractions
arith212 Equivalent fractions
arith666 Introduction to simplifying a fraction
arith067 Simplifying a fraction
arith687 Fractional position on a number line
arith667 Plotting fractions on a number line
arith044 Ordering fractions with the same denominator
arith091 Ordering fractions with the same numerator
arith092 Using a common denominator to order fractions
arith079 Product of a unit fraction and a whole number

arith086 Product of a fraction and a whole number: Problem type 1
arith119 Introduction to fraction multiplication
arith053 Fraction multiplication
arith812 Product of a fraction and a whole number: Problem type 2
arith813 Multiplication of 3 fractions
arith818 Word problem involving fractions and multiplication
arith095 Multi-step word problem involving fractions and multiplication
arith088 The reciprocal of a number
arith694 Division involving a whole number and a fraction
arith022 Fraction division
arith819 Word problem involving fractions and division
arith618 Addition or subtraction of fractions with the same denominator
arith802 Addition or subtraction of fractions with the same denominator and simplification
arith801 Finding the LCD of two fractions
arith109 Addition or subtraction of unit fractions
arith664 Introduction to addition or subtraction of fractions with different denominators
arith230 Addition or subtraction of fractions with different denominators
arith803 Addition and subtraction of 3 fractions with different denominators
arith805 Word problem involving addition or subtraction of fractions with different denominators
arith100 Fractional part of a circle
arith662 Writing a mixed number and an improper fraction for a shaded region
arith015 Writing an improper fraction as a mixed number
arith619 Writing a mixed number as an improper fraction
arith215 Addition or subtraction of mixed numbers with the same denominator
arith084 Addition of mixed numbers with the same denominator and carry
arith216 Subtraction of mixed numbers with the same denominator and borrowing
arith806 Addition or subtraction of mixed numbers with different denominators and no carry or borrow
arith808 Addition of mixed numbers with different denominators and carry
arith809 Subtraction of mixed numbers with different denominators and borrowing
arith807 Addition and subtraction of 3 mixed numbers with different denominators
arith810 Word problem involving addition or subtraction of mixed numbers with different denominators
arith815 Mixed number multiplication
arith816 Multiplication of a mixed number and a whole number
arith817 Division with a mixed number and a whole number
arith068 Mixed number division
arith820 Word problem involving multiplication or division with mixed numbers
arith821 Exponents and fractions
arith859 Order of operations with fractions: Problem type 1
arith860 Order of operations with fractions: Problem type 2
arith861 Order of operations with fractions: Problem type 3
arith695 Complex fraction without variables: Problem type 1
arith127 Writing a decimal and a fraction for a shaded region
arith110 Decimal place value: Tenths and hundredths
arith220 Decimal place value: Hundreds to ten thousandths
arith714 Writing a decimal number less than 1 given its name
arith715 Writing a decimal number greater than 1 given its name
arith716 Writing a decimal number given its name: Advanced
arith829 Reading decimal position on a number line: Tenths
arith830 Reading decimal position on a number line: Hundredths
arith831 Understanding decimal position on a number line using zoom: Hundredths
arith832 Understanding decimal position on a number line using zoom: Thousandths
arith129 Introduction to ordering decimals
arith608 Ordering decimals
arith221 Rounding decimals
arith717 Converting a decimal to a proper fraction without simplifying: Basic
arith719 Converting a decimal to a proper fraction without simplifying: Advanced
arith718 Converting a decimal to a proper fraction in simplest form: Basic
arith087 Converting a decimal to a proper fraction in simplest form: Advanced
arith721 Converting a decimal to a mixed number and an improper fraction without simplifying
arith722 Converting a decimal to a mixed number and an improper fraction in simplest form: Basic
arith724 Converting a decimal to a mixed number and an improper fraction in simplest form: Advanced
arith624 Addition of aligned decimals

arith013 Decimal addition with 3 numbers
arith734 Subtraction of aligned decimals
arith735 Decimal subtraction: Basic
arith736 Decimal subtraction: Advanced
arith737 Decimal addition and subtraction with 3 or more numbers
arith131 Estimating a decimal sum or difference
arith132 Word problem with addition or subtraction of 2 decimals
arith133 Word problem with addition of 3 or 4 decimals and whole numbers
arith134 Word problem with subtraction of a whole number and a decimal: Regrouping with zeros
arith739 Introduction to decimal multiplication
arith017 Multiplication of a decimal by a whole number
arith055 Decimal multiplication: Problem type 1
arith046 Decimal multiplication: Problem type 2
arith082 Multiplication of a decimal by a power of ten
arith738 Multiplication of a decimal by a power of 0.1
arith740 Multiplication of decimals that have a product less than 0.1
arith752 Estimating a product of decimals
arith135 Word problem with multiplication of a decimal and a whole number
arith137 Word problem with multiplication of two decimals
arith224 Word problem with decimal addition and multiplication
arith744 Whole number division with decimal answers
arith081 Division of a decimal by a whole number
arith743 Division of a decimal by a 1-digit decimal
arith019 Division of a decimal by a 2-digit decimal
arith083 Division of a decimal by a power of ten
arith742 Division of a decimal by a power of 0.1
arith745 Decimal division with rounding
arith136 Word problem with division of a decimal and a whole number
arith138 Word problem with division of two decimals
arith227 Word problem with decimal subtraction and division
alge823 Solving a one-step word problem using the formula $d = rt$
arith725 Converting a fraction with a denominator of 10 or 100 to a decimal
arith726 Converting a fraction with a denominator of 100 or 1000 to a decimal
arith609 Ordering fractions and decimals
arith727 Converting a fraction to a terminating decimal: Basic
arith728 Converting a fraction to a terminating decimal: Advanced
arith730 Converting a fraction to a repeating decimal: Basic
arith731 Converting a fraction to a repeating decimal: Advanced
arith733 Using a calculator to convert a fraction to a rounded decimal
arith111 Converting a mixed number to a terminating decimal: Basic
arith112 Converting a mixed number to a terminating decimal: Advanced
arith732 Converting a fraction or mixed number to a rounded decimal
arith753 Squaring decimal bases: Products greater than 0.1
arith741 Exponents and decimals: Products less than 0.1
arith720 Order of operations with decimals: Problem type 1
arith746 Order of operations with decimals: Problem type 2
arith747 Order of operations with decimals: Problem type 3
arith748 Addition or subtraction with a decimal and a mixed number
arith749 Multiplication with a decimal and a fraction

Proportions and Percents

arith823 Writing ratios using different notations
arith663 Writing ratios for real-world situations
arith824 Simplifying a ratio of whole numbers: Problem type 1
arith825 Simplifying a ratio of decimals
arith827 Finding a unit price
arith828 Computing unit prices to find the better buy
arith064 Solving a word problem on proportions using a unit rate
arith228 Word problem on unit rates associated with ratios of whole numbers: Decimal answers

alge218 Solving a word problem involving rates and time conversion
 alge272 Solving a proportion of the form $x/a = b/c$
 arith610 Word problem on proportions: Problem type 1
 arith611 Word problem on proportions: Problem type 2
 alge063 Word problem on mixed number proportions
 arith045 Word problem with powers of ten
 geom359 Identifying congruent shapes on a grid
 geom520 Identifying and naming congruent triangles
 geom360 Identifying similar or congruent shapes on a grid
 geom037 Similar polygons
 geom038 Similar right triangles
 geom337 Indirect measurement
 arith836 Converting a fraction with a denominator of 100 to a percentage
 arith837 Converting a percentage to a fraction with a denominator of 100
 arith674 Finding the percentage of a grid that is shaded
 arith723 Introduction to converting a percentage to a decimal
 arith833 Introduction to converting a decimal to a percentage
 arith834 Converting between percentages and decimals
 arith841 Converting a mixed number percentage to a decimal
 arith835 Converting between percentages and decimals in a real-world situation
 arith090 Converting a percentage to a fraction in simplest form
 arith839 Converting a decimal percentage to a fraction
 arith838 Converting a fraction to a percentage: Denominator of 4, 5, or 10
 arith002 Converting a fraction to a percentage: Denominator of 20, 25, or 50
 arith843 Using a calculator to convert a fraction to a rounded percentage
 arith842 Converting a fraction to a percentage in a real-world situation
 arith840 Finding a percentage of a whole number
 arith030 Finding a percentage of a whole number without a calculator: Basic
 arith844 Finding a percentage of a whole number without a calculator: Advanced
 arith862 Applying the percent equation: Problem type 1
 arith863 Applying the percent equation: Problem type 2
 arith845 Finding a percentage of a total amount: Real-world situations
 arith846 Finding a percentage of a total amount without a calculator: Sales tax, commission, discount
 arith857 Estimating a tip without a calculator
 arith069 Writing a ratio as a percentage without a calculator
 mstat049 Computing a percentage from a table of values
 arith850 Finding the rate of a tax or commission
 arith849 Finding the total amount given the percentage of a partial amount
 arith852 Finding the multiplier to give a final amount after a percentage increase or decrease
 arith851 Finding the final amount given the original amount and a percentage increase or decrease
 arith847 Finding the sale price given the original price and percent discount
 arith074 Finding the sale price without a calculator given the original price and percent discount
 arith848 Finding the total cost including tax or markup
 arith855 Finding the original amount given the result of a percentage increase or decrease
 arith031 Finding the original price given the sale price and percent discount
 arith858 Finding the percentage increase or decrease: Basic
 arith225 Finding the percentage increase or decrease: Advanced
 arith232 Finding simple interest without a calculator
 arith856 Finding a percentage of a total amount in a circle graph
 stat801 Computations from a circle graph

Geometry

geom339 Perimeter of a polygon
 geom300 Perimeter of a square or a rectangle
 geom618 Perimeter of a polygon involving mixed numbers and fractions
 geom078 Sides of polygons having the same perimeter
 geom221 Finding the missing length in a figure
 geom353 Perimeter of a piecewise rectangular figure
 geom358 Identifying parallel and perpendicular lines

geom349 Naming segments, rays, and lines
geom151 Measuring an angle with the protractor
geom152 Drawing an angle with the protractor
geom303 Acute, obtuse, and right angles
geom039 Finding supplementary and complementary angles
geom305 Identifying supplementary and vertical angles
geom304 Identifying corresponding and alternate angles
geom306 Acute, obtuse, and right triangles
geom307 Classifying scalene, isosceles, and equilateral triangles by side lengths or angles
geom001 Finding an angle measure of a triangle given two angles
geom908 Finding an angle measure for a triangle with an extended side
geom812 Finding an angle measure given extended triangles
geom813 Finding an angle measure given a triangle and parallel lines
geom361 Naming polygons
mstat042 Interpreting a Venn diagram of 2 sets
geom867 Identifying parallelograms, rectangles, and squares
geom310 Properties of quadrilaterals
geom532 Classifying parallelograms
geom019 Area of a square or a rectangle
geom866 Perimeter and area on a grid
geom620 Area of a rectangle involving fractions
geom619 Area of a rectangle involving mixed numbers and fractions
geom350 Distinguishing between the area and perimeter of a rectangle
geom351 Areas of rectangles with the same perimeter
geom217 Finding the side length of a rectangle given its perimeter or area
geom340 Area of a piecewise rectangular figure
geom142 Word problem involving the area between two rectangles
geom801 Area of a triangle
geom344 Area involving rectangles and triangles
geom022 Area of a parallelogram
geom023 Area of a trapezoid
geom347 Introduction to a circle: Diameter, radius, and chord
geom016 Circumference of a circle
geom301 Perimeter involving rectangles and circles
geom802 Circumference and area of a circle
geom302 Area involving rectangles and circles
geom036 Word problem involving the area between two concentric circles
geom214 Area involving inscribed figures
geom814 Angle measure in a circle graph
geom868 Classifying solids
geom348 Vertices, edges, and faces of a solid
geom830 Counting the cubes in a solid made of cubes
geom354 Volume of a rectangular prism made of unit cubes
geom311 Volume of a rectangular prism
geom505 Volume of a piecewise rectangular prism
geom090 Volume of a triangular prism
geom033 Volume of a pyramid
geom035 Volume of a cylinder
geom092 Word problem involving the rate of filling or emptying a cylinder
geom622 Volume of a cone
geom841 Volume of a sphere
geom219 Nets of solids
geom816 Side views of a solid made of cubes
geom031 Surface area of a cube or a rectangular prism
geom345 Surface area of a piecewise rectangular prism made of unit cubes
geom091 Surface area of a triangular prism
geom621 Surface area of a cylinder
geom842 Surface area of a sphere
arith016 Square root of a perfect square
arith763 Using a calculator to approximate a square root
arith602 Estimating a square root
arith601 Square root of a rational perfect square

alge407 Introduction to the Pythagorean Theorem
 geom044 Pythagorean Theorem
 alge408 Word problem involving the Pythagorean Theorem

Measurement

mstat059 Choosing U.S. Customary measurement units
 unit005 U.S. Customary unit conversion with whole number values
 mstat035 Conversions involving measurements in feet and inches
 mstat036 Adding measurements in feet and inches
 unit006 U.S. Customary unit conversion with whole number values: Two-step conversion
 unit007 U.S. Customary unit conversion with mixed number values: One-step conversion
 unit008 U.S. Customary unit conversion with mixed number values: Two-step conversion
 unit009 U.S. Customary area unit conversion with whole number values
 mstat060 Choosing metric measurement units
 unit001 Metric distance conversion with whole number values
 unit002 Metric mass or capacity conversion with whole number values
 unit003 Metric distance conversion with decimal values
 unit004 Metric conversion with decimal values: Two-step problem
 unit010 Metric area unit conversion with decimal values
 unit012 Time unit conversion with whole number values
 time006 Adding time
 time007 Elapsed time
 arith063 Word problem with clocks
 mstat065 Converting between temperatures in Fahrenheit and Celsius
 arith826 Simplifying a ratio of whole numbers: Problem type 2
 unit034 Converting between metric and U.S. Customary unit systems
 unit035 Converting between compound units: Basic
 unit036 Converting between compound units: Advanced
 mstat056 Interpreting a tally table
 mstat037 Constructing a line plot
 mstat005 Constructing a bar graph for non-numerical data
 mstat004 Constructing a histogram for numerical data
 mstat024 Interpreting a bar graph
 mstat044 Interpreting a double bar graph
 mstat057 Interpreting a pictograph table
 mstat007 Interpreting a line graph
 mstat031 Interpreting a stem-and-leaf plot
 stat804 Interpreting a circle graph or pie chart
 stat020 Calculating relative frequencies in a contingency table
 stat805 Making a reasonable inference based on proportion statistics
 mstat025 Finding if a question can be answered by the data
 mstat003 Mode of a data set
 mstat055 Finding the mode and range of a data set
 arith103 Average of two numbers
 mstat001 Mean of a data set
 mstat028 Mean and median of a data set
 mstat029 How changing a value affects the mean and median
 mstat053 Choosing the best measure to describe data
 stat802 Rejecting unreasonable claims based on average statistics
 mstat066 Weighted mean
 mstat027 Using back-to-back stem-and-leaf plots to compare data sets
 mstat072 Five-number summary and interquartile range
 mstat006 Constructing a box-and-whisker plot
 mstat073 Using box-and-whisker plots to compare data sets
 mstat043 Interpreting a Venn diagram of 3 sets
 mstat041 Interpreting a tree diagram
 mstat040 Introduction to the counting principle
 mstat015 Counting principle
 pcalc082 Factorial expressions

mstat017 Computing permutations and combinations
 mstat008 Word problem involving permutations
 mstat009 Word problem involving combinations
 mstat026 Introduction to the probability of an event
 mstat010 Probability of an event
 mstat039 Understanding likelihood
 mstat048 Odds of an event
 stat106 Outcomes and event probability
 stat112 Probabilities involving two dice
 mstat011 Area as probability
 mstat046 Experimental and theoretical probability
 mstat047 Introduction to expectation
 mstat012 Probability of independent events
 mstat013 Probability of dependent events
 mstat032 Probability of the union of two events

Real Numbers

alge286 Plotting integers on a number line
 arith605 Plotting rational numbers on a number line
 mstat038 Reading the temperature from a thermometer
 arith699 Writing a signed number for a real-world situation
 arith691 Ordering integers
 arith712 Ordering real numbers
 arith071 Absolute value of a number
 arith200 Integer addition: Problem type 1
 arith108 Integer addition: Problem type 2
 arith688 Integer subtraction: Problem type 1
 arith689 Integer subtraction: Problem type 2
 arith690 Integer subtraction: Problem type 3
 arith754 Addition and subtraction with 3 integers
 arith755 Addition and subtraction with 4 or 5 integers
 arith701 Word problem with addition or subtraction of integers
 arith231 Integer multiplication and division
 arith800 Multiplication of 3 or 4 integers
 alge001 Identifying numbers as integers or non-integers
 alge002 Identifying numbers as rational or irrational
 arith116 Signed fraction addition or subtraction: Basic
 arith864 Signed fraction subtraction involving double negation
 arith106 Signed fraction addition or subtraction: Advanced
 arith811 Addition and subtraction of 3 fractions involving signs
 arith822 Signed fraction multiplication: Basic
 arith105 Signed fraction multiplication: Advanced
 arith814 Signed fraction division
 arith117 Signed decimal addition and subtraction
 arith234 Signed decimal addition and subtraction with 3 numbers
 arith750 Signed decimal multiplication
 arith751 Signed decimal division
 arith104 Operations with absolute value: Problem type 2
 geom525 Computing distances between decimals on the number line
 unit052 Finding the absolute error and percent error of a measurement
 arith702 Exponents and integers: Problem type 1
 arith703 Exponents and integers: Problem type 2
 arith704 Exponents and signed fractions
 arith118 Order of operations with integers
 arith600 Order of operations with integers and exponents
 arith696 Complex fraction without variables: Problem type 2
 alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge808 Evaluating a linear expression: Signed fraction multiplication with addition or subtraction
 alge302 Evaluating a linear expression: Signed decimal addition and subtraction

alge303 Evaluating a linear expression: Signed decimal multiplication with addition or subtraction
 alge004 Evaluating a quadratic expression: Integers
 alge700 Combining like terms: Whole number coefficients
 alge607 Combining like terms: Integer coefficients
 alge187 Properties of addition
 alge310 Multiplying a constant and a linear monomial
 alge606 Distributive property: Whole number coefficients
 alge604 Distributive property: Integer coefficients
 alge188 Properties of real numbers
 alge608 Using distribution and combining like terms to simplify: Univariate
 alge609 Using distribution with double negation and combining like terms to simplify: Multivariate
 alge293 Combining like terms in a quadratic expression
 alge432 Introduction to adding fractions with variables and common denominators
 alge436 Adding rational expressions with different denominators and a single occurrence of a variable

Linear Equations and Inequalities

alge801 Additive property of equality with fractions and mixed numbers
 alge800 Additive property of equality with decimals
 alge010 Additive property of equality with integers
 alge836 Additive property of equality with signed fractions
 alge820 Multiplicative property of equality with fractions
 alge825 Multiplicative property of equality with decimals
 alge797 Multiplicative property of equality with integers
 alge012 Multiplicative property of equality with signed fractions
 alge834 Identifying solutions to a linear equation in one variable: Two-step equations
 alge266 Additive property of equality with a negative coefficient
 alge006 Solving a two-step equation with integers
 alge200 Solving an equation to find the value of an expression
 alge920 Introduction to solving an equation with parentheses
 alge837 Solving a multi-step equation given in fractional form
 alge986 Identifying properties used to solve a linear equation
 alge824 Solving a two-step equation with signed decimals
 alge838 Introduction to solving an equation with variables on the same side
 alge862 Solving a linear equation with several occurrences of the variable: Variables on the same side
 alge863 Solving a linear equation with several occurrences of the variable: Variables on both sides
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
 alge420 Solving a linear equation with several occurrences of the variable: Fractional forms with monomial numerators
 alge208 Solving a two-step equation with signed fractions
 alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
 alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
 alge742 Solving equations with zero, one, or infinitely many solutions
 alge840 Solving a proportion of the form $(x+a) \div b = c \div d$
 alge271 Solving a proportion of the form $a/(x+b) = c/x$
 alge603 Introduction to solving an absolute value equation
 alge864 Solving an absolute value equation: Problem type 1
 alge511 Solving for a variable in terms of other variables using addition or subtraction: Basic
 alge512 Solving for a variable in terms of other variables using addition or subtraction: Advanced
 alge513 Solving for a variable in terms of other variables using multiplication or division: Basic
 alge514 Solving for a variable in terms of other variables using multiplication or division: Advanced
 alge517 Solving for a variable in terms of other variables using addition or subtraction with division
 alge518 Solving for a variable inside parentheses in terms of other variables

alge507 Solving for a variable in terms of other variables in a linear equation with fractions
 alge733 Writing a one-step expression for a real-world situation
 alge831 Translating a phrase into a one-step expression
 alge291 Translating a phrase into a two-step expression
 alge016 Translating a sentence into a one-step equation
 alge841 Translating a sentence into a multi-step equation
 alge802 Solving a fraction word problem using a linear equation of the form $Ax = B$
 alge014 Solving a word problem with two unknowns using a linear equation
 alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
 alge730 Writing a multi-step equation for a real-world situation
 alge219 Solving a decimal word problem using a linear equation with the variable on both sides
 alge704 Solving a fraction word problem using a linear equation with the variable on both sides
 alge792 Solving a word problem with three unknowns using a linear equation
 alge842 Solving a word problem involving consecutive integers
 alge794 Solving a value mixture problem using a linear equation
 alge796 Solving a distance, rate, time problem using a linear equation
 arith854 Computing a percent mixture
 alge795 Solving a percent mixture problem using a linear equation
 geom817 Finding a side length given the perimeter and side lengths with variables
 geom143 Finding the perimeter or area of a rectangle given one of these values
 geom218 Finding the radius or the diameter of a circle given its circumference
 geom838 Circumference ratios
 geom530 Solving equations involving vertical angles
 geom531 Solving equations involving angles and a pair of parallel lines
 geom623 Finding angle measures of a triangle given angles with variables
 geom502 Finding angle measures of a right or isosceles triangle given angles with variables
 stat803 Finding the value for a new score that will yield a given mean
 alge015 Translating a sentence by using an inequality symbol
 alge845 Translating a sentence into a one-step inequality
 alge846 Translating a sentence into a multi-step inequality
 alge748 Writing an inequality for a real-world situation
 alge017 Graphing a linear inequality on the number line
 alge822 Writing an inequality given a graph on the number line
 alge186 Translating a sentence into a compound inequality
 alge166 Graphing a compound inequality on the number line
 alge847 Writing a compound inequality given a graph on the number line
 set001 Set builder notation
 set004 Set builder and interval notation
 set002 Union and intersection of finite sets
 alge844 Identifying solutions to a two-step linear inequality in one variable
 alge848 Additive property of inequality with whole numbers
 alge849 Additive property of inequality with integers
 alge852 Additive property of inequality with signed fractions
 alge853 Additive property of inequality with signed decimals
 alge854 Multiplicative property of inequality with integers
 alge964 Multiplicative property of inequality with signed fractions
 alge855 Solving a two-step linear inequality: Problem type 1
 alge856 Solving a two-step linear inequality: Problem type 2
 alge857 Solving a two-step linear inequality with a fractional coefficient
 alge977 Solving a linear inequality with multiple occurrences of the variable: Problem type 1
 alge858 Solving a linear inequality with multiple occurrences of the variable: Problem type 2
 alge859 Solving a linear inequality with multiple occurrences of the variable: Problem type 3
 alge860 Solving inequalities with no solution or all real numbers as solutions
 alge746 Solving a compound linear inequality: Graph solution, basic
 alge747 Solving a compound linear inequality: Interval notation
 alge868 Solving an absolute value inequality: Problem type 1
 alge749 Solving a decimal word problem using a two-step linear inequality
 alge750 Solving a decimal word problem using a linear inequality with the variable on both sides

alge064 Reading a point in the coordinate plane
 alge067 Plotting a point in the coordinate plane
 alge850 Table for a linear equation
 alge873 Identifying solutions to a linear equation in two variables
 alge066 Finding a solution to a linear equation in two variables
 alge191 Midpoint of a line segment in the plane
 alge877 Graphing a linear equation of the form $y = mx$
 alge878 Graphing a line given its equation in slope-intercept form: Integer slope
 alge879 Graphing a line given its equation in slope-intercept form: Fractional slope
 alge880 Graphing a line given its equation in standard form
 alge198 Graphing a vertical or horizontal line
 alge884 Finding x- and y-intercepts given the graph of a line on a grid
 alge924 Finding x- and y-intercepts of a line given the equation: Basic
 alge210 Finding x- and y-intercepts of a line given the equation: Advanced
 alge197 Graphing a line given its x- and y-intercepts
 alge881 Graphing a line by first finding its x- and y-intercepts
 alge875 Classifying slopes given graphs of lines
 alge886 Finding slope given the graph of a line on a grid
 alge887 Finding slope given two points on the line
 alge885 Finding the slope of horizontal and vertical lines
 alge888 Finding the coordinate that yields a given slope
 alge259 Graphing a line given its slope and y-intercept
 alge196 Graphing a line through a given point with a given slope
 alge876 Identifying linear equations: Advanced
 alge874 Identifying linear functions given ordered pairs
 alge891 Rewriting a linear equation in the form $Ax + By = C$
 alge889 Finding the slope and y-intercept of a line given its equation in the form $y = mx + b$
 alge890 Finding the slope and y-intercept of a line given its equation in the form $Ax + By = C$
 alge882 Graphing a line by first finding its slope and y-intercept
 alge258 Writing an equation of a line given its slope and y-intercept
 alge892 Writing an equation and graphing a line given its slope and y-intercept
 alge893 Writing an equation in slope-intercept form given the slope and a point
 alge883 Graphing a line given its equation in point-slope form
 alge894 Writing an equation in point-slope form given the slope and a point
 alge070 Writing an equation of a line given the y-intercept and another point
 alge072 Writing the equation of the line through two given points
 alge073 Writing the equations of vertical and horizontal lines through a given point
 geom806 Finding slopes of lines parallel and perpendicular to a line given in slope-intercept form
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 alge895 Identifying parallel and perpendicular lines from equations
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 alge897 Writing and evaluating a function that models a real-world situation: Advanced
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 fun005 Writing a function rule given a table of ordered pairs: One-step rules
 fun006 Writing a function rule given a table of ordered pairs: Two-step rules
 alge992 Combining functions to write a new function that models a real-world situation
 alge987 Comparing properties of linear functions given in different forms
 alge989 Interpreting the parameters of a linear function that models a real-world situation
 alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
 alge806 Application problem with a linear function: Finding a coordinate given two points
 mstat052 Identifying independent and dependent variables from equations or real-world situations
 alge991 Solving a linear equation by graphing
 mstat030 Sketching the line of best fit
 mstat023 Scatter plots and correlation
 mstat068 Predictions from the line of best fit
 mstat067 Approximating the equation of a line of best fit and making predictions
 mstat069 Computing residuals
 mstat070 Interpreting residual plots
 mstat071 Linear relationship and the correlation coefficient
 mstat074 Identifying correlation and causation
 alge898 Translating the graph of an absolute value function: One step
 alge899 Translating the graph of an absolute value function: Two steps

alge913 Graphing an absolute value equation of the form $y = A|x - h| + k$
 alge900 Graphing an absolute value equation in the plane: Basic
 alge168 Graphing an absolute value equation in the plane: Advanced
 alge901 How the leading coefficient affects the graph of an absolute value function
 fun032 Identifying functions from relations
 fun010 Vertical line test
 fun016 Domain and range from ordered pairs
 fun001 Table for a linear function
 pcalc760 Evaluating functions: Linear and quadratic or cubic
 fun033 Variable expressions as inputs of functions: Problem type 1
 alge294 Finding outputs of a one-step function that models a real-world situation: Function notation
 alge295 Finding outputs of a two-step function with decimals that models a real-world situation: Function notation
 alge296 Finding inputs and outputs of a two-step function that models a real-world situation: Function notation
 alge990 Domain and range of a linear function that models a real-world situation
 fun026 Finding an output of a function from its graph
 pcalc761 Finding inputs and outputs of a function from its graph
 fun007 Domain and range from the graph of a discrete relation
 fun024 Domain and range from the graph of a continuous function
 alge896 Graphing an integer function and finding its range for a given domain
 alge570 Graphing a function of the form $f(x) = ax + b$: Integer slope
 alge571 Graphing a function of the form $f(x) = ax + b$: Fractional slope
 alge954 Graphing a parabola of the form $y = ax^2$
 alge955 Graphing a parabola of the form $y = ax^2 + c$
 alge572 Graphing a function of the form $f(x) = ax^2$
 alge573 Graphing a function of the form $f(x) = ax^2 + c$
 pcalc750 Finding intercepts of a nonlinear function given its graph
 pcalc751 Finding where a function is increasing, decreasing, or constant given the graph: Interval notation
 pcalc752 Finding local maxima and minima of a function given the graph
 mstat018 Choosing a graph to fit a narrative: Basic
 mstat051 Choosing a graph to fit a narrative: Advanced

Systems

alge914 Identifying solutions to a system of linear equations
 alge075 Classifying systems of linear equations from graphs
 alge725 Graphically solving a system of linear equations
 alge751 Solving a system of linear equations using substitution
 alge915 Solving a system of linear equations using elimination with addition
 alge076 Solving a system of linear equations using elimination with multiplication and addition
 alge916 Solving a system of linear equations with fractional coefficients
 alge917 Solving a system of linear equations with decimal coefficients
 alge752 Solving a 2×2 system of linear equations that is inconsistent or consistent dependent
 alge988 Identifying the operations used to create equivalent systems of equations
 alge753 Solving a 3×3 system of linear equations: Problem type 1
 alge263 Interpreting the graphs of two functions
 alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations
 alge919 Solving a word problem using a system of linear equations of the form $Ax + By = C$
 alge918 Solving a word problem using a system of linear equations of the form $y = mx + b$
 alge184 Solving a value mixture problem using a system of linear equations
 alge192 Solving a percent mixture problem using a system of linear equations
 alge224 Solving a distance, rate, time problem using a system of linear equations
 alge172 Solving a tax rate or interest rate problem using a system of linear equations
 alge793 Solving a word problem using a 3×3 system of linear equations: Problem type 1
 alge912 Identifying solutions to a linear inequality in two variables
 alge225 Graphing a linear inequality in the plane: Vertical or horizontal line
 alge720 Graphing a linear inequality in the plane: Slope-intercept form
 alge018 Graphing a linear inequality in the plane: Standard form
 alge079 Graphing a system of two linear inequalities: Basic
 alge921 Graphing a system of two linear inequalities: Advanced

alge922 Graphing a system of three linear inequalities
 alge729 Writing a multi-step inequality for a real-world situation
 pcalc093 Solving a word problem using a system of linear inequalities: Problem type 1

Exponents and Polynomials

alge821 Understanding the product rule of exponents
 alge024 Introduction to the product rule of exponents
 alge311 Product rule with positive exponents: Univariate
 alge030 Product rule with positive exponents: Multivariate
 arith029 Ordering numbers with positive exponents
 alge826 Understanding the power rules of exponents
 alge306 Introduction to the power of a power rule of exponents
 alge305 Introduction to the power of a product rule of exponents
 alge307 Power rules with positive exponents: Multivariate products
 alge308 Power rules with positive exponents: Multivariate quotients
 alge756 Power and product rules with positive exponents
 alge451 Simplifying a ratio of multivariate monomials: Basic
 alge827 Introduction to the quotient rule of exponents
 alge452 Simplifying a ratio of univariate monomials
 alge026 Quotient of expressions involving exponents
 alge453 Simplifying a ratio of multivariate monomials: Advanced
 alge927 Power and quotient rules with positive exponents
 alge790 Evaluating expressions with exponents of zero
 arith684 Power of 10: Negative exponent
 arith729 Evaluating an expression with a negative exponent: Whole number base
 arith042 Evaluating an expression with a negative exponent: Positive fraction base
 arith043 Evaluating an expression with a negative exponent: Negative integer base
 arith024 Ordering numbers with negative exponents
 alge791 Rewriting an algebraic expression without a negative exponent
 alge961 Introduction to the product rule with negative exponents
 alge028 Product rule with negative exponents
 alge755 Quotient rule with negative exponents: Problem type 1
 alge926 Quotient rule with negative exponents: Problem type 2
 alge025 Power of a power rule with negative exponents
 alge799 Power rules with negative exponents
 alge928 Power and quotient rules with negative exponents: Problem type 1
 alge929 Power and quotient rules with negative exponents: Problem type 2
 alge757 Power, product, and quotient rules with negative exponents
 arith036 Scientific notation with positive exponent
 arith037 Scientific notation with negative exponent
 scinot012 Converting between scientific notation and standard form in a real-world situation
 scinot008 Multiplying numbers written in scientific notation: Basic
 scinot009 Multiplying numbers written in scientific notation: Advanced
 scinot010 Dividing numbers written in scientific notation: Basic
 scinot011 Dividing numbers written in scientific notation: Advanced
 alge971 Table for an exponential function
 alge830 Evaluating an exponential function that models a real-world situation
 arith853 Introduction to compound interest
 alge177 Finding a final amount in a word problem on exponential growth or decay
 alge741 Finding the final amount in a word problem on compound interest
 alge966 Finding the initial amount and rate of change given an exponential function
 alge968 Writing an equation that models exponential growth or decay
 alge301 Solving an exponential equation by finding common bases: Linear exponents
 alge969 Graphing an exponential function: $f(x) = ax$
 alge970 Graphing an exponential function: $f(x) = a(b)^x$
 alge967 Writing an exponential function rule given a table of ordered pairs
 alge993 Comparing linear, polynomial, and exponential functions
 alge758 Degree and leading coefficient of a univariate polynomial
 alge031 Degree of a multivariate polynomial

alge798 Simplifying a sum or difference of two univariate polynomials
alge029 Simplifying a sum or difference of three univariate polynomials
alge932 Simplifying a sum or difference of multivariate polynomials
alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
alge972 Multiplying a univariate polynomial by a monomial with a negative coefficient
alge835 Multiplying a multivariate polynomial by a monomial
alge033 Multiplying binomials with leading coefficients of 1
alge983 Multiplying binomials with leading coefficients greater than 1
alge765 Multiplying binomials in two variables
alge764 Multiplying conjugate binomials: Univariate
alge081 Multiplying conjugate binomials: Multivariate
alge032 Squaring a binomial: Univariate
alge068 Squaring a binomial: Multivariate
alge973 Multiplying binomials with negative coefficients
alge935 Multiplication involving binomials and trinomials in one variable
alge180 Multiplication involving binomials and trinomials in two variables
alge759 Dividing a polynomial by a monomial: Univariate
alge760 Dividing a polynomial by a monomial: Multivariate
alge761 Polynomial long division: Problem type 1
alge762 Polynomial long division: Problem type 2
alge763 Polynomial long division: Problem type 3
alge985 Closure properties of integers and polynomials
alge605 Factoring a linear binomial
alge736 Introduction to the GCF of two monomials
alge930 Greatest common factor of three univariate monomials
alge037 Greatest common factor of two multivariate monomials
alge738 Factoring out a monomial from a polynomial: Univariate
alge739 Factoring out a monomial from a polynomial: Multivariate
alge949 Factoring out a binomial from a polynomial: GCF factoring, basic
alge923 Factoring a univariate polynomial by grouping: Problem type 1
alge950 Factoring a univariate polynomial by grouping: Problem type 2
alge951 Factoring a multivariate polynomial by grouping: Problem type 1
alge952 Factoring a multivariate polynomial by grouping: Problem type 2
alge039 Factoring a quadratic with leading coefficient 1
alge942 Factoring a quadratic in two variables with leading coefficient 1
alge936 Factoring out a constant before factoring a quadratic
alge939 Factoring a quadratic with leading coefficient greater than 1: Problem type 1
alge940 Factoring a quadratic with leading coefficient greater than 1: Problem type 2
alge941 Factoring a quadratic with leading coefficient greater than 1: Problem type 3
alge978 Factoring a quadratic by the ac-method
alge265 Factoring a quadratic in two variables with leading coefficient greater than 1
alge937 Factoring a quadratic with a negative leading coefficient
alge944 Factoring a perfect square trinomial with leading coefficient 1
alge945 Factoring a perfect square trinomial with leading coefficient greater than 1
alge946 Factoring a perfect square trinomial in two variables
alge290 Factoring a difference of squares in one variable: Basic
alge947 Factoring a difference of squares in one variable: Advanced
alge839 Factoring a difference of squares in two variables
alge948 Factoring a polynomial involving a GCF and a difference of squares: Univariate
alge833 Factoring a polynomial involving a GCF and a difference of squares: Multivariate
alge041 Factoring a product of a quadratic trinomial and a monomial
alge042 Factoring with repeated use of the difference of squares formula
alge044 Factoring a sum or difference of two cubes
alge681 Solving an equation written in factored form
alge956 Finding the roots of a quadratic equation of the form $ax^2 + bx = 0$
alge045 Finding the roots of a quadratic equation with leading coefficient 1
alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
alge211 Solving a quadratic equation needing simplification
alge703 Solving a word problem using a quadratic equation with rational roots
alge713 Using the Pythagorean Theorem and a quadratic equation to find side lengths of a right triangle

Rational Expressions

alge049 Restriction on a variable in a denominator: Linear
 alge467 Restriction on a variable in a denominator: Quadratic
 alge468 Evaluating a rational function: Problem type 1
 alge469 Evaluating a rational function: Problem type 2
 alge715 Domain of a rational function: Excluded values
 alge454 Simplifying a ratio of factored polynomials: Linear factors
 alge455 Simplifying a ratio of factored polynomials: Factors with exponents
 alge456 Simplifying a ratio of polynomials using GCF factoring
 alge457 Simplifying a ratio of linear polynomials: 1, -1, and no simplification
 alge458 Simplifying a ratio of polynomials by factoring a quadratic with leading coefficient 1
 alge710 Simplifying a ratio of polynomials: Problem type 1
 alge682 Simplifying a ratio of polynomials: Problem type 2
 alge459 Simplifying a ratio of polynomials: Problem type 3
 alge034 Simplifying a ratio of multivariate polynomials
 alge053 Multiplying rational expressions involving multivariate monomials
 alge460 Multiplying rational expressions made up of linear expressions
 alge620 Multiplying rational expressions involving quadratics with leading coefficients of 1
 alge461 Multiplying rational expressions involving quadratics with leading coefficients greater than 1
 alge462 Multiplying rational expressions involving multivariate quadratics
 alge054 Dividing rational expressions involving multivariate monomials
 alge463 Dividing rational expressions involving linear expressions
 alge766 Dividing rational expressions involving quadratics with leading coefficients of 1
 alge464 Dividing rational expressions involving quadratics with leading coefficients greater than 1
 alge465 Dividing rational expressions involving multivariate quadratics
 alge466 Multiplication and division of 3 rational expressions
 alge737 Introduction to the LCM of two monomials
 alge055 Least common multiple of two monomials
 alge427 Finding the LCD of rational expressions with linear denominators: Relatively prime
 alge428 Finding the LCD of rational expressions with linear denominators: Common factors
 alge429 Finding the LCD of rational expressions with quadratic denominators
 alge430 Writing equivalent rational expressions with monomial denominators
 alge431 Writing equivalent rational expressions with polynomial denominators
 alge304 Writing equivalent rational expressions involving opposite factors
 alge433 Adding rational expressions with common denominators and monomial numerators
 alge056 Adding rational expressions with common denominators and binomial numerators
 alge434 Adding rational expressions with common denominators and GCF factoring
 alge435 Adding rational expressions with common denominators and quadratic factoring
 alge437 Adding rational expressions with denominators ax and bx : Basic
 alge438 Adding rational expressions with denominators ax and bx : Advanced
 alge439 Adding rational expressions with denominators axn and bxm
 alge440 Adding rational expressions with multivariate monomial denominators: Basic
 alge226 Adding rational expressions with multivariate monomial denominators: Advanced
 alge441 Adding rational expressions with linear denominators without common factors: Basic
 alge442 Adding rational expressions with linear denominators without common factors: Advanced
 alge443 Adding rational expressions with linear denominators with common factors: Basic
 alge444 Adding rational expressions with linear denominators with common factors: Advanced
 alge445 Adding rational expressions with denominators $ax-b$ and $b-ax$
 alge661 Adding rational expressions involving different quadratic denominators
 alge446 Adding 3 rational expressions with different quadratic denominators
 alge470 Complex fraction involving univariate monomials
 alge058 Complex fraction involving multivariate monomials
 alge471 Complex fraction: GCF factoring
 alge472 Complex fraction: Quadratic factoring
 alge473 Complex fraction made of sums involving rational expressions: Problem type 1
 alge474 Complex fraction made of sums involving rational expressions: Problem type 2
 alge475 Complex fraction made of sums involving rational expressions: Problem type 3
 alge476 Complex fraction made of sums involving rational expressions: Problem type 4
 alge477 Complex fraction made of sums involving rational expressions: Problem type 5
 alge478 Complex fraction made of sums involving rational expressions: Problem type 6
 alge479 Complex fraction made of sums involving rational expressions: Multivariate

alge480 Complex fraction with negative exponents: Problem type 1
 alge481 Complex fraction with negative exponents: Problem type 2
 alge162 Complex fraction that contains a complex fraction
 alge060 Solving a rational equation that simplifies to linear: Denominator x
 alge205 Solving a rational equation that simplifies to linear: Denominator $x+a$
 alge769 Solving a rational equation that simplifies to linear: Denominators a , x , or ax
 alge421 Solving a rational equation that simplifies to linear: Denominators ax and bx
 alge422 Solving a rational equation that simplifies to linear: Like binomial denominators
 alge206 Solving a rational equation that simplifies to linear: Unlike binomial denominators
 alge423 Solving a rational equation that simplifies to linear: Factorable quadratic denominator
 alge424 Solving a rational equation that simplifies to quadratic: Proportional form, basic
 alge425 Solving a rational equation that simplifies to quadratic: Denominator x
 alge212 Solving a rational equation that simplifies to quadratic: Binomial denominators, constant numerators
 alge062 Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators
 alge426 Solving a rational equation that simplifies to quadratic: Factorable quadratic denominator
 alge047 Solving a rational equation that simplifies to quadratic: Proportional form, advanced
 alge508 Solving for a variable in terms of other variables in a rational equation: Problem type 1
 alge509 Solving for a variable in terms of other variables in a rational equation: Problem type 2
 alge510 Solving for a variable in terms of other variables in a rational equation: Problem type 3
 arith612 Word problem involving multiple rates
 alge770 Solving a work problem using a rational equation
 alge450 Solving a distance, rate, time problem using a rational equation
 alge059 Ordering fractions with variables
 alge982 Identifying direct variation equations
 alge938 Identifying direct variation from ordered pairs and writing equations
 alge904 Writing a direct variation equation
 alge175 Word problem on direct variation
 alge828 Interpreting direct variation from a graph
 alge905 Writing an inverse variation equation
 alge903 Identifying direct and inverse variation equations
 alge902 Identifying direct and inverse variation from ordered pairs and writing equations
 alge176 Word problem on inverse variation
 alge220 Word problem on inverse proportions
 pcalc681 Writing an equation that models variation
 alge772 Word problem on combined variation

Radicals and Quadratic Equations

alge413 Finding all square roots of a number
 arith760 Square roots of perfect squares with signs
 alge415 Introduction to simplifying a radical expression with an even exponent
 alge264 Square root of a perfect square monomial
 arith094 Cube root of an integer
 alge549 Finding n th roots of perfect n th powers with signs
 arith768 Finding the n th root of a perfect n th power fraction
 alge550 Finding the n th root of a perfect n th power monomial
 arith093 Simplifying the square root of a whole number less than 100
 arith762 Simplifying the square root of a whole number greater than 100
 alge080 Simplifying a radical expression with an even exponent
 alge520 Introduction to simplifying a radical expression with an odd exponent
 alge521 Simplifying a radical expression with an odd exponent
 alge275 Simplifying a radical expression with two variables
 alge273 Simplifying a higher root of a whole number
 alge551 Introduction to simplifying a higher radical expression
 alge552 Simplifying a higher radical expression: Univariate
 alge811 Simplifying a higher radical expression: Multivariate
 arith767 Introduction to square root addition or subtraction
 arith032 Square root addition or subtraction
 alge533 Square root addition or subtraction with three terms
 alge531 Introduction to simplifying a sum or difference of radical expressions: Univariate

alge532 Simplifying a sum or difference of radical expressions: Univariate
 alge084 Simplifying a sum or difference of radical expressions: Multivariate
 alge554 Simplifying a sum or difference of higher roots
 alge555 Simplifying a sum or difference of higher radical expressions
 arith764 Introduction to square root multiplication
 arith765 Square root multiplication: Basic
 arith039 Square root multiplication: Advanced
 alge522 Introduction to simplifying a product of radical expressions: Univariate
 alge523 Simplifying a product of radical expressions: Univariate
 alge640 Simplifying a product of radical expressions: Multivariate
 alge556 Introduction to simplifying a product of higher roots
 alge557 Simplifying a product of higher radical expressions
 alge525 Introduction to simplifying a product involving square roots using the distributive property
 alge526 Simplifying a product involving square roots using the distributive property: Basic
 alge276 Simplifying a product involving square roots using the distributive property: Advanced
 alge774 Special products of radical expressions: Conjugates and squaring
 alge984 Classifying sums and products as rational or irrational
 arith766 Simplifying a quotient of square roots
 alge530 Simplifying a quotient involving a sum or difference with a square root
 alge527 Rationalizing a denominator: Quotient involving square roots
 alge528 Rationalizing a denominator: Square root of a fraction
 alge529 Rationalizing a denominator: Quotient involving a monomial
 alge534 Rationalizing a denominator using conjugates: Integer numerator
 alge535 Rationalizing a denominator using conjugates: Square root in numerator
 alge536 Rationalizing a denominator using conjugates: Variable in denominator
 alge564 Rationalizing a denominator: Quotient involving a higher radical
 alge400 Introduction to solving a radical equation
 alge089 Solving a radical equation that simplifies to a linear equation: One radical, basic
 alge402 Solving a radical equation that simplifies to a linear equation: One radical, advanced
 alge090 Solving a radical equation that simplifies to a linear equation: Two radicals
 alge405 Solving a radical equation with two radicals that simplifies to $\sqrt{x} = a$
 alge403 Solving a radical equation that simplifies to a quadratic equation: One radical, basic
 alge404 Solving a radical equation that simplifies to a quadratic equation: One radical, advanced
 alge411 Solving a radical equation with a quadratic expression under the radical
 alge182 Solving a radical equation that simplifies to a quadratic equation: Two radicals
 alge410 Solving an equation with a root index greater than 2: Problem type 1
 alge417 Solving an equation with a root index greater than 2: Problem type 2
 alge412 Algebraic symbol manipulation with radicals
 alge542 Word problem involving radical equations: Basic
 alge409 Word problem involving radical equations: Advanced
 alge132 Distance between two points in the plane: Exact answers
 alge539 Table for a square root function
 alge540 Domain of a square root function: Basic
 pcalc763 Domain of a square root function: Advanced
 alge543 Graphing a square root function: Problem type 1
 alge544 Graphing a square root function: Problem type 2
 alge812 Converting between radical form and exponent form
 alge560 Rational exponents: Unit fraction exponents and whole number bases
 alge561 Rational exponents: Unit fraction exponents and bases involving signs
 alge250 Rational exponents: Non-unit fraction exponent with a whole number base
 alge251 Rational exponents: Negative exponents and fractional bases
 alge558 Rational exponents: Product rule
 alge559 Rational exponents: Quotient rule
 alge773 Rational exponents: Products and quotients with negative exponents
 alge562 Rational exponents: Power of a power rule
 alge249 Rational exponents: Powers of powers with negative exponents
 alge563 Simplifying products or quotients of higher radicals with different indices: Univariate
 alge778 Using i to rewrite square roots of negative numbers
 alge779 Simplifying a product and quotient involving square roots of negative numbers
 pcalc048 Adding or subtracting complex numbers
 pcalc049 Multiplying complex numbers
 pcalc050 Dividing complex numbers

pcalc053 Simplifying a power of i
 alge962 Solving an equation of the form $x^2 = a$ using the square root property
 alge092 Solving a quadratic equation using the square root property: Exact answers, basic
 alge227 Solving a quadratic equation using the square root property: Exact answers, advanced
 alge094 Completing the square
 alge780 Solving a quadratic equation by completing the square: Exact answers
 alge095 Applying the quadratic formula: Exact answers
 alge963 Applying the quadratic formula: Decimal answers
 pcalc051 Solving a quadratic equation with complex roots
 alge214 Discriminant of a quadratic equation
 alge524 Solving a word problem using a quadratic equation with irrational roots
 alge974 Finding the vertex, x -intercepts, and axis of symmetry from the graph of a parabola
 alge953 Translating the graph of a parabola: One step
 alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
 alge569 Graphing a parabola of the form $y = x^2 + bx + c$
 pcalc746 Graphing a parabola of the form $y = ax^2 + bx + c$: Integer coefficients
 pcalc747 Graphing a parabola of the form $y = ax^2 + bx + c$: Rational coefficients
 alge277 Finding the x -intercept(s) and the vertex of a parabola
 pcalc774 Rewriting a quadratic function to find the vertex of its graph
 pcalc775 Finding the maximum or minimum of a quadratic function
 alge785 Word problem involving the maximum or minimum of a quadratic function
 alge975 Domain and range from the graph of a parabola
 pcalc762 Range of a quadratic function
 alge957 Solving a quadratic equation by graphing
 alge996 Comparing properties of quadratic functions given in different forms
 alge702 Classifying the graph of a function
 alge723 How the leading coefficient affects the shape of a parabola
 alge965 Identifying linear, quadratic, and exponential functions given ordered pairs
 alge262 Graphing a cubic function of the form $y = ax^3$
 fun019 Sum, difference, and product of two functions
 fun022 Composition of two functions: Basic
 pcalc776 Expressing a function as a composition of two functions
 pcalc924 Determining whether an equation defines a function: Basic
 pcalc757 Determining whether an equation defines a function: Advanced

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Whole Numbers

arith124 Whole number place value: Problem type 1
 arith125 Whole number place value: Problem type 2
 arith066 Expanded form
 arith643 Expanded form with zeros
 arith028 Numeral translation: Problem type 1
 arith060 Numeral translation: Problem type 2
 arith633 One-digit addition with carry
 arith634 Addition of 3 or 4 one-digit numbers
 arith001 Addition without carry
 arith635 Adding a 2-digit number and a 1-digit number with carry
 arith050 Addition with carry
 arith630 Addition with carry to the hundreds place
 arith012 Addition of large numbers
 arith636 Subtracting a 1-digit number from a 2-digit number
 arith007 Subtraction without borrowing
 arith128 Adding or subtracting 10, 100, or 1000
 arith006 Subtraction with borrowing
 arith682 Subtraction with multiple regrouping steps
 arith637 Subtraction and regrouping with zeros

arith613 Word problem with addition or subtraction of whole numbers
 arith655 Introduction to properties of addition
 arith126 Multiplication as repeated addition
 arith008 One-digit multiplication
 arith679 Multiplication by 10, 100, and 1000
 arith003 Multiplication without carry
 arith004 Multiplication with carry
 arith632 Multiplication with trailing zeros: Problem type 1
 arith615 Introduction to multiplication of large numbers
 arith638 Multiplication with trailing zeros: Problem type 2
 arith014 Multiplication of large numbers
 arith641 Multiples: Problem type 1
 arith642 Multiples: Problem type 2
 arith656 Introduction to properties of multiplication
 arith075 Division facts
 arith614 Word problem with multiplication or division of whole numbers
 arith130 Word problem with multiplication and addition or subtraction of whole numbers
 arith243 Division of whole numbers given in fractional form
 arith711 Division involving zero
 arith052 Division without carry
 arith005 Division with carry
 arith680 Division with trailing zeros: Problem type 1
 arith649 Division with trailing zeros: Problem type 2
 arith616 Quotient and remainder: Problem type 1
 arith644 Word problem on quotient and remainder
 arith617 Quotient and remainder: Problem type 2
 arith631 Quotient and remainder: Problem type 3
 arith650 Division involving quotients with intermediate zeros
 arith023 Word problem with division of whole numbers and rounding
 arith651 Introduction to inequalities
 arith077 Ordering large numbers
 arith078 Rounding to tens or hundreds
 arith123 Rounding to hundreds or thousands
 arith061 Rounding to thousands, ten thousands, or hundred thousands
 arith101 Estimating a sum of whole numbers
 arith102 Estimating a difference of whole numbers
 arith604 Estimating a product or quotient of whole numbers
 arith646 Even and odd numbers
 arith647 Divisibility rules for 2, 5, and 10
 arith648 Divisibility rules for 3 and 9
 arith056 Factors
 arith034 Prime numbers
 arith035 Prime factorization
 arith033 Greatest common factor of 2 numbers
 arith070 Least common multiple of 2 numbers
 arith804 Least common multiple of 3 numbers
 arith240 Word problem with common multiples
 alge925 Finding the next terms of an arithmetic sequence with whole numbers
 alge933 Finding the next terms of a geometric sequence with whole numbers
 alge732 Finding patterns in shapes

Real Numbers

arith692 Writing expressions using exponents
 arith233 Introduction to exponents
 arith683 Power of 10: Positive exponent
 arith645 Introduction to parentheses
 arith681 Introduction to order of operations
 arith048 Order of operations with whole numbers
 arith051 Order of operations with whole numbers and grouping symbols

arith693 Order of operations with whole numbers and exponents: Basic
arith713 Order of operations with whole numbers and exponents: Advanced
arith657 Understanding the distributive property
arith623 Introduction to fractions
arith665 Understanding equivalent fractions
arith212 Equivalent fractions
arith666 Introduction to simplifying a fraction
arith067 Simplifying a fraction
arith687 Fractional position on a number line
arith667 Plotting fractions on a number line
arith044 Ordering fractions with the same denominator
arith091 Ordering fractions with the same numerator
arith092 Using a common denominator to order fractions
arith079 Product of a unit fraction and a whole number
arith086 Product of a fraction and a whole number: Problem type 1
arith119 Introduction to fraction multiplication
arith053 Fraction multiplication
arith812 Product of a fraction and a whole number: Problem type 2
arith813 Multiplication of 3 fractions
arith818 Word problem involving fractions and multiplication
arith095 Multi-step word problem involving fractions and multiplication
arith088 The reciprocal of a number
arith694 Division involving a whole number and a fraction
arith022 Fraction division
arith819 Word problem involving fractions and division
arith230 Addition or subtraction of fractions with different denominators
arith618 Addition or subtraction of fractions with the same denominator
arith802 Addition or subtraction of fractions with the same denominator and simplification
arith801 Finding the LCD of two fractions
arith109 Addition or subtraction of unit fractions
arith664 Introduction to addition or subtraction of fractions with different denominators
arith803 Addition and subtraction of 3 fractions with different denominators
arith805 Word problem involving addition or subtraction of fractions with different denominators
arith100 Fractional part of a circle
arith662 Writing a mixed number and an improper fraction for a shaded region
arith015 Writing an improper fraction as a mixed number
arith619 Writing a mixed number as an improper fraction
arith215 Addition or subtraction of mixed numbers with the same denominator
arith084 Addition of mixed numbers with the same denominator and carry
arith216 Subtraction of mixed numbers with the same denominator and borrowing
arith806 Addition or subtraction of mixed numbers with different denominators and no carry or borrow
arith808 Addition of mixed numbers with different denominators and carry
arith809 Subtraction of mixed numbers with different denominators and borrowing
arith807 Addition and subtraction of 3 mixed numbers with different denominators
arith810 Word problem involving addition or subtraction of mixed numbers with different denominators
arith815 Mixed number multiplication
arith816 Multiplication of a mixed number and a whole number
arith817 Division with a mixed number and a whole number
arith068 Mixed number division
arith820 Word problem involving multiplication or division with mixed numbers
arith821 Exponents and fractions
arith859 Order of operations with fractions: Problem type 1
arith860 Order of operations with fractions: Problem type 2
arith861 Order of operations with fractions: Problem type 3
arith695 Complex fraction without variables: Problem type 1
arith127 Writing a decimal and a fraction for a shaded region
arith110 Decimal place value: Tenths and hundredths
arith220 Decimal place value: Hundreds to ten thousandths
arith714 Writing a decimal number less than 1 given its name
arith715 Writing a decimal number greater than 1 given its name
arith716 Writing a decimal number given its name: Advanced
arith829 Reading decimal position on a number line: Tenths

arith830 Reading decimal position on a number line: Hundredths
arith831 Understanding decimal position on a number line using zoom: Hundredths
arith832 Understanding decimal position on a number line using zoom: Thousandths
arith129 Introduction to ordering decimals
arith608 Ordering decimals
arith221 Rounding decimals
arith717 Converting a decimal to a proper fraction without simplifying: Basic
arith719 Converting a decimal to a proper fraction without simplifying: Advanced
arith718 Converting a decimal to a proper fraction in simplest form: Basic
arith087 Converting a decimal to a proper fraction in simplest form: Advanced
arith721 Converting a decimal to a mixed number and an improper fraction without simplifying
arith722 Converting a decimal to a mixed number and an improper fraction in simplest form: Basic
arith724 Converting a decimal to a mixed number and an improper fraction in simplest form: Advanced
arith624 Addition of aligned decimals
arith013 Decimal addition with 3 numbers
arith734 Subtraction of aligned decimals
arith735 Decimal subtraction: Basic
arith736 Decimal subtraction: Advanced
arith737 Decimal addition and subtraction with 3 or more numbers
arith131 Estimating a decimal sum or difference
arith132 Word problem with addition or subtraction of 2 decimals
arith133 Word problem with addition of 3 or 4 decimals and whole numbers
arith134 Word problem with subtraction of a whole number and a decimal: Regrouping with zeros
arith739 Introduction to decimal multiplication
arith017 Multiplication of a decimal by a whole number
arith055 Decimal multiplication: Problem type 1
arith046 Decimal multiplication: Problem type 2
arith082 Multiplication of a decimal by a power of ten
arith738 Multiplication of a decimal by a power of 0.1
arith740 Multiplication of decimals that have a product less than 0.1
arith752 Estimating a product of decimals
arith135 Word problem with multiplication of a decimal and a whole number
arith137 Word problem with multiplication of two decimals
arith224 Word problem with decimal addition and multiplication
arith744 Whole number division with decimal answers
arith081 Division of a decimal by a whole number
arith743 Division of a decimal by a 1-digit decimal
arith019 Division of a decimal by a 2-digit decimal
arith083 Division of a decimal by a power of ten
arith742 Division of a decimal by a power of 0.1
arith745 Decimal division with rounding
arith136 Word problem with division of a decimal and a whole number
arith138 Word problem with division of two decimals
arith227 Word problem with decimal subtraction and division
arith725 Converting a fraction with a denominator of 10 or 100 to a decimal
arith726 Converting a fraction with a denominator of 100 or 1000 to a decimal
arith609 Ordering fractions and decimals
arith727 Converting a fraction to a terminating decimal: Basic
arith728 Converting a fraction to a terminating decimal: Advanced
arith730 Converting a fraction to a repeating decimal: Basic
arith731 Converting a fraction to a repeating decimal: Advanced
arith733 Using a calculator to convert a fraction to a rounded decimal
arith111 Converting a mixed number to a terminating decimal: Basic
arith112 Converting a mixed number to a terminating decimal: Advanced
arith732 Converting a fraction or mixed number to a rounded decimal
arith753 Squaring decimal bases: Products greater than 0.1
arith741 Exponents and decimals: Products less than 0.1
arith720 Order of operations with decimals: Problem type 1
arith746 Order of operations with decimals: Problem type 2
arith747 Order of operations with decimals: Problem type 3
arith748 Addition or subtraction with a decimal and a mixed number
arith749 Multiplication with a decimal and a fraction

arith823 Writing ratios using different notations
arith663 Writing ratios for real-world situations
arith824 Simplifying a ratio of whole numbers: Problem type 1
arith825 Simplifying a ratio of decimals
arith827 Finding a unit price
arith828 Computing unit prices to find the better buy
arith064 Solving a word problem on proportions using a unit rate
arith228 Word problem on unit rates associated with ratios of whole numbers: Decimal answers
alge272 Solving a proportion of the form $x/a = b/c$
arith610 Word problem on proportions: Problem type 1
arith611 Word problem on proportions: Problem type 2
alge063 Word problem on mixed number proportions
arith045 Word problem with powers of ten
arith836 Converting a fraction with a denominator of 100 to a percentage
arith837 Converting a percentage to a fraction with a denominator of 100
arith674 Finding the percentage of a grid that is shaded
arith723 Introduction to converting a percentage to a decimal
arith833 Introduction to converting a decimal to a percentage
arith834 Converting between percentages and decimals
arith841 Converting a mixed number percentage to a decimal
arith835 Converting between percentages and decimals in a real-world situation
arith090 Converting a percentage to a fraction in simplest form
arith839 Converting a decimal percentage to a fraction
arith838 Converting a fraction to a percentage: Denominator of 4, 5, or 10
arith002 Converting a fraction to a percentage: Denominator of 20, 25, or 50
arith843 Using a calculator to convert a fraction to a rounded percentage
arith842 Converting a fraction to a percentage in a real-world situation
arith840 Finding a percentage of a whole number
arith030 Finding a percentage of a whole number without a calculator: Basic
arith844 Finding a percentage of a whole number without a calculator: Advanced
arith862 Applying the percent equation: Problem type 1
arith863 Applying the percent equation: Problem type 2
arith845 Finding a percentage of a total amount: Real-world situations
arith846 Finding a percentage of a total amount without a calculator: Sales tax, commission, discount
arith857 Estimating a tip without a calculator
arith069 Writing a ratio as a percentage without a calculator
mstat049 Computing a percentage from a table of values
arith850 Finding the rate of a tax or commission
arith849 Finding the total amount given the percentage of a partial amount
arith852 Finding the multiplier to give a final amount after a percentage increase or decrease
arith851 Finding the final amount given the original amount and a percentage increase or decrease
arith847 Finding the sale price given the original price and percent discount
arith074 Finding the sale price without a calculator given the original price and percent discount
arith848 Finding the total cost including tax or markup
arith855 Finding the original amount given the result of a percentage increase or decrease
arith031 Finding the original price given the sale price and percent discount
arith858 Finding the percentage increase or decrease: Basic
arith225 Finding the percentage increase or decrease: Advanced
arith232 Finding simple interest without a calculator
arith856 Finding a percentage of a total amount in a circle graph
stat801 Computations from a circle graph
arith200 Integer addition: Problem type 1
arith108 Integer addition: Problem type 2
arith688 Integer subtraction: Problem type 1
arith689 Integer subtraction: Problem type 2
arith690 Integer subtraction: Problem type 3
arith754 Addition and subtraction with 3 integers
arith755 Addition and subtraction with 4 or 5 integers
arith701 Word problem with addition or subtraction of integers
arith231 Integer multiplication and division
arith800 Multiplication of 3 or 4 integers
alge001 Identifying numbers as integers or non-integers

alge002 Identifying numbers as rational or irrational
 arith116 Signed fraction addition or subtraction: Basic
 arith864 Signed fraction subtraction involving double negation
 arith106 Signed fraction addition or subtraction: Advanced
 arith811 Addition and subtraction of 3 fractions involving signs
 arith822 Signed fraction multiplication: Basic
 arith105 Signed fraction multiplication: Advanced
 arith814 Signed fraction division
 arith117 Signed decimal addition and subtraction
 arith234 Signed decimal addition and subtraction with 3 numbers
 arith750 Signed decimal multiplication
 arith751 Signed decimal division
 arith104 Operations with absolute value: Problem type 2
 geom525 Computing distances between decimals on the number line
 unit052 Finding the absolute error and percent error of a measurement
 arith702 Exponents and integers: Problem type 1
 arith703 Exponents and integers: Problem type 2
 arith704 Exponents and signed fractions
 arith118 Order of operations with integers
 arith600 Order of operations with integers and exponents
 arith696 Complex fraction without variables: Problem type 2

Geometry

geom339 Perimeter of a polygon
 geom300 Perimeter of a square or a rectangle
 geom618 Perimeter of a polygon involving mixed numbers and fractions
 geom078 Sides of polygons having the same perimeter
 geom221 Finding the missing length in a figure
 geom353 Perimeter of a piecewise rectangular figure
 geom358 Identifying parallel and perpendicular lines
 geom349 Naming segments, rays, and lines
 geom151 Measuring an angle with the protractor
 geom152 Drawing an angle with the protractor
 geom303 Acute, obtuse, and right angles
 geom039 Finding supplementary and complementary angles
 geom305 Identifying supplementary and vertical angles
 geom304 Identifying corresponding and alternate angles
 geom306 Acute, obtuse, and right triangles
 geom307 Classifying scalene, isosceles, and equilateral triangles by side lengths or angles
 geom908 Finding an angle measure for a triangle with an extended side
 geom812 Finding an angle measure given extended triangles
 geom813 Finding an angle measure given a triangle and parallel lines
 geom361 Naming polygons
 mstat042 Interpreting a Venn diagram of 2 sets
 geom867 Identifying parallelograms, rectangles, and squares
 geom310 Properties of quadrilaterals
 geom532 Classifying parallelograms
 geom019 Area of a square or a rectangle
 geom866 Perimeter and area on a grid
 geom620 Area of a rectangle involving fractions
 geom619 Area of a rectangle involving mixed numbers and fractions
 geom350 Distinguishing between the area and perimeter of a rectangle
 geom351 Areas of rectangles with the same perimeter
 geom340 Area of a piecewise rectangular figure
 geom142 Word problem involving the area between two rectangles
 geom801 Area of a triangle
 geom344 Area involving rectangles and triangles
 geom022 Area of a parallelogram
 geom023 Area of a trapezoid

geom347 Introduction to a circle: Diameter, radius, and chord
geom016 Circumference of a circle
geom301 Perimeter involving rectangles and circles
geom802 Circumference and area of a circle
geom302 Area involving rectangles and circles
geom036 Word problem involving the area between two concentric circles
geom214 Area involving inscribed figures
geom814 Angle measure in a circle graph
geom868 Classifying solids
geom348 Vertices, edges, and faces of a solid
geom830 Counting the cubes in a solid made of cubes
geom354 Volume of a rectangular prism made of unit cubes
geom311 Volume of a rectangular prism
geom505 Volume of a piecewise rectangular prism
geom090 Volume of a triangular prism
geom033 Volume of a pyramid
geom035 Volume of a cylinder
geom092 Word problem involving the rate of filling or emptying a cylinder
geom622 Volume of a cone
geom841 Volume of a sphere
geom219 Nets of solids
geom816 Side views of a solid made of cubes
geom031 Surface area of a cube or a rectangular prism
geom345 Surface area of a piecewise rectangular prism made of unit cubes
geom091 Surface area of a triangular prism
geom621 Surface area of a cylinder
geom842 Surface area of a sphere
arith016 Square root of a perfect square
arith763 Using a calculator to approximate a square root
arith602 Estimating a square root
arith601 Square root of a rational perfect square
alge407 Introduction to the Pythagorean Theorem
geom044 Pythagorean Theorem
alge408 Word problem involving the Pythagorean Theorem
geom359 Identifying congruent shapes on a grid
geom520 Identifying and naming congruent triangles
geom360 Identifying similar or congruent shapes on a grid
geom037 Similar polygons
geom038 Similar right triangles
geom337 Indirect measurement

Algebraic Expressions

alge284 Evaluating an algebraic expression: Whole number addition or subtraction
alge683 Evaluating an algebraic expression: Whole number multiplication or division
alge285 Evaluating an algebraic expression: Whole numbers with two operations
alge832 Evaluating an algebraic expression: Whole number operations and exponents
alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
alge004 Evaluating a quadratic expression: Integers
alge808 Evaluating a linear expression: Signed fraction multiplication with addition or subtraction
alge302 Evaluating a linear expression: Signed decimal addition and subtraction
alge303 Evaluating a linear expression: Signed decimal multiplication with addition or subtraction
alge700 Combining like terms: Whole number coefficients
alge607 Combining like terms: Integer coefficients
alge187 Properties of addition
alge310 Multiplying a constant and a linear monomial
alge606 Distributive property: Whole number coefficients
alge604 Distributive property: Integer coefficients
alge188 Properties of real numbers
alge608 Using distribution and combining like terms to simplify: Univariate

alge609 Using distribution with double negation and combining like terms to simplify: Multivariate
 alge293 Combining like terms in a quadratic expression
 alge432 Introduction to adding fractions with variables and common denominators
 alge436 Adding rational expressions with different denominators and a single occurrence of a variable

Measurement and Data Analysis

mstat059 Choosing U.S. Customary measurement units
 unit005 U.S. Customary unit conversion with whole number values
 mstat035 Conversions involving measurements in feet and inches
 mstat036 Adding measurements in feet and inches
 unit006 U.S. Customary unit conversion with whole number values: Two-step conversion
 unit007 U.S. Customary unit conversion with mixed number values: One-step conversion
 unit008 U.S. Customary unit conversion with mixed number values: Two-step conversion
 unit009 U.S. Customary area unit conversion with whole number values
 mstat060 Choosing metric measurement units
 unit001 Metric distance conversion with whole number values
 unit002 Metric mass or capacity conversion with whole number values
 unit003 Metric distance conversion with decimal values
 unit004 Metric conversion with decimal values: Two-step problem
 unit010 Metric area unit conversion with decimal values
 unit012 Time unit conversion with whole number values
 time006 Adding time
 time007 Elapsed time
 arith063 Word problem with clocks
 mstat065 Converting between temperatures in Fahrenheit and Celsius
 arith826 Simplifying a ratio of whole numbers: Problem type 2
 unit034 Converting between metric and U.S. Customary unit systems
 unit035 Converting between compound units: Basic
 unit036 Converting between compound units: Advanced
 mstat056 Interpreting a tally table
 mstat037 Constructing a line plot
 mstat005 Constructing a bar graph for non-numerical data
 mstat004 Constructing a histogram for numerical data
 mstat024 Interpreting a bar graph
 mstat044 Interpreting a double bar graph
 mstat057 Interpreting a pictograph table
 mstat007 Interpreting a line graph
 mstat031 Interpreting a stem-and-leaf plot
 stat804 Interpreting a circle graph or pie chart
 stat020 Calculating relative frequencies in a contingency table
 stat805 Making a reasonable inference based on proportion statistics
 mstat025 Finding if a question can be answered by the data
 mstat003 Mode of a data set
 mstat055 Finding the mode and range of a data set
 arith103 Average of two numbers
 mstat028 Mean and median of a data set
 mstat029 How changing a value affects the mean and median
 mstat053 Choosing the best measure to describe data
 stat802 Rejecting unreasonable claims based on average statistics
 mstat066 Weighted mean
 mstat027 Using back-to-back stem-and-leaf plots to compare data sets
 mstat072 Five-number summary and interquartile range
 mstat006 Constructing a box-and-whisker plot
 mstat073 Using box-and-whisker plots to compare data sets
 mstat043 Interpreting a Venn diagram of 3 sets
 mstat041 Interpreting a tree diagram
 mstat040 Introduction to the counting principle
 mstat015 Counting principle
 pcalc082 Factorial expressions

mstat017 Computing permutations and combinations
 mstat008 Word problem involving permutations
 mstat009 Word problem involving combinations
 mstat026 Introduction to the probability of an event
 mstat010 Probability of an event
 mstat039 Understanding likelihood
 mstat048 Odds of an event
 stat106 Outcomes and event probability
 stat112 Probabilities involving two dice
 mstat011 Area as probability
 mstat046 Experimental and theoretical probability
 mstat047 Introduction to expectation
 mstat012 Probability of independent events
 mstat013 Probability of dependent events
 mstat032 Probability of the union of two events
 alge286 Plotting integers on a number line
 arith605 Plotting rational numbers on a number line
 mstat038 Reading the temperature from a thermometer
 arith699 Writing a signed number for a real-world situation
 arith691 Ordering integers
 arith712 Ordering real numbers
 arith071 Absolute value of a number

Linear Equations and Inequalities

alge009 Additive property of equality with whole numbers
 alge008 Multiplicative property of equality with whole numbers
 alge803 Using two steps to solve an equation with whole numbers
 alge801 Additive property of equality with fractions and mixed numbers
 alge800 Additive property of equality with decimals
 alge010 Additive property of equality with integers
 alge836 Additive property of equality with signed fractions
 alge820 Multiplicative property of equality with fractions
 alge825 Multiplicative property of equality with decimals
 alge797 Multiplicative property of equality with integers
 alge012 Multiplicative property of equality with signed fractions
 alge834 Identifying solutions to a linear equation in one variable: Two-step equations
 alge266 Additive property of equality with a negative coefficient
 alge006 Solving a two-step equation with integers
 alge200 Solving an equation to find the value of an expression
 alge920 Introduction to solving an equation with parentheses
 alge837 Solving a multi-step equation given in fractional form
 alge986 Identifying properties used to solve a linear equation
 alge824 Solving a two-step equation with signed decimals
 alge838 Introduction to solving an equation with variables on the same side
 alge862 Solving a linear equation with several occurrences of the variable: Variables on the same side
 alge863 Solving a linear equation with several occurrences of the variable: Variables on both sides
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
 alge420 Solving a linear equation with several occurrences of the variable: Fractional forms with monomial numerators
 alge208 Solving a two-step equation with signed fractions
 alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
 alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators

alge742 Solving equations with zero, one, or infinitely many solutions
 alge840 Solving a proportion of the form $(x+a)\div b = c\div d$
 alge271 Solving a proportion of the form $a/(x+b) = c/x$
 alge603 Introduction to solving an absolute value equation
 alge864 Solving an absolute value equation: Problem type 1
 alge511 Solving for a variable in terms of other variables using addition or subtraction: Basic
 alge512 Solving for a variable in terms of other variables using addition or subtraction: Advanced
 alge513 Solving for a variable in terms of other variables using multiplication or division: Basic
 alge514 Solving for a variable in terms of other variables using multiplication or division: Advanced
 alge517 Solving for a variable in terms of other variables using addition or subtraction with division
 alge518 Solving for a variable inside parentheses in terms of other variables
 alge507 Solving for a variable in terms of other variables in a linear equation with fractions
 alge733 Writing a one-step expression for a real-world situation
 alge831 Translating a phrase into a one-step expression
 alge291 Translating a phrase into a two-step expression
 alge016 Translating a sentence into a one-step equation
 alge841 Translating a sentence into a multi-step equation
 alge823 Solving a one-step word problem using the formula $d = rt$
 alge802 Solving a fraction word problem using a linear equation of the form $Ax = B$
 alge014 Solving a word problem with two unknowns using a linear equation
 alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
 alge730 Writing a multi-step equation for a real-world situation
 alge219 Solving a decimal word problem using a linear equation with the variable on both sides
 alge704 Solving a fraction word problem using a linear equation with the variable on both sides
 alge792 Solving a word problem with three unknowns using a linear equation
 alge842 Solving a word problem involving consecutive integers
 alge794 Solving a value mixture problem using a linear equation
 alge218 Solving a word problem involving rates and time conversion
 alge796 Solving a distance, rate, time problem using a linear equation
 arith854 Computing a percent mixture
 alge795 Solving a percent mixture problem using a linear equation
 geom817 Finding a side length given the perimeter and side lengths with variables
 geom143 Finding the perimeter or area of a rectangle given one of these values
 geom218 Finding the radius or the diameter of a circle given its circumference
 geom838 Circumference ratios
 geom001 Finding an angle measure of a triangle given two angles
 geom217 Finding the side length of a rectangle given its perimeter or area
 geom530 Solving equations involving vertical angles
 geom531 Solving equations involving angles and a pair of parallel lines
 geom623 Finding angle measures of a triangle given angles with variables
 geom502 Finding angle measures of a right or isosceles triangle given angles with variables
 mstat001 Mean of a data set
 stat803 Finding the value for a new score that will yield a given mean
 alge015 Translating a sentence by using an inequality symbol
 alge845 Translating a sentence into a one-step inequality
 alge846 Translating a sentence into a multi-step inequality
 alge748 Writing an inequality for a real-world situation
 alge017 Graphing a linear inequality on the number line
 alge822 Writing an inequality given a graph on the number line
 alge186 Translating a sentence into a compound inequality
 alge166 Graphing a compound inequality on the number line
 alge847 Writing a compound inequality given a graph on the number line
 set001 Set builder notation
 set004 Set builder and interval notation
 set002 Union and intersection of finite sets
 alge844 Identifying solutions to a two-step linear inequality in one variable
 alge848 Additive property of inequality with whole numbers
 alge849 Additive property of inequality with integers
 alge852 Additive property of inequality with signed fractions
 alge853 Additive property of inequality with signed decimals
 alge854 Multiplicative property of inequality with integers
 alge964 Multiplicative property of inequality with signed fractions

alge855 Solving a two-step linear inequality: Problem type 1
 alge856 Solving a two-step linear inequality: Problem type 2
 alge857 Solving a two-step linear inequality with a fractional coefficient
 alge977 Solving a linear inequality with multiple occurrences of the variable: Problem type 1
 alge858 Solving a linear inequality with multiple occurrences of the variable: Problem type 2
 alge859 Solving a linear inequality with multiple occurrences of the variable: Problem type 3
 alge860 Solving inequalities with no solution or all real numbers as solutions
 alge746 Solving a compound linear inequality: Graph solution, basic
 alge747 Solving a compound linear inequality: Interval notation
 alge868 Solving an absolute value inequality: Problem type 1
 alge749 Solving a decimal word problem using a two-step linear inequality
 alge750 Solving a decimal word problem using a linear inequality with the variable on both sides

Lines and Functions

alge064 Reading a point in the coordinate plane
 alge067 Plotting a point in the coordinate plane
 alge850 Table for a linear equation
 alge873 Identifying solutions to a linear equation in two variables
 alge066 Finding a solution to a linear equation in two variables
 alge191 Midpoint of a line segment in the plane
 alge877 Graphing a linear equation of the form $y = mx$
 alge878 Graphing a line given its equation in slope-intercept form: Integer slope
 alge879 Graphing a line given its equation in slope-intercept form: Fractional slope
 alge880 Graphing a line given its equation in standard form
 alge198 Graphing a vertical or horizontal line
 alge884 Finding x - and y -intercepts given the graph of a line on a grid
 alge924 Finding x - and y -intercepts of a line given the equation: Basic
 alge210 Finding x - and y -intercepts of a line given the equation: Advanced
 alge197 Graphing a line given its x - and y -intercepts
 alge881 Graphing a line by first finding its x - and y -intercepts
 alge875 Classifying slopes given graphs of lines
 alge886 Finding slope given the graph of a line on a grid
 alge887 Finding slope given two points on the line
 alge885 Finding the slope of horizontal and vertical lines
 alge888 Finding the coordinate that yields a given slope
 alge259 Graphing a line given its slope and y -intercept
 alge196 Graphing a line through a given point with a given slope
 alge876 Identifying linear equations: Advanced
 alge874 Identifying linear functions given ordered pairs
 alge891 Rewriting a linear equation in the form $Ax + By = C$
 alge889 Finding the slope and y -intercept of a line given its equation in the form $y = mx + b$
 alge890 Finding the slope and y -intercept of a line given its equation in the form $Ax + By = C$
 alge882 Graphing a line by first finding its slope and y -intercept
 alge258 Writing an equation of a line given its slope and y -intercept
 alge892 Writing an equation and graphing a line given its slope and y -intercept
 alge893 Writing an equation in slope-intercept form given the slope and a point
 alge883 Graphing a line given its equation in point-slope form
 alge894 Writing an equation in point-slope form given the slope and a point
 alge070 Writing an equation of a line given the y -intercept and another point
 alge072 Writing the equation of the line through two given points
 alge073 Writing the equations of vertical and horizontal lines through a given point
 geom806 Finding slopes of lines parallel and perpendicular to a line given in slope-intercept form
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 alge895 Identifying parallel and perpendicular lines from equations
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 alge897 Writing and evaluating a function that models a real-world situation: Advanced
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 fun005 Writing a function rule given a table of ordered pairs: One-step rules
 fun006 Writing a function rule given a table of ordered pairs: Two-step rules

alge992 Combining functions to write a new function that models a real-world situation
 alge987 Comparing properties of linear functions given in different forms
 alge989 Interpreting the parameters of a linear function that models a real-world situation
 alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
 alge806 Application problem with a linear function: Finding a coordinate given two points
 mstat052 Identifying independent and dependent variables from equations or real-world situations
 alge991 Solving a linear equation by graphing
 mstat030 Sketching the line of best fit
 mstat023 Scatter plots and correlation
 mstat068 Predictions from the line of best fit
 mstat067 Approximating the equation of a line of best fit and making predictions
 mstat069 Computing residuals
 mstat070 Interpreting residual plots
 mstat071 Linear relationship and the correlation coefficient
 mstat074 Identifying correlation and causation
 alge898 Translating the graph of an absolute value function: One step
 alge899 Translating the graph of an absolute value function: Two steps
 alge913 Graphing an absolute value equation of the form $y = A|x - h| + k$
 alge900 Graphing an absolute value equation in the plane: Basic
 alge168 Graphing an absolute value equation in the plane: Advanced
 alge901 How the leading coefficient affects the graph of an absolute value function
 fun032 Identifying functions from relations
 fun010 Vertical line test
 fun016 Domain and range from ordered pairs
 fun001 Table for a linear function
 pcalc760 Evaluating functions: Linear and quadratic or cubic
 fun033 Variable expressions as inputs of functions: Problem type 1
 alge294 Finding outputs of a one-step function that models a real-world situation: Function notation
 alge295 Finding outputs of a two-step function with decimals that models a real-world situation: Function notation
 alge296 Finding inputs and outputs of a two-step function that models a real-world situation: Function notation
 alge990 Domain and range of a linear function that models a real-world situation
 fun026 Finding an output of a function from its graph
 pcalc761 Finding inputs and outputs of a function from its graph
 fun007 Domain and range from the graph of a discrete relation
 fun024 Domain and range from the graph of a continuous function
 alge896 Graphing an integer function and finding its range for a given domain
 alge570 Graphing a function of the form $f(x) = ax + b$: Integer slope
 alge571 Graphing a function of the form $f(x) = ax + b$: Fractional slope
 alge954 Graphing a parabola of the form $y = ax^2$
 alge955 Graphing a parabola of the form $y = ax^2 + c$
 alge572 Graphing a function of the form $f(x) = ax^2$
 alge573 Graphing a function of the form $f(x) = ax^2 + c$
 pcalc750 Finding intercepts of a nonlinear function given its graph
 pcalc751 Finding where a function is increasing, decreasing, or constant given the graph: Interval notation
 pcalc752 Finding local maxima and minima of a function given the graph
 mstat018 Choosing a graph to fit a narrative: Basic
 mstat051 Choosing a graph to fit a narrative: Advanced

Systems

alge914 Identifying solutions to a system of linear equations
 alge075 Classifying systems of linear equations from graphs
 alge725 Graphically solving a system of linear equations
 alge751 Solving a system of linear equations using substitution
 alge915 Solving a system of linear equations using elimination with addition
 alge076 Solving a system of linear equations using elimination with multiplication and addition
 alge916 Solving a system of linear equations with fractional coefficients
 alge917 Solving a system of linear equations with decimal coefficients
 alge752 Solving a 2x2 system of linear equations that is inconsistent or consistent dependent

alge988 Identifying the operations used to create equivalent systems of equations
 alge753 Solving a 3x3 system of linear equations: Problem type 1
 alge263 Interpreting the graphs of two functions
 alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations
 alge919 Solving a word problem using a system of linear equations of the form $Ax + By = C$
 alge918 Solving a word problem using a system of linear equations of the form $y = mx + b$
 alge184 Solving a value mixture problem using a system of linear equations
 alge192 Solving a percent mixture problem using a system of linear equations
 alge224 Solving a distance, rate, time problem using a system of linear equations
 alge172 Solving a tax rate or interest rate problem using a system of linear equations
 alge793 Solving a word problem using a 3x3 system of linear equations: Problem type 1
 alge912 Identifying solutions to a linear inequality in two variables
 alge225 Graphing a linear inequality in the plane: Vertical or horizontal line
 alge720 Graphing a linear inequality in the plane: Slope-intercept form
 alge018 Graphing a linear inequality in the plane: Standard form
 alge079 Graphing a system of two linear inequalities: Basic
 alge921 Graphing a system of two linear inequalities: Advanced
 alge922 Graphing a system of three linear inequalities
 alge729 Writing a multi-step inequality for a real-world situation
 pcalc093 Solving a word problem using a system of linear inequalities: Problem type 1

Exponents and Polynomials

alge821 Understanding the product rule of exponents
 alge024 Introduction to the product rule of exponents
 alge311 Product rule with positive exponents: Univariate
 alge030 Product rule with positive exponents: Multivariate
 arith029 Ordering numbers with positive exponents
 alge826 Understanding the power rules of exponents
 alge306 Introduction to the power of a power rule of exponents
 alge305 Introduction to the power of a product rule of exponents
 alge307 Power rules with positive exponents: Multivariate products
 alge308 Power rules with positive exponents: Multivariate quotients
 alge756 Power and product rules with positive exponents
 alge451 Simplifying a ratio of multivariate monomials: Basic
 alge827 Introduction to the quotient rule of exponents
 alge452 Simplifying a ratio of univariate monomials
 alge026 Quotient of expressions involving exponents
 alge453 Simplifying a ratio of multivariate monomials: Advanced
 alge927 Power and quotient rules with positive exponents
 alge790 Evaluating expressions with exponents of zero
 arith684 Power of 10: Negative exponent
 arith729 Evaluating an expression with a negative exponent: Whole number base
 arith042 Evaluating an expression with a negative exponent: Positive fraction base
 arith043 Evaluating an expression with a negative exponent: Negative integer base
 arith024 Ordering numbers with negative exponents
 alge791 Rewriting an algebraic expression without a negative exponent
 alge961 Introduction to the product rule with negative exponents
 alge028 Product rule with negative exponents
 alge755 Quotient rule with negative exponents: Problem type 1
 alge926 Quotient rule with negative exponents: Problem type 2
 alge025 Power of a power rule with negative exponents
 alge799 Power rules with negative exponents
 alge928 Power and quotient rules with negative exponents: Problem type 1
 alge929 Power and quotient rules with negative exponents: Problem type 2
 alge757 Power, product, and quotient rules with negative exponents
 arith036 Scientific notation with positive exponent
 arith037 Scientific notation with negative exponent
 scinot012 Converting between scientific notation and standard form in a real-world situation
 scinot008 Multiplying numbers written in scientific notation: Basic

scinot009 Multiplying numbers written in scientific notation: Advanced
 scinot010 Dividing numbers written in scientific notation: Basic
 scinot011 Dividing numbers written in scientific notation: Advanced
 alge971 Table for an exponential function
 alge830 Evaluating an exponential function that models a real-world situation
 arith853 Introduction to compound interest
 alge177 Finding a final amount in a word problem on exponential growth or decay
 alge741 Finding the final amount in a word problem on compound interest
 alge966 Finding the initial amount and rate of change given an exponential function
 alge968 Writing an equation that models exponential growth or decay
 alge301 Solving an exponential equation by finding common bases: Linear exponents
 alge969 Graphing an exponential function: $f(x) = ax$
 alge970 Graphing an exponential function: $f(x) = a(b)^x$
 alge967 Writing an exponential function rule given a table of ordered pairs
 alge993 Comparing linear, polynomial, and exponential functions
 alge758 Degree and leading coefficient of a univariate polynomial
 alge031 Degree of a multivariate polynomial
 alge798 Simplifying a sum or difference of two univariate polynomials
 alge029 Simplifying a sum or difference of three univariate polynomials
 alge932 Simplifying a sum or difference of multivariate polynomials
 alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
 alge972 Multiplying a univariate polynomial by a monomial with a negative coefficient
 alge835 Multiplying a multivariate polynomial by a monomial
 alge033 Multiplying binomials with leading coefficients of 1
 alge983 Multiplying binomials with leading coefficients greater than 1
 alge765 Multiplying binomials in two variables
 alge764 Multiplying conjugate binomials: Univariate
 alge081 Multiplying conjugate binomials: Multivariate
 alge032 Squaring a binomial: Univariate
 alge068 Squaring a binomial: Multivariate
 alge973 Multiplying binomials with negative coefficients
 alge935 Multiplication involving binomials and trinomials in one variable
 alge180 Multiplication involving binomials and trinomials in two variables
 alge759 Dividing a polynomial by a monomial: Univariate
 alge760 Dividing a polynomial by a monomial: Multivariate
 alge761 Polynomial long division: Problem type 1
 alge762 Polynomial long division: Problem type 2
 alge763 Polynomial long division: Problem type 3
 alge985 Closure properties of integers and polynomials
 alge605 Factoring a linear binomial
 alge736 Introduction to the GCF of two monomials
 alge930 Greatest common factor of three univariate monomials
 alge037 Greatest common factor of two multivariate monomials
 alge738 Factoring out a monomial from a polynomial: Univariate
 alge739 Factoring out a monomial from a polynomial: Multivariate
 alge949 Factoring out a binomial from a polynomial: GCF factoring, basic
 alge923 Factoring a univariate polynomial by grouping: Problem type 1
 alge950 Factoring a univariate polynomial by grouping: Problem type 2
 alge951 Factoring a multivariate polynomial by grouping: Problem type 1
 alge952 Factoring a multivariate polynomial by grouping: Problem type 2
 alge039 Factoring a quadratic with leading coefficient 1
 alge942 Factoring a quadratic in two variables with leading coefficient 1
 alge936 Factoring out a constant before factoring a quadratic
 alge939 Factoring a quadratic with leading coefficient greater than 1: Problem type 1
 alge940 Factoring a quadratic with leading coefficient greater than 1: Problem type 2
 alge941 Factoring a quadratic with leading coefficient greater than 1: Problem type 3
 alge978 Factoring a quadratic by the ac-method
 alge265 Factoring a quadratic in two variables with leading coefficient greater than 1
 alge937 Factoring a quadratic with a negative leading coefficient
 alge944 Factoring a perfect square trinomial with leading coefficient 1
 alge945 Factoring a perfect square trinomial with leading coefficient greater than 1
 alge946 Factoring a perfect square trinomial in two variables

alge290 Factoring a difference of squares in one variable: Basic
 alge947 Factoring a difference of squares in one variable: Advanced
 alge839 Factoring a difference of squares in two variables
 alge948 Factoring a polynomial involving a GCF and a difference of squares: Univariate
 alge833 Factoring a polynomial involving a GCF and a difference of squares: Multivariate
 alge041 Factoring a product of a quadratic trinomial and a monomial
 alge042 Factoring with repeated use of the difference of squares formula
 alge044 Factoring a sum or difference of two cubes
 alge681 Solving an equation written in factored form
 alge956 Finding the roots of a quadratic equation of the form $ax^2 + bx = 0$
 alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
 alge211 Solving a quadratic equation needing simplification
 alge703 Solving a word problem using a quadratic equation with rational roots
 alge713 Using the Pythagorean Theorem and a quadratic equation to find side lengths of a right triangle

Rational Expressions

alge049 Restriction on a variable in a denominator: Linear
 alge467 Restriction on a variable in a denominator: Quadratic
 alge468 Evaluating a rational function: Problem type 1
 alge469 Evaluating a rational function: Problem type 2
 alge715 Domain of a rational function: Excluded values
 alge454 Simplifying a ratio of factored polynomials: Linear factors
 alge455 Simplifying a ratio of factored polynomials: Factors with exponents
 alge456 Simplifying a ratio of polynomials using GCF factoring
 alge457 Simplifying a ratio of linear polynomials: 1, -1, and no simplification
 alge458 Simplifying a ratio of polynomials by factoring a quadratic with leading coefficient 1
 alge710 Simplifying a ratio of polynomials: Problem type 1
 alge682 Simplifying a ratio of polynomials: Problem type 2
 alge459 Simplifying a ratio of polynomials: Problem type 3
 alge034 Simplifying a ratio of multivariate polynomials
 alge053 Multiplying rational expressions involving multivariate monomials
 alge460 Multiplying rational expressions made up of linear expressions
 alge620 Multiplying rational expressions involving quadratics with leading coefficients of 1
 alge461 Multiplying rational expressions involving quadratics with leading coefficients greater than 1
 alge462 Multiplying rational expressions involving multivariate quadratics
 alge054 Dividing rational expressions involving multivariate monomials
 alge463 Dividing rational expressions involving linear expressions
 alge766 Dividing rational expressions involving quadratics with leading coefficients of 1
 alge464 Dividing rational expressions involving quadratics with leading coefficients greater than 1
 alge465 Dividing rational expressions involving multivariate quadratics
 alge466 Multiplication and division of 3 rational expressions
 alge737 Introduction to the LCM of two monomials
 alge055 Least common multiple of two monomials
 alge427 Finding the LCD of rational expressions with linear denominators: Relatively prime
 alge428 Finding the LCD of rational expressions with linear denominators: Common factors
 alge429 Finding the LCD of rational expressions with quadratic denominators
 alge430 Writing equivalent rational expressions with monomial denominators
 alge431 Writing equivalent rational expressions with polynomial denominators
 alge304 Writing equivalent rational expressions involving opposite factors
 alge433 Adding rational expressions with common denominators and monomial numerators
 alge056 Adding rational expressions with common denominators and binomial numerators
 alge434 Adding rational expressions with common denominators and GCF factoring
 alge435 Adding rational expressions with common denominators and quadratic factoring
 alge437 Adding rational expressions with denominators ax and bx : Basic
 alge438 Adding rational expressions with denominators ax and bx : Advanced
 alge439 Adding rational expressions with denominators axn and bxm
 alge440 Adding rational expressions with multivariate monomial denominators: Basic
 alge226 Adding rational expressions with multivariate monomial denominators: Advanced

alge441 Adding rational expressions with linear denominators without common factors: Basic
 alge442 Adding rational expressions with linear denominators without common factors: Advanced
 alge443 Adding rational expressions with linear denominators with common factors: Basic
 alge444 Adding rational expressions with linear denominators with common factors: Advanced
 alge445 Adding rational expressions with denominators $ax-b$ and $b-ax$
 alge661 Adding rational expressions involving different quadratic denominators
 alge446 Adding 3 rational expressions with different quadratic denominators
 alge470 Complex fraction involving univariate monomials
 alge058 Complex fraction involving multivariate monomials
 alge471 Complex fraction: GCF factoring
 alge472 Complex fraction: Quadratic factoring
 alge473 Complex fraction made of sums involving rational expressions: Problem type 1
 alge474 Complex fraction made of sums involving rational expressions: Problem type 2
 alge475 Complex fraction made of sums involving rational expressions: Problem type 3
 alge476 Complex fraction made of sums involving rational expressions: Problem type 4
 alge477 Complex fraction made of sums involving rational expressions: Problem type 5
 alge478 Complex fraction made of sums involving rational expressions: Problem type 6
 alge479 Complex fraction made of sums involving rational expressions: Multivariate
 alge480 Complex fraction with negative exponents: Problem type 1
 alge481 Complex fraction with negative exponents: Problem type 2
 alge162 Complex fraction that contains a complex fraction
 alge060 Solving a rational equation that simplifies to linear: Denominator x
 alge205 Solving a rational equation that simplifies to linear: Denominator $x+a$
 alge769 Solving a rational equation that simplifies to linear: Denominators a , x , or ax
 alge421 Solving a rational equation that simplifies to linear: Denominators ax and bx
 alge422 Solving a rational equation that simplifies to linear: Like binomial denominators
 alge206 Solving a rational equation that simplifies to linear: Unlike binomial denominators
 alge423 Solving a rational equation that simplifies to linear: Factorable quadratic denominator
 alge424 Solving a rational equation that simplifies to quadratic: Proportional form, basic
 alge425 Solving a rational equation that simplifies to quadratic: Denominator x
 alge212 Solving a rational equation that simplifies to quadratic: Binomial denominators, constant numerators
 alge062 Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators
 alge426 Solving a rational equation that simplifies to quadratic: Factorable quadratic denominator
 alge047 Solving a rational equation that simplifies to quadratic: Proportional form, advanced
 alge508 Solving for a variable in terms of other variables in a rational equation: Problem type 1
 alge509 Solving for a variable in terms of other variables in a rational equation: Problem type 2
 alge510 Solving for a variable in terms of other variables in a rational equation: Problem type 3
 arith612 Word problem involving multiple rates
 alge770 Solving a work problem using a rational equation
 alge450 Solving a distance, rate, time problem using a rational equation
 alge059 Ordering fractions with variables
 alge982 Identifying direct variation equations
 alge938 Identifying direct variation from ordered pairs and writing equations
 alge904 Writing a direct variation equation
 alge175 Word problem on direct variation
 alge828 Interpreting direct variation from a graph
 alge905 Writing an inverse variation equation
 alge903 Identifying direct and inverse variation equations
 alge902 Identifying direct and inverse variation from ordered pairs and writing equations
 alge176 Word problem on inverse variation
 alge220 Word problem on inverse proportions
 pcalc681 Writing an equation that models variation
 alge772 Word problem on combined variation

Radicals and Quadratic Equations

alge413 Finding all square roots of a number
 arith760 Square roots of perfect squares with signs
 alge415 Introduction to simplifying a radical expression with an even exponent
 alge264 Square root of a perfect square monomial

arith094 Cube root of an integer
alge549 Finding nth roots of perfect nth powers with signs
arith768 Finding the nth root of a perfect nth power fraction
alge550 Finding the nth root of a perfect nth power monomial
arith093 Simplifying the square root of a whole number less than 100
arith762 Simplifying the square root of a whole number greater than 100
alge080 Simplifying a radical expression with an even exponent
alge520 Introduction to simplifying a radical expression with an odd exponent
alge521 Simplifying a radical expression with an odd exponent
alge275 Simplifying a radical expression with two variables
alge273 Simplifying a higher root of a whole number
alge551 Introduction to simplifying a higher radical expression
alge552 Simplifying a higher radical expression: Univariate
alge811 Simplifying a higher radical expression: Multivariate
arith767 Introduction to square root addition or subtraction
arith032 Square root addition or subtraction
alge533 Square root addition or subtraction with three terms
alge531 Introduction to simplifying a sum or difference of radical expressions: Univariate
alge532 Simplifying a sum or difference of radical expressions: Univariate
alge084 Simplifying a sum or difference of radical expressions: Multivariate
alge554 Simplifying a sum or difference of higher roots
alge555 Simplifying a sum or difference of higher radical expressions
arith764 Introduction to square root multiplication
arith765 Square root multiplication: Basic
arith039 Square root multiplication: Advanced
alge522 Introduction to simplifying a product of radical expressions: Univariate
alge523 Simplifying a product of radical expressions: Univariate
alge640 Simplifying a product of radical expressions: Multivariate
alge556 Introduction to simplifying a product of higher roots
alge557 Simplifying a product of higher radical expressions
alge525 Introduction to simplifying a product involving square roots using the distributive property
alge526 Simplifying a product involving square roots using the distributive property: Basic
alge276 Simplifying a product involving square roots using the distributive property: Advanced
alge774 Special products of radical expressions: Conjugates and squaring
alge984 Classifying sums and products as rational or irrational
arith766 Simplifying a quotient of square roots
alge530 Simplifying a quotient involving a sum or difference with a square root
alge527 Rationalizing a denominator: Quotient involving square roots
alge528 Rationalizing a denominator: Square root of a fraction
alge529 Rationalizing a denominator: Quotient involving a monomial
alge534 Rationalizing a denominator using conjugates: Integer numerator
alge535 Rationalizing a denominator using conjugates: Square root in numerator
alge536 Rationalizing a denominator using conjugates: Variable in denominator
alge564 Rationalizing a denominator: Quotient involving a higher radical
alge400 Introduction to solving a radical equation
alge089 Solving a radical equation that simplifies to a linear equation: One radical, basic
alge402 Solving a radical equation that simplifies to a linear equation: One radical, advanced
alge090 Solving a radical equation that simplifies to a linear equation: Two radicals
alge405 Solving a radical equation with two radicals that simplifies to $\sqrt{x} = a$
alge403 Solving a radical equation that simplifies to a quadratic equation: One radical, basic
alge404 Solving a radical equation that simplifies to a quadratic equation: One radical, advanced
alge411 Solving a radical equation with a quadratic expression under the radical
alge182 Solving a radical equation that simplifies to a quadratic equation: Two radicals
alge410 Solving an equation with a root index greater than 2: Problem type 1
alge417 Solving an equation with a root index greater than 2: Problem type 2
alge412 Algebraic symbol manipulation with radicals
alge542 Word problem involving radical equations: Basic
alge409 Word problem involving radical equations: Advanced
alge132 Distance between two points in the plane: Exact answers
alge539 Table for a square root function
alge540 Domain of a square root function: Basic
pcalc763 Domain of a square root function: Advanced

alge543 Graphing a square root function: Problem type 1
 alge544 Graphing a square root function: Problem type 2
 alge812 Converting between radical form and exponent form
 alge560 Rational exponents: Unit fraction exponents and whole number bases
 alge561 Rational exponents: Unit fraction exponents and bases involving signs
 alge250 Rational exponents: Non-unit fraction exponent with a whole number base
 alge251 Rational exponents: Negative exponents and fractional bases
 alge558 Rational exponents: Product rule
 alge559 Rational exponents: Quotient rule
 alge773 Rational exponents: Products and quotients with negative exponents
 alge562 Rational exponents: Power of a power rule
 alge249 Rational exponents: Powers of powers with negative exponents
 alge563 Simplifying products or quotients of higher radicals with different indices: Univariate
 alge778 Using i to rewrite square roots of negative numbers
 alge779 Simplifying a product and quotient involving square roots of negative numbers
 pcalc048 Adding or subtracting complex numbers
 pcalc049 Multiplying complex numbers
 pcalc050 Dividing complex numbers
 pcalc053 Simplifying a power of i
 alge962 Solving an equation of the form $x^2 = a$ using the square root property
 alge092 Solving a quadratic equation using the square root property: Exact answers, basic
 alge227 Solving a quadratic equation using the square root property: Exact answers, advanced
 alge094 Completing the square
 alge780 Solving a quadratic equation by completing the square: Exact answers
 alge095 Applying the quadratic formula: Exact answers
 alge963 Applying the quadratic formula: Decimal answers
 pcalc051 Solving a quadratic equation with complex roots
 alge214 Discriminant of a quadratic equation
 alge524 Solving a word problem using a quadratic equation with irrational roots
 alge974 Finding the vertex, x -intercepts, and axis of symmetry from the graph of a parabola
 alge953 Translating the graph of a parabola: One step
 alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
 alge569 Graphing a parabola of the form $y = x^2 + bx + c$
 pcalc746 Graphing a parabola of the form $y = ax^2 + bx + c$: Integer coefficients
 pcalc747 Graphing a parabola of the form $y = ax^2 + bx + c$: Rational coefficients
 alge277 Finding the x -intercept(s) and the vertex of a parabola
 pcalc774 Rewriting a quadratic function to find the vertex of its graph
 pcalc775 Finding the maximum or minimum of a quadratic function
 alge785 Word problem involving the maximum or minimum of a quadratic function
 alge975 Domain and range from the graph of a parabola
 pcalc762 Range of a quadratic function
 alge957 Solving a quadratic equation by graphing
 alge996 Comparing properties of quadratic functions given in different forms
 alge702 Classifying the graph of a function
 alge723 How the leading coefficient affects the shape of a parabola
 alge965 Identifying linear, quadratic, and exponential functions given ordered pairs
 alge262 Graphing a cubic function of the form $y = ax^3$
 fun019 Sum, difference, and product of two functions
 fun022 Composition of two functions: Basic
 pcalc776 Expressing a function as a composition of two functions
 pcalc924 Determining whether an equation defines a function: Basic
 pcalc757 Determining whether an equation defines a function: Advanced

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Whole Numbers

arith124 Whole number place value: Problem type 1

arith125 Whole number place value: Problem type 2
arith066 Expanded form
arith643 Expanded form with zeros
arith028 Numeral translation: Problem type 1
arith060 Numeral translation: Problem type 2
arith633 One-digit addition with carry
arith634 Addition of 3 or 4 one-digit numbers
arith001 Addition without carry
arith635 Adding a 2-digit number and a 1-digit number with carry
arith050 Addition with carry
arith630 Addition with carry to the hundreds place
arith012 Addition of large numbers
arith636 Subtracting a 1-digit number from a 2-digit number
arith007 Subtraction without borrowing
arith128 Adding or subtracting 10, 100, or 1000
arith006 Subtraction with borrowing
arith682 Subtraction with multiple regrouping steps
arith637 Subtraction and regrouping with zeros
arith613 Word problem with addition or subtraction of whole numbers
arith655 Introduction to properties of addition
arith126 Multiplication as repeated addition
arith008 One-digit multiplication
arith679 Multiplication by 10, 100, and 1000
arith003 Multiplication without carry
arith004 Multiplication with carry
arith632 Multiplication with trailing zeros: Problem type 1
arith615 Introduction to multiplication of large numbers
arith638 Multiplication with trailing zeros: Problem type 2
arith014 Multiplication of large numbers
arith641 Multiples: Problem type 1
arith642 Multiples: Problem type 2
arith656 Introduction to properties of multiplication
arith075 Division facts
arith614 Word problem with multiplication or division of whole numbers
arith130 Word problem with multiplication and addition or subtraction of whole numbers
arith243 Division of whole numbers given in fractional form
arith711 Division involving zero
arith052 Division without carry
arith005 Division with carry
arith680 Division with trailing zeros: Problem type 1
arith649 Division with trailing zeros: Problem type 2
arith616 Quotient and remainder: Problem type 1
arith644 Word problem on quotient and remainder
arith617 Quotient and remainder: Problem type 2
arith631 Quotient and remainder: Problem type 3
arith650 Division involving quotients with intermediate zeros
arith023 Word problem with division of whole numbers and rounding
arith651 Introduction to inequalities
arith077 Ordering large numbers
arith078 Rounding to tens or hundreds
arith123 Rounding to hundreds or thousands
arith061 Rounding to thousands, ten thousands, or hundred thousands
arith101 Estimating a sum of whole numbers
arith102 Estimating a difference of whole numbers
arith604 Estimating a product or quotient of whole numbers
arith692 Writing expressions using exponents
arith233 Introduction to exponents
arith683 Power of 10: Positive exponent
arith645 Introduction to parentheses
arith681 Introduction to order of operations
arith048 Order of operations with whole numbers
arith051 Order of operations with whole numbers and grouping symbols

arith693 Order of operations with whole numbers and exponents: Basic
 arith713 Order of operations with whole numbers and exponents: Advanced
 arith657 Understanding the distributive property
 alge284 Evaluating an algebraic expression: Whole number addition or subtraction
 alge683 Evaluating an algebraic expression: Whole number multiplication or division
 alge285 Evaluating an algebraic expression: Whole numbers with two operations
 alge832 Evaluating an algebraic expression: Whole number operations and exponents
 alge009 Additive property of equality with whole numbers
 alge008 Multiplicative property of equality with whole numbers
 alge803 Using two steps to solve an equation with whole numbers
 arith646 Even and odd numbers
 arith647 Divisibility rules for 2, 5, and 10
 arith648 Divisibility rules for 3 and 9
 arith056 Factors
 arith034 Prime numbers
 arith035 Prime factorization
 arith033 Greatest common factor of 2 numbers
 arith070 Least common multiple of 2 numbers
 arith804 Least common multiple of 3 numbers
 arith240 Word problem with common multiples
 alge925 Finding the next terms of an arithmetic sequence with whole numbers
 alge933 Finding the next terms of a geometric sequence with whole numbers
 alge732 Finding patterns in shapes

Real Numbers

arith623 Introduction to fractions
 arith665 Understanding equivalent fractions
 arith212 Equivalent fractions
 arith666 Introduction to simplifying a fraction
 arith067 Simplifying a fraction
 arith687 Fractional position on a number line
 arith667 Plotting fractions on a number line
 arith044 Ordering fractions with the same denominator
 arith091 Ordering fractions with the same numerator
 arith092 Using a common denominator to order fractions
 arith079 Product of a unit fraction and a whole number
 arith086 Product of a fraction and a whole number: Problem type 1
 arith119 Introduction to fraction multiplication
 arith053 Fraction multiplication
 arith812 Product of a fraction and a whole number: Problem type 2
 arith813 Multiplication of 3 fractions
 arith818 Word problem involving fractions and multiplication
 arith095 Multi-step word problem involving fractions and multiplication
 arith088 The reciprocal of a number
 arith694 Division involving a whole number and a fraction
 arith022 Fraction division
 arith819 Word problem involving fractions and division
 arith618 Addition or subtraction of fractions with the same denominator
 arith802 Addition or subtraction of fractions with the same denominator and simplification
 arith801 Finding the LCD of two fractions
 arith109 Addition or subtraction of unit fractions
 arith664 Introduction to addition or subtraction of fractions with different denominators
 arith230 Addition or subtraction of fractions with different denominators
 arith803 Addition and subtraction of 3 fractions with different denominators
 arith805 Word problem involving addition or subtraction of fractions with different denominators
 arith100 Fractional part of a circle
 arith662 Writing a mixed number and an improper fraction for a shaded region
 arith015 Writing an improper fraction as a mixed number
 arith619 Writing a mixed number as an improper fraction

arith215 Addition or subtraction of mixed numbers with the same denominator
arith084 Addition of mixed numbers with the same denominator and carry
arith216 Subtraction of mixed numbers with the same denominator and borrowing
arith806 Addition or subtraction of mixed numbers with different denominators and no carry or borrow
arith808 Addition of mixed numbers with different denominators and carry
arith809 Subtraction of mixed numbers with different denominators and borrowing
arith807 Addition and subtraction of 3 mixed numbers with different denominators
arith810 Word problem involving addition or subtraction of mixed numbers with different denominators
arith815 Mixed number multiplication
arith816 Multiplication of a mixed number and a whole number
arith817 Division with a mixed number and a whole number
arith068 Mixed number division
arith820 Word problem involving multiplication or division with mixed numbers
arith821 Exponents and fractions
arith859 Order of operations with fractions: Problem type 1
arith860 Order of operations with fractions: Problem type 2
arith861 Order of operations with fractions: Problem type 3
arith695 Complex fraction without variables: Problem type 1
arith717 Converting a decimal to a proper fraction without simplifying: Basic
arith719 Converting a decimal to a proper fraction without simplifying: Advanced
arith718 Converting a decimal to a proper fraction in simplest form: Basic
arith087 Converting a decimal to a proper fraction in simplest form: Advanced
arith721 Converting a decimal to a mixed number and an improper fraction without simplifying
arith722 Converting a decimal to a mixed number and an improper fraction in simplest form: Basic
arith724 Converting a decimal to a mixed number and an improper fraction in simplest form: Advanced
arith624 Addition of aligned decimals
arith013 Decimal addition with 3 numbers
arith734 Subtraction of aligned decimals
arith735 Decimal subtraction: Basic
arith736 Decimal subtraction: Advanced
arith737 Decimal addition and subtraction with 3 or more numbers
arith131 Estimating a decimal sum or difference
arith132 Word problem with addition or subtraction of 2 decimals
arith133 Word problem with addition of 3 or 4 decimals and whole numbers
arith134 Word problem with subtraction of a whole number and a decimal: Regrouping with zeros
arith739 Introduction to decimal multiplication
arith017 Multiplication of a decimal by a whole number
arith055 Decimal multiplication: Problem type 1
arith046 Decimal multiplication: Problem type 2
arith082 Multiplication of a decimal by a power of ten
arith738 Multiplication of a decimal by a power of 0.1
arith740 Multiplication of decimals that have a product less than 0.1
arith752 Estimating a product of decimals
arith135 Word problem with multiplication of a decimal and a whole number
arith137 Word problem with multiplication of two decimals
arith224 Word problem with decimal addition and multiplication
arith744 Whole number division with decimal answers
arith081 Division of a decimal by a whole number
arith743 Division of a decimal by a 1-digit decimal
arith019 Division of a decimal by a 2-digit decimal
arith083 Division of a decimal by a power of ten
arith742 Division of a decimal by a power of 0.1
arith745 Decimal division with rounding
arith136 Word problem with division of a decimal and a whole number
arith138 Word problem with division of two decimals
arith227 Word problem with decimal subtraction and division
alge823 Solving a one-step word problem using the formula $d = rt$
arith725 Converting a fraction with a denominator of 10 or 100 to a decimal
arith726 Converting a fraction with a denominator of 100 or 1000 to a decimal
arith609 Ordering fractions and decimals
arith727 Converting a fraction to a terminating decimal: Basic
arith728 Converting a fraction to a terminating decimal: Advanced

arith730 Converting a fraction to a repeating decimal: Basic
arith731 Converting a fraction to a repeating decimal: Advanced
arith733 Using a calculator to convert a fraction to a rounded decimal
arith111 Converting a mixed number to a terminating decimal: Basic
arith112 Converting a mixed number to a terminating decimal: Advanced
arith732 Converting a fraction or mixed number to a rounded decimal
arith753 Squaring decimal bases: Products greater than 0.1
arith741 Exponents and decimals: Products less than 0.1
arith720 Order of operations with decimals: Problem type 1
arith746 Order of operations with decimals: Problem type 2
arith747 Order of operations with decimals: Problem type 3
arith748 Addition or subtraction with a decimal and a mixed number
arith749 Multiplication with a decimal and a fraction
arith823 Writing ratios using different notations
arith663 Writing ratios for real-world situations
arith824 Simplifying a ratio of whole numbers: Problem type 1
arith825 Simplifying a ratio of decimals
arith827 Finding a unit price
arith828 Computing unit prices to find the better buy
arith064 Solving a word problem on proportions using a unit rate
arith228 Word problem on unit rates associated with ratios of whole numbers: Decimal answers
alge272 Solving a proportion of the form $x/a = b/c$
arith610 Word problem on proportions: Problem type 1
arith611 Word problem on proportions: Problem type 2
alge063 Word problem on mixed number proportions
arith045 Word problem with powers of ten
arith836 Converting a fraction with a denominator of 100 to a percentage
arith837 Converting a percentage to a fraction with a denominator of 100
arith674 Finding the percentage of a grid that is shaded
arith723 Introduction to converting a percentage to a decimal
arith833 Introduction to converting a decimal to a percentage
arith834 Converting between percentages and decimals
arith841 Converting a mixed number percentage to a decimal
arith835 Converting between percentages and decimals in a real-world situation
arith090 Converting a percentage to a fraction in simplest form
arith839 Converting a decimal percentage to a fraction
arith838 Converting a fraction to a percentage: Denominator of 4, 5, or 10
arith002 Converting a fraction to a percentage: Denominator of 20, 25, or 50
arith843 Using a calculator to convert a fraction to a rounded percentage
arith842 Converting a fraction to a percentage in a real-world situation
arith840 Finding a percentage of a whole number
arith030 Finding a percentage of a whole number without a calculator: Basic
arith844 Finding a percentage of a whole number without a calculator: Advanced
arith862 Applying the percent equation: Problem type 1
arith863 Applying the percent equation: Problem type 2
arith845 Finding a percentage of a total amount: Real-world situations
arith846 Finding a percentage of a total amount without a calculator: Sales tax, commission, discount
arith857 Estimating a tip without a calculator
arith069 Writing a ratio as a percentage without a calculator
mstat049 Computing a percentage from a table of values
arith850 Finding the rate of a tax or commission
arith849 Finding the total amount given the percentage of a partial amount
arith852 Finding the multiplier to give a final amount after a percentage increase or decrease
arith851 Finding the final amount given the original amount and a percentage increase or decrease
arith847 Finding the sale price given the original price and percent discount
arith074 Finding the sale price without a calculator given the original price and percent discount
arith848 Finding the total cost including tax or markup
arith855 Finding the original amount given the result of a percentage increase or decrease
arith031 Finding the original price given the sale price and percent discount
arith858 Finding the percentage increase or decrease: Basic
arith225 Finding the percentage increase or decrease: Advanced
arith232 Finding simple interest without a calculator

arith856 Finding a percentage of a total amount in a circle graph
 alge286 Plotting integers on a number line
 arith605 Plotting rational numbers on a number line
 mstat038 Reading the temperature from a thermometer
 arith699 Writing a signed number for a real-world situation
 arith691 Ordering integers
 arith712 Ordering real numbers
 arith071 Absolute value of a number
 arith200 Integer addition: Problem type 1
 arith108 Integer addition: Problem type 2
 arith688 Integer subtraction: Problem type 1
 arith689 Integer subtraction: Problem type 2
 arith690 Integer subtraction: Problem type 3
 arith754 Addition and subtraction with 3 integers
 arith755 Addition and subtraction with 4 or 5 integers
 arith701 Word problem with addition or subtraction of integers
 arith231 Integer multiplication and division
 arith800 Multiplication of 3 or 4 integers
 alge001 Identifying numbers as integers or non-integers
 alge002 Identifying numbers as rational or irrational
 arith116 Signed fraction addition or subtraction: Basic
 arith864 Signed fraction subtraction involving double negation
 arith106 Signed fraction addition or subtraction: Advanced
 arith811 Addition and subtraction of 3 fractions involving signs
 arith822 Signed fraction multiplication: Basic
 arith105 Signed fraction multiplication: Advanced
 arith814 Signed fraction division
 arith117 Signed decimal addition and subtraction
 arith234 Signed decimal addition and subtraction with 3 numbers
 arith750 Signed decimal multiplication
 arith751 Signed decimal division
 arith104 Operations with absolute value: Problem type 2
 geom525 Computing distances between decimals on the number line
 unit052 Finding the absolute error and percent error of a measurement
 arith702 Exponents and integers: Problem type 1
 arith703 Exponents and integers: Problem type 2
 arith704 Exponents and signed fractions
 arith118 Order of operations with integers
 arith600 Order of operations with integers and exponents
 arith696 Complex fraction without variables: Problem type 2

Decimals, Proportions, and Percents

arith127 Writing a decimal and a fraction for a shaded region
 arith110 Decimal place value: Tenths and hundredths
 arith220 Decimal place value: Hundreds to ten thousandths
 arith714 Writing a decimal number less than 1 given its name
 arith715 Writing a decimal number greater than 1 given its name
 arith716 Writing a decimal number given its name: Advanced
 arith829 Reading decimal position on a number line: Tenths
 arith830 Reading decimal position on a number line: Hundredths
 arith831 Understanding decimal position on a number line using zoom: Hundredths
 arith832 Understanding decimal position on a number line using zoom: Thousandths
 arith129 Introduction to ordering decimals
 arith608 Ordering decimals
 arith221 Rounding decimals

Linear Equations

alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge808 Evaluating a linear expression: Signed fraction multiplication with addition or subtraction
 alge302 Evaluating a linear expression: Signed decimal addition and subtraction
 alge303 Evaluating a linear expression: Signed decimal multiplication with addition or subtraction
 alge004 Evaluating a quadratic expression: Integers
 alge700 Combining like terms: Whole number coefficients
 alge607 Combining like terms: Integer coefficients
 alge187 Properties of addition
 alge310 Multiplying a constant and a linear monomial
 alge606 Distributive property: Whole number coefficients
 alge604 Distributive property: Integer coefficients
 alge188 Properties of real numbers
 alge608 Using distribution and combining like terms to simplify: Univariate
 alge609 Using distribution with double negation and combining like terms to simplify: Multivariate
 alge293 Combining like terms in a quadratic expression
 alge432 Introduction to adding fractions with variables and common denominators
 alge436 Adding rational expressions with different denominators and a single occurrence of a variable
 alge801 Additive property of equality with fractions and mixed numbers
 alge800 Additive property of equality with decimals
 alge010 Additive property of equality with integers
 alge836 Additive property of equality with signed fractions
 alge820 Multiplicative property of equality with fractions
 alge825 Multiplicative property of equality with decimals
 alge797 Multiplicative property of equality with integers
 alge012 Multiplicative property of equality with signed fractions
 alge834 Identifying solutions to a linear equation in one variable: Two-step equations
 alge266 Additive property of equality with a negative coefficient
 alge006 Solving a two-step equation with integers
 alge200 Solving an equation to find the value of an expression
 alge920 Introduction to solving an equation with parentheses
 alge837 Solving a multi-step equation given in fractional form
 alge986 Identifying properties used to solve a linear equation
 alge824 Solving a two-step equation with signed decimals
 alge838 Introduction to solving an equation with variables on the same side
 alge862 Solving a linear equation with several occurrences of the variable: Variables on the same side
 alge863 Solving a linear equation with several occurrences of the variable: Variables on both sides
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
 alge420 Solving a linear equation with several occurrences of the variable: Fractional forms with monomial numerators
 alge208 Solving a two-step equation with signed fractions
 alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
 alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
 alge742 Solving equations with zero, one, or infinitely many solutions
 alge840 Solving a proportion of the form $(x+a)\div b = c\div d$
 alge271 Solving a proportion of the form $a/(x+b) = c/x$
 alge603 Introduction to solving an absolute value equation
 alge864 Solving an absolute value equation: Problem type 1
 alge511 Solving for a variable in terms of other variables using addition or subtraction: Basic
 alge512 Solving for a variable in terms of other variables using addition or subtraction: Advanced
 alge513 Solving for a variable in terms of other variables using multiplication or division: Basic
 alge514 Solving for a variable in terms of other variables using multiplication or division: Advanced
 alge517 Solving for a variable in terms of other variables using addition or subtraction with division
 alge518 Solving for a variable inside parentheses in terms of other variables
 alge507 Solving for a variable in terms of other variables in a linear equation with fractions
 alge733 Writing a one-step expression for a real-world situation

alge831 Translating a phrase into a one-step expression
 alge291 Translating a phrase into a two-step expression
 alge016 Translating a sentence into a one-step equation
 alge841 Translating a sentence into a multi-step equation
 alge802 Solving a fraction word problem using a linear equation of the form $Ax = B$
 alge014 Solving a word problem with two unknowns using a linear equation
 alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
 alge730 Writing a multi-step equation for a real-world situation
 alge219 Solving a decimal word problem using a linear equation with the variable on both sides
 alge704 Solving a fraction word problem using a linear equation with the variable on both sides
 alge792 Solving a word problem with three unknowns using a linear equation
 alge842 Solving a word problem involving consecutive integers
 alge794 Solving a value mixture problem using a linear equation
 alge218 Solving a word problem involving rates and time conversion
 alge796 Solving a distance, rate, time problem using a linear equation
 arith854 Computing a percent mixture
 alge795 Solving a percent mixture problem using a linear equation
 geom817 Finding a side length given the perimeter and side lengths with variables
 geom143 Finding the perimeter or area of a rectangle given one of these values
 geom218 Finding the radius or the diameter of a circle given its circumference
 geom838 Circumference ratios
 geom530 Solving equations involving vertical angles
 geom531 Solving equations involving angles and a pair of parallel lines
 geom623 Finding angle measures of a triangle given angles with variables
 geom502 Finding angle measures of a right or isosceles triangle given angles with variables
 stat803 Finding the value for a new score that will yield a given mean
 alge015 Translating a sentence by using an inequality symbol
 alge845 Translating a sentence into a one-step inequality
 alge846 Translating a sentence into a multi-step inequality
 alge748 Writing an inequality for a real-world situation
 alge017 Graphing a linear inequality on the number line
 alge822 Writing an inequality given a graph on the number line
 alge186 Translating a sentence into a compound inequality
 alge166 Graphing a compound inequality on the number line
 alge847 Writing a compound inequality given a graph on the number line
 set001 Set builder notation
 set004 Set builder and interval notation
 set002 Union and intersection of finite sets
 alge844 Identifying solutions to a two-step linear inequality in one variable
 alge848 Additive property of inequality with whole numbers
 alge849 Additive property of inequality with integers
 alge852 Additive property of inequality with signed fractions
 alge853 Additive property of inequality with signed decimals
 alge854 Multiplicative property of inequality with integers
 alge964 Multiplicative property of inequality with signed fractions
 alge855 Solving a two-step linear inequality: Problem type 1
 alge856 Solving a two-step linear inequality: Problem type 2
 alge857 Solving a two-step linear inequality with a fractional coefficient
 alge977 Solving a linear inequality with multiple occurrences of the variable: Problem type 1
 alge858 Solving a linear inequality with multiple occurrences of the variable: Problem type 2
 alge859 Solving a linear inequality with multiple occurrences of the variable: Problem type 3
 alge860 Solving inequalities with no solution or all real numbers as solutions
 alge746 Solving a compound linear inequality: Graph solution, basic
 alge747 Solving a compound linear inequality: Interval notation
 alge868 Solving an absolute value inequality: Problem type 1
 alge749 Solving a decimal word problem using a two-step linear inequality
 alge750 Solving a decimal word problem using a linear inequality with the variable on both sides

Functions and Lines

fun001 Table for a linear function

alge064 Reading a point in the coordinate plane
 alge067 Plotting a point in the coordinate plane
 alge850 Table for a linear equation
 alge873 Identifying solutions to a linear equation in two variables
 alge066 Finding a solution to a linear equation in two variables
 alge191 Midpoint of a line segment in the plane
 alge877 Graphing a linear equation of the form $y = mx$
 alge878 Graphing a line given its equation in slope-intercept form: Integer slope
 alge879 Graphing a line given its equation in slope-intercept form: Fractional slope
 alge880 Graphing a line given its equation in standard form
 alge198 Graphing a vertical or horizontal line
 alge197 Graphing a line given its x- and y-intercepts
 alge881 Graphing a line by first finding its x- and y-intercepts
 alge259 Graphing a line given its slope and y-intercept
 alge196 Graphing a line through a given point with a given slope
 alge888 Finding the coordinate that yields a given slope
 alge884 Finding x- and y-intercepts given the graph of a line on a grid
 alge924 Finding x- and y-intercepts of a line given the equation: Basic
 alge210 Finding x- and y-intercepts of a line given the equation: Advanced
 alge875 Classifying slopes given graphs of lines
 alge886 Finding slope given the graph of a line on a grid
 alge887 Finding slope given two points on the line
 alge885 Finding the slope of horizontal and vertical lines
 alge876 Identifying linear equations: Advanced
 alge874 Identifying linear functions given ordered pairs
 alge891 Rewriting a linear equation in the form $Ax + By = C$
 alge889 Finding the slope and y-intercept of a line given its equation in the form $y = mx + b$
 alge890 Finding the slope and y-intercept of a line given its equation in the form $Ax + By = C$
 alge882 Graphing a line by first finding its slope and y-intercept
 alge258 Writing an equation of a line given its slope and y-intercept
 alge892 Writing an equation and graphing a line given its slope and y-intercept
 alge893 Writing an equation in slope-intercept form given the slope and a point
 alge883 Graphing a line given its equation in point-slope form
 alge894 Writing an equation in point-slope form given the slope and a point
 alge070 Writing an equation of a line given the y-intercept and another point
 alge072 Writing the equation of the line through two given points
 alge073 Writing the equations of vertical and horizontal lines through a given point
 geom806 Finding slopes of lines parallel and perpendicular to a line given in slope-intercept form
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 alge895 Identifying parallel and perpendicular lines from equations
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 mstat044 Interpreting a double bar graph
 mstat007 Interpreting a line graph
 stat804 Interpreting a circle graph or pie chart
 stat801 Computations from a circle graph
 alge897 Writing and evaluating a function that models a real-world situation: Advanced
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 fun005 Writing a function rule given a table of ordered pairs: One-step rules
 fun006 Writing a function rule given a table of ordered pairs: Two-step rules
 alge992 Combining functions to write a new function that models a real-world situation
 alge987 Comparing properties of linear functions given in different forms
 alge989 Interpreting the parameters of a linear function that models a real-world situation
 alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
 alge806 Application problem with a linear function: Finding a coordinate given two points
 mstat052 Identifying independent and dependent variables from equations or real-world situations
 alge991 Solving a linear equation by graphing
 alge263 Interpreting the graphs of two functions
 mstat068 Predictions from the line of best fit
 mstat030 Sketching the line of best fit
 mstat023 Scatter plots and correlation
 mstat067 Approximating the equation of a line of best fit and making predictions
 mstat069 Computing residuals

mstat070 Interpreting residual plots
 mstat071 Linear relationship and the correlation coefficient
 mstat074 Identifying correlation and causation
 alge898 Translating the graph of an absolute value function: One step
 alge899 Translating the graph of an absolute value function: Two steps
 alge913 Graphing an absolute value equation of the form $y = A - |x - h| + k$
 alge900 Graphing an absolute value equation in the plane: Basic
 alge168 Graphing an absolute value equation in the plane: Advanced
 alge901 How the leading coefficient affects the graph of an absolute value function
 fun032 Identifying functions from relations
 fun010 Vertical line test
 fun016 Domain and range from ordered pairs
 pcalc760 Evaluating functions: Linear and quadratic or cubic
 fun033 Variable expressions as inputs of functions: Problem type 1
 alge294 Finding outputs of a one-step function that models a real-world situation: Function notation
 alge295 Finding outputs of a two-step function with decimals that models a real-world situation: Function notation
 alge296 Finding inputs and outputs of a two-step function that models a real-world situation: Function notation
 alge990 Domain and range of a linear function that models a real-world situation
 fun026 Finding an output of a function from its graph
 pcalc761 Finding inputs and outputs of a function from its graph
 fun007 Domain and range from the graph of a discrete relation
 fun024 Domain and range from the graph of a continuous function
 alge896 Graphing an integer function and finding its range for a given domain
 alge570 Graphing a function of the form $f(x) = ax + b$: Integer slope
 alge571 Graphing a function of the form $f(x) = ax + b$: Fractional slope
 alge954 Graphing a parabola of the form $y = ax^2 + c$
 alge955 Graphing a parabola of the form $y = ax^2 + c$
 alge572 Graphing a function of the form $f(x) = ax^2 + c$
 alge573 Graphing a function of the form $f(x) = ax^2 + c$
 pcalc750 Finding intercepts of a nonlinear function given its graph
 pcalc751 Finding where a function is increasing, decreasing, or constant given the graph: Interval notation
 pcalc752 Finding local maxima and minima of a function given the graph
 mstat018 Choosing a graph to fit a narrative: Basic
 mstat051 Choosing a graph to fit a narrative: Advanced

Geometry

geom339 Perimeter of a polygon
 geom300 Perimeter of a square or a rectangle
 geom618 Perimeter of a polygon involving mixed numbers and fractions
 geom078 Sides of polygons having the same perimeter
 geom221 Finding the missing length in a figure
 geom353 Perimeter of a piecewise rectangular figure
 geom358 Identifying parallel and perpendicular lines
 geom349 Naming segments, rays, and lines
 geom151 Measuring an angle with the protractor
 geom152 Drawing an angle with the protractor
 geom303 Acute, obtuse, and right angles
 geom039 Finding supplementary and complementary angles
 geom305 Identifying supplementary and vertical angles
 geom304 Identifying corresponding and alternate angles
 geom306 Acute, obtuse, and right triangles
 geom307 Classifying scalene, isosceles, and equilateral triangles by side lengths or angles
 geom001 Finding an angle measure of a triangle given two angles
 geom908 Finding an angle measure for a triangle with an extended side
 geom812 Finding an angle measure given extended triangles
 geom813 Finding an angle measure given a triangle and parallel lines
 geom361 Naming polygons
 mstat042 Interpreting a Venn diagram of 2 sets

geom867 Identifying parallelograms, rectangles, and squares
 geom310 Properties of quadrilaterals
 geom532 Classifying parallelograms
 geom019 Area of a square or a rectangle
 geom866 Perimeter and area on a grid
 geom620 Area of a rectangle involving fractions
 geom619 Area of a rectangle involving mixed numbers and fractions
 geom350 Distinguishing between the area and perimeter of a rectangle
 geom351 Areas of rectangles with the same perimeter
 geom217 Finding the side length of a rectangle given its perimeter or area
 geom340 Area of a piecewise rectangular figure
 geom142 Word problem involving the area between two rectangles
 geom801 Area of a triangle
 geom344 Area involving rectangles and triangles
 geom022 Area of a parallelogram
 geom023 Area of a trapezoid
 geom347 Introduction to a circle: Diameter, radius, and chord
 geom016 Circumference of a circle
 geom301 Perimeter involving rectangles and circles
 geom802 Circumference and area of a circle
 geom302 Area involving rectangles and circles
 geom036 Word problem involving the area between two concentric circles
 geom214 Area involving inscribed figures
 geom814 Angle measure in a circle graph
 geom868 Classifying solids
 geom348 Vertices, edges, and faces of a solid
 geom830 Counting the cubes in a solid made of cubes
 geom354 Volume of a rectangular prism made of unit cubes
 geom311 Volume of a rectangular prism
 geom505 Volume of a piecewise rectangular prism
 geom090 Volume of a triangular prism
 geom033 Volume of a pyramid
 geom035 Volume of a cylinder
 geom092 Word problem involving the rate of filling or emptying a cylinder
 geom622 Volume of a cone
 geom841 Volume of a sphere
 geom219 Nets of solids
 geom816 Side views of a solid made of cubes
 geom031 Surface area of a cube or a rectangular prism
 geom345 Surface area of a piecewise rectangular prism made of unit cubes
 geom091 Surface area of a triangular prism
 geom621 Surface area of a cylinder
 geom842 Surface area of a sphere
 arith016 Square root of a perfect square
 arith763 Using a calculator to approximate a square root
 arith602 Estimating a square root
 arith601 Square root of a rational perfect square
 alge407 Introduction to the Pythagorean Theorem
 geom044 Pythagorean Theorem
 alge408 Word problem involving the Pythagorean Theorem
 geom359 Identifying congruent shapes on a grid
 geom520 Identifying and naming congruent triangles
 geom360 Identifying similar or congruent shapes on a grid
 geom037 Similar polygons
 geom038 Similar right triangles
 geom337 Indirect measurement

Measurement and Data Analysis

mstat059 Choosing U.S. Customary measurement units
 unit005 U.S. Customary unit conversion with whole number values

mstat035 Conversions involving measurements in feet and inches
mstat036 Adding measurements in feet and inches
unit006 U.S. Customary unit conversion with whole number values: Two-step conversion
unit007 U.S. Customary unit conversion with mixed number values: One-step conversion
unit008 U.S. Customary unit conversion with mixed number values: Two-step conversion
unit009 U.S. Customary area unit conversion with whole number values
mstat060 Choosing metric measurement units
unit001 Metric distance conversion with whole number values
unit002 Metric mass or capacity conversion with whole number values
unit003 Metric distance conversion with decimal values
unit004 Metric conversion with decimal values: Two-step problem
unit010 Metric area unit conversion with decimal values
unit012 Time unit conversion with whole number values
time006 Adding time
time007 Elapsed time
arith063 Word problem with clocks
mstat065 Converting between temperatures in Fahrenheit and Celsius
arith826 Simplifying a ratio of whole numbers: Problem type 2
unit034 Converting between metric and U.S. Customary unit systems
unit035 Converting between compound units: Basic
unit036 Converting between compound units: Advanced
mstat056 Interpreting a tally table
mstat037 Constructing a line plot
mstat005 Constructing a bar graph for non-numerical data
mstat004 Constructing a histogram for numerical data
mstat024 Interpreting a bar graph
mstat057 Interpreting a pictograph table
mstat031 Interpreting a stem-and-leaf plot
stat020 Calculating relative frequencies in a contingency table
stat805 Making a reasonable inference based on proportion statistics
mstat025 Finding if a question can be answered by the data
mstat003 Mode of a data set
mstat055 Finding the mode and range of a data set
arith103 Average of two numbers
mstat001 Mean of a data set
mstat028 Mean and median of a data set
mstat029 How changing a value affects the mean and median
mstat053 Choosing the best measure to describe data
stat802 Rejecting unreasonable claims based on average statistics
mstat066 Weighted mean
mstat027 Using back-to-back stem-and-leaf plots to compare data sets
mstat072 Five-number summary and interquartile range
mstat006 Constructing a box-and-whisker plot
mstat073 Using box-and-whisker plots to compare data sets
mstat043 Interpreting a Venn diagram of 3 sets
mstat041 Interpreting a tree diagram
mstat040 Introduction to the counting principle
mstat015 Counting principle
pcalc082 Factorial expressions
mstat017 Computing permutations and combinations
mstat008 Word problem involving permutations
mstat009 Word problem involving combinations
mstat026 Introduction to the probability of an event
mstat010 Probability of an event
mstat039 Understanding likelihood
mstat048 Odds of an event
stat106 Outcomes and event probability
stat112 Probabilities involving two dice
mstat011 Area as probability
mstat046 Experimental and theoretical probability
mstat047 Introduction to expectation
mstat012 Probability of independent events

mstat013 Probability of dependent events
 mstat032 Probability of the union of two events

Systems

alge914 Identifying solutions to a system of linear equations
 alge075 Classifying systems of linear equations from graphs
 alge725 Graphically solving a system of linear equations
 alge751 Solving a system of linear equations using substitution
 alge915 Solving a system of linear equations using elimination with addition
 alge076 Solving a system of linear equations using elimination with multiplication and addition
 alge916 Solving a system of linear equations with fractional coefficients
 alge917 Solving a system of linear equations with decimal coefficients
 alge752 Solving a 2x2 system of linear equations that is inconsistent or consistent dependent
 alge988 Identifying the operations used to create equivalent systems of equations
 alge753 Solving a 3x3 system of linear equations: Problem type 1
 alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations
 alge919 Solving a word problem using a system of linear equations of the form $Ax + By = C$
 alge918 Solving a word problem using a system of linear equations of the form $y = mx + b$
 alge184 Solving a value mixture problem using a system of linear equations
 alge192 Solving a percent mixture problem using a system of linear equations
 alge224 Solving a distance, rate, time problem using a system of linear equations
 alge172 Solving a tax rate or interest rate problem using a system of linear equations
 alge793 Solving a word problem using a 3x3 system of linear equations: Problem type 1
 alge912 Identifying solutions to a linear inequality in two variables
 alge225 Graphing a linear inequality in the plane: Vertical or horizontal line
 alge720 Graphing a linear inequality in the plane: Slope-intercept form
 alge018 Graphing a linear inequality in the plane: Standard form
 alge079 Graphing a system of two linear inequalities: Basic
 alge921 Graphing a system of two linear inequalities: Advanced
 alge922 Graphing a system of three linear inequalities
 alge729 Writing a multi-step inequality for a real-world situation
 pcalc093 Solving a word problem using a system of linear inequalities: Problem type 1

Exponents and Polynomials

alge821 Understanding the product rule of exponents
 alge024 Introduction to the product rule of exponents
 alge311 Product rule with positive exponents: Univariate
 alge030 Product rule with positive exponents: Multivariate
 arith029 Ordering numbers with positive exponents
 alge826 Understanding the power rules of exponents
 alge306 Introduction to the power of a power rule of exponents
 alge305 Introduction to the power of a product rule of exponents
 alge307 Power rules with positive exponents: Multivariate products
 alge308 Power rules with positive exponents: Multivariate quotients
 alge756 Power and product rules with positive exponents
 alge451 Simplifying a ratio of multivariate monomials: Basic
 alge827 Introduction to the quotient rule of exponents
 alge452 Simplifying a ratio of univariate monomials
 alge026 Quotient of expressions involving exponents
 alge453 Simplifying a ratio of multivariate monomials: Advanced
 alge927 Power and quotient rules with positive exponents
 alge790 Evaluating expressions with exponents of zero
 arith684 Power of 10: Negative exponent
 arith729 Evaluating an expression with a negative exponent: Whole number base
 arith042 Evaluating an expression with a negative exponent: Positive fraction base
 arith043 Evaluating an expression with a negative exponent: Negative integer base

arith024 Ordering numbers with negative exponents
alge791 Rewriting an algebraic expression without a negative exponent
alge961 Introduction to the product rule with negative exponents
alge028 Product rule with negative exponents
alge755 Quotient rule with negative exponents: Problem type 1
alge926 Quotient rule with negative exponents: Problem type 2
alge025 Power of a power rule with negative exponents
alge799 Power rules with negative exponents
alge928 Power and quotient rules with negative exponents: Problem type 1
alge929 Power and quotient rules with negative exponents: Problem type 2
alge757 Power, product, and quotient rules with negative exponents
arith036 Scientific notation with positive exponent
arith037 Scientific notation with negative exponent
scinot012 Converting between scientific notation and standard form in a real-world situation
scinot008 Multiplying numbers written in scientific notation: Basic
scinot009 Multiplying numbers written in scientific notation: Advanced
scinot010 Dividing numbers written in scientific notation: Basic
scinot011 Dividing numbers written in scientific notation: Advanced
alge971 Table for an exponential function
alge830 Evaluating an exponential function that models a real-world situation
arith853 Introduction to compound interest
alge177 Finding a final amount in a word problem on exponential growth or decay
alge741 Finding the final amount in a word problem on compound interest
alge966 Finding the initial amount and rate of change given an exponential function
alge968 Writing an equation that models exponential growth or decay
alge301 Solving an exponential equation by finding common bases: Linear exponents
alge969 Graphing an exponential function: $f(x) = ax$
alge970 Graphing an exponential function: $f(x) = a(b)^x$
alge967 Writing an exponential function rule given a table of ordered pairs
alge993 Comparing linear, polynomial, and exponential functions
alge758 Degree and leading coefficient of a univariate polynomial
alge031 Degree of a multivariate polynomial
alge798 Simplifying a sum or difference of two univariate polynomials
alge029 Simplifying a sum or difference of three univariate polynomials
alge932 Simplifying a sum or difference of multivariate polynomials
alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
alge972 Multiplying a univariate polynomial by a monomial with a negative coefficient
alge835 Multiplying a multivariate polynomial by a monomial
alge033 Multiplying binomials with leading coefficients of 1
alge983 Multiplying binomials with leading coefficients greater than 1
alge765 Multiplying binomials in two variables
alge764 Multiplying conjugate binomials: Univariate
alge081 Multiplying conjugate binomials: Multivariate
alge032 Squaring a binomial: Univariate
alge068 Squaring a binomial: Multivariate
alge973 Multiplying binomials with negative coefficients
alge935 Multiplication involving binomials and trinomials in one variable
alge180 Multiplication involving binomials and trinomials in two variables
alge759 Dividing a polynomial by a monomial: Univariate
alge760 Dividing a polynomial by a monomial: Multivariate
alge761 Polynomial long division: Problem type 1
alge762 Polynomial long division: Problem type 2
alge763 Polynomial long division: Problem type 3
alge985 Closure properties of integers and polynomials
alge605 Factoring a linear binomial
alge736 Introduction to the GCF of two monomials
alge930 Greatest common factor of three univariate monomials
alge037 Greatest common factor of two multivariate monomials
alge738 Factoring out a monomial from a polynomial: Univariate
alge739 Factoring out a monomial from a polynomial: Multivariate
alge949 Factoring out a binomial from a polynomial: GCF factoring, basic
alge923 Factoring a univariate polynomial by grouping: Problem type 1

alge950 Factoring a univariate polynomial by grouping: Problem type 2
 alge951 Factoring a multivariate polynomial by grouping: Problem type 1
 alge952 Factoring a multivariate polynomial by grouping: Problem type 2
 alge039 Factoring a quadratic with leading coefficient 1
 alge942 Factoring a quadratic in two variables with leading coefficient 1
 alge936 Factoring out a constant before factoring a quadratic
 alge939 Factoring a quadratic with leading coefficient greater than 1: Problem type 1
 alge940 Factoring a quadratic with leading coefficient greater than 1: Problem type 2
 alge941 Factoring a quadratic with leading coefficient greater than 1: Problem type 3
 alge978 Factoring a quadratic by the ac-method
 alge265 Factoring a quadratic in two variables with leading coefficient greater than 1
 alge937 Factoring a quadratic with a negative leading coefficient
 alge944 Factoring a perfect square trinomial with leading coefficient 1
 alge945 Factoring a perfect square trinomial with leading coefficient greater than 1
 alge946 Factoring a perfect square trinomial in two variables
 alge290 Factoring a difference of squares in one variable: Basic
 alge947 Factoring a difference of squares in one variable: Advanced
 alge839 Factoring a difference of squares in two variables
 alge948 Factoring a polynomial involving a GCF and a difference of squares: Univariate
 alge833 Factoring a polynomial involving a GCF and a difference of squares: Multivariate
 alge041 Factoring a product of a quadratic trinomial and a monomial
 alge042 Factoring with repeated use of the difference of squares formula
 alge044 Factoring a sum or difference of two cubes
 alge681 Solving an equation written in factored form
 alge956 Finding the roots of a quadratic equation of the form $ax^2 + bx = 0$
 alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
 alge211 Solving a quadratic equation needing simplification
 alge703 Solving a word problem using a quadratic equation with rational roots
 alge713 Using the Pythagorean Theorem and a quadratic equation to find side lengths of a right triangle

Rational Expressions

alge049 Restriction on a variable in a denominator: Linear
 alge467 Restriction on a variable in a denominator: Quadratic
 alge468 Evaluating a rational function: Problem type 1
 alge469 Evaluating a rational function: Problem type 2
 alge715 Domain of a rational function: Excluded values
 alge454 Simplifying a ratio of factored polynomials: Linear factors
 alge455 Simplifying a ratio of factored polynomials: Factors with exponents
 alge456 Simplifying a ratio of polynomials using GCF factoring
 alge457 Simplifying a ratio of linear polynomials: 1, -1, and no simplification
 alge458 Simplifying a ratio of polynomials by factoring a quadratic with leading coefficient 1
 alge710 Simplifying a ratio of polynomials: Problem type 1
 alge682 Simplifying a ratio of polynomials: Problem type 2
 alge459 Simplifying a ratio of polynomials: Problem type 3
 alge034 Simplifying a ratio of multivariate polynomials
 alge053 Multiplying rational expressions involving multivariate monomials
 alge460 Multiplying rational expressions made up of linear expressions
 alge620 Multiplying rational expressions involving quadratics with leading coefficients of 1
 alge461 Multiplying rational expressions involving quadratics with leading coefficients greater than 1
 alge462 Multiplying rational expressions involving multivariate quadratics
 alge054 Dividing rational expressions involving multivariate monomials
 alge463 Dividing rational expressions involving linear expressions
 alge766 Dividing rational expressions involving quadratics with leading coefficients of 1
 alge464 Dividing rational expressions involving quadratics with leading coefficients greater than 1
 alge465 Dividing rational expressions involving multivariate quadratics
 alge466 Multiplication and division of 3 rational expressions
 alge737 Introduction to the LCM of two monomials
 alge055 Least common multiple of two monomials

alge427 Finding the LCD of rational expressions with linear denominators: Relatively prime
alge428 Finding the LCD of rational expressions with linear denominators: Common factors
alge429 Finding the LCD of rational expressions with quadratic denominators
alge430 Writing equivalent rational expressions with monomial denominators
alge431 Writing equivalent rational expressions with polynomial denominators
alge304 Writing equivalent rational expressions involving opposite factors
alge433 Adding rational expressions with common denominators and monomial numerators
alge056 Adding rational expressions with common denominators and binomial numerators
alge434 Adding rational expressions with common denominators and GCF factoring
alge435 Adding rational expressions with common denominators and quadratic factoring
alge437 Adding rational expressions with denominators ax and bx : Basic
alge438 Adding rational expressions with denominators ax and bx : Advanced
alge439 Adding rational expressions with denominators axn and bxm
alge440 Adding rational expressions with multivariate monomial denominators: Basic
alge226 Adding rational expressions with multivariate monomial denominators: Advanced
alge441 Adding rational expressions with linear denominators without common factors: Basic
alge442 Adding rational expressions with linear denominators without common factors: Advanced
alge443 Adding rational expressions with linear denominators with common factors: Basic
alge444 Adding rational expressions with linear denominators with common factors: Advanced
alge445 Adding rational expressions with denominators $ax-b$ and $b-ax$
alge661 Adding rational expressions involving different quadratic denominators
alge446 Adding 3 rational expressions with different quadratic denominators
alge470 Complex fraction involving univariate monomials
alge058 Complex fraction involving multivariate monomials
alge471 Complex fraction: GCF factoring
alge472 Complex fraction: Quadratic factoring
alge473 Complex fraction made of sums involving rational expressions: Problem type 1
alge474 Complex fraction made of sums involving rational expressions: Problem type 2
alge475 Complex fraction made of sums involving rational expressions: Problem type 3
alge476 Complex fraction made of sums involving rational expressions: Problem type 4
alge477 Complex fraction made of sums involving rational expressions: Problem type 5
alge478 Complex fraction made of sums involving rational expressions: Problem type 6
alge479 Complex fraction made of sums involving rational expressions: Multivariate
alge480 Complex fraction with negative exponents: Problem type 1
alge481 Complex fraction with negative exponents: Problem type 2
alge162 Complex fraction that contains a complex fraction
alge060 Solving a rational equation that simplifies to linear: Denominator x
alge205 Solving a rational equation that simplifies to linear: Denominator $x+a$
alge769 Solving a rational equation that simplifies to linear: Denominators a , x , or ax
alge421 Solving a rational equation that simplifies to linear: Denominators ax and bx
alge422 Solving a rational equation that simplifies to linear: Like binomial denominators
alge206 Solving a rational equation that simplifies to linear: Unlike binomial denominators
alge423 Solving a rational equation that simplifies to linear: Factorable quadratic denominator
alge424 Solving a rational equation that simplifies to quadratic: Proportional form, basic
alge425 Solving a rational equation that simplifies to quadratic: Denominator x
alge212 Solving a rational equation that simplifies to quadratic: Binomial denominators, constant numerators
alge062 Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators
alge426 Solving a rational equation that simplifies to quadratic: Factorable quadratic denominator
alge047 Solving a rational equation that simplifies to quadratic: Proportional form, advanced
alge508 Solving for a variable in terms of other variables in a rational equation: Problem type 1
alge509 Solving for a variable in terms of other variables in a rational equation: Problem type 2
alge510 Solving for a variable in terms of other variables in a rational equation: Problem type 3
arith612 Word problem involving multiple rates
alge770 Solving a work problem using a rational equation
alge450 Solving a distance, rate, time problem using a rational equation
alge059 Ordering fractions with variables
alge982 Identifying direct variation equations
alge938 Identifying direct variation from ordered pairs and writing equations
alge904 Writing a direct variation equation
alge175 Word problem on direct variation
alge828 Interpreting direct variation from a graph
alge905 Writing an inverse variation equation

alge903 Identifying direct and inverse variation equations
 alge902 Identifying direct and inverse variation from ordered pairs and writing equations
 alge176 Word problem on inverse variation
 alge220 Word problem on inverse proportions
 pcalc681 Writing an equation that models variation
 alge772 Word problem on combined variation

Radicals and Quadratic Equations

alge413 Finding all square roots of a number
 arith760 Square roots of perfect squares with signs
 alge415 Introduction to simplifying a radical expression with an even exponent
 alge264 Square root of a perfect square monomial
 arith094 Cube root of an integer
 alge549 Finding n th roots of perfect n th powers with signs
 arith768 Finding the n th root of a perfect n th power fraction
 alge550 Finding the n th root of a perfect n th power monomial
 arith093 Simplifying the square root of a whole number less than 100
 arith762 Simplifying the square root of a whole number greater than 100
 alge080 Simplifying a radical expression with an even exponent
 alge520 Introduction to simplifying a radical expression with an odd exponent
 alge521 Simplifying a radical expression with an odd exponent
 alge275 Simplifying a radical expression with two variables
 alge273 Simplifying a higher root of a whole number
 alge551 Introduction to simplifying a higher radical expression
 alge552 Simplifying a higher radical expression: Univariate
 alge811 Simplifying a higher radical expression: Multivariate
 arith767 Introduction to square root addition or subtraction
 arith032 Square root addition or subtraction
 alge533 Square root addition or subtraction with three terms
 alge531 Introduction to simplifying a sum or difference of radical expressions: Univariate
 alge532 Simplifying a sum or difference of radical expressions: Univariate
 alge084 Simplifying a sum or difference of radical expressions: Multivariate
 alge554 Simplifying a sum or difference of higher roots
 alge555 Simplifying a sum or difference of higher radical expressions
 arith764 Introduction to square root multiplication
 arith765 Square root multiplication: Basic
 arith039 Square root multiplication: Advanced
 alge522 Introduction to simplifying a product of radical expressions: Univariate
 alge523 Simplifying a product of radical expressions: Univariate
 alge640 Simplifying a product of radical expressions: Multivariate
 alge556 Introduction to simplifying a product of higher roots
 alge557 Simplifying a product of higher radical expressions
 alge525 Introduction to simplifying a product involving square roots using the distributive property
 alge526 Simplifying a product involving square roots using the distributive property: Basic
 alge276 Simplifying a product involving square roots using the distributive property: Advanced
 alge774 Special products of radical expressions: Conjugates and squaring
 alge984 Classifying sums and products as rational or irrational
 arith766 Simplifying a quotient of square roots
 alge530 Simplifying a quotient involving a sum or difference with a square root
 alge527 Rationalizing a denominator: Quotient involving square roots
 alge528 Rationalizing a denominator: Square root of a fraction
 alge529 Rationalizing a denominator: Quotient involving a monomial
 alge534 Rationalizing a denominator using conjugates: Integer numerator
 alge535 Rationalizing a denominator using conjugates: Square root in numerator
 alge536 Rationalizing a denominator using conjugates: Variable in denominator
 alge564 Rationalizing a denominator: Quotient involving a higher radical
 alge400 Introduction to solving a radical equation
 alge089 Solving a radical equation that simplifies to a linear equation: One radical, basic
 alge402 Solving a radical equation that simplifies to a linear equation: One radical, advanced

alge090 Solving a radical equation that simplifies to a linear equation: Two radicals
alge405 Solving a radical equation with two radicals that simplifies to $\sqrt{x} = a$
alge403 Solving a radical equation that simplifies to a quadratic equation: One radical, basic
alge404 Solving a radical equation that simplifies to a quadratic equation: One radical, advanced
alge411 Solving a radical equation with a quadratic expression under the radical
alge182 Solving a radical equation that simplifies to a quadratic equation: Two radicals
alge410 Solving an equation with a root index greater than 2: Problem type 1
alge417 Solving an equation with a root index greater than 2: Problem type 2
alge412 Algebraic symbol manipulation with radicals
alge542 Word problem involving radical equations: Basic
alge409 Word problem involving radical equations: Advanced
alge132 Distance between two points in the plane: Exact answers
alge539 Table for a square root function
alge540 Domain of a square root function: Basic
pcalc763 Domain of a square root function: Advanced
alge543 Graphing a square root function: Problem type 1
alge544 Graphing a square root function: Problem type 2
alge812 Converting between radical form and exponent form
alge560 Rational exponents: Unit fraction exponents and whole number bases
alge561 Rational exponents: Unit fraction exponents and bases involving signs
alge250 Rational exponents: Non-unit fraction exponent with a whole number base
alge251 Rational exponents: Negative exponents and fractional bases
alge558 Rational exponents: Product rule
alge559 Rational exponents: Quotient rule
alge773 Rational exponents: Products and quotients with negative exponents
alge562 Rational exponents: Power of a power rule
alge249 Rational exponents: Powers of powers with negative exponents
alge563 Simplifying products or quotients of higher radicals with different indices: Univariate
alge778 Using i to rewrite square roots of negative numbers
alge779 Simplifying a product and quotient involving square roots of negative numbers
pcalc048 Adding or subtracting complex numbers
pcalc049 Multiplying complex numbers
pcalc050 Dividing complex numbers
pcalc053 Simplifying a power of i
alge962 Solving an equation of the form $x^2 = a$ using the square root property
alge092 Solving a quadratic equation using the square root property: Exact answers, basic
alge227 Solving a quadratic equation using the square root property: Exact answers, advanced
alge094 Completing the square
alge780 Solving a quadratic equation by completing the square: Exact answers
alge095 Applying the quadratic formula: Exact answers
alge963 Applying the quadratic formula: Decimal answers
pcalc051 Solving a quadratic equation with complex roots
alge214 Discriminant of a quadratic equation
alge524 Solving a word problem using a quadratic equation with irrational roots
alge974 Finding the vertex, x -intercepts, and axis of symmetry from the graph of a parabola
alge953 Translating the graph of a parabola: One step
alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
alge569 Graphing a parabola of the form $y = x^2 + bx + c$
pcalc746 Graphing a parabola of the form $y = ax^2 + bx + c$: Integer coefficients
pcalc747 Graphing a parabola of the form $y = ax^2 + bx + c$: Rational coefficients
alge277 Finding the x -intercept(s) and the vertex of a parabola
pcalc774 Rewriting a quadratic function to find the vertex of its graph
pcalc775 Finding the maximum or minimum of a quadratic function
alge785 Word problem involving the maximum or minimum of a quadratic function
alge975 Domain and range from the graph of a parabola
pcalc762 Range of a quadratic function
alge957 Solving a quadratic equation by graphing
alge996 Comparing properties of quadratic functions given in different forms
alge702 Classifying the graph of a function
alge723 How the leading coefficient affects the shape of a parabola
alge965 Identifying linear, quadratic, and exponential functions given ordered pairs
alge262 Graphing a cubic function of the form $y = ax^3$

fun019 Sum, difference, and product of two functions
 fun022 Composition of two functions: Basic
 pcalc776 Expressing a function as a composition of two functions
 pcalc924 Determining whether an equation defines a function: Basic
 pcalc757 Determining whether an equation defines a function: Advanced

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Whole Numbers

arith124 Whole number place value: Problem type 1
 arith125 Whole number place value: Problem type 2
 arith066 Expanded form
 arith643 Expanded form with zeros
 arith028 Numeral translation: Problem type 1
 arith060 Numeral translation: Problem type 2
 arith633 One-digit addition with carry
 arith634 Addition of 3 or 4 one-digit numbers
 arith001 Addition without carry
 arith635 Adding a 2-digit number and a 1-digit number with carry
 arith050 Addition with carry
 arith630 Addition with carry to the hundreds place
 arith012 Addition of large numbers
 arith636 Subtracting a 1-digit number from a 2-digit number
 arith007 Subtraction without borrowing
 arith128 Adding or subtracting 10, 100, or 1000
 arith006 Subtraction with borrowing
 arith682 Subtraction with multiple regrouping steps
 arith637 Subtraction and regrouping with zeros
 arith613 Word problem with addition or subtraction of whole numbers
 arith655 Introduction to properties of addition
 arith126 Multiplication as repeated addition
 arith008 One-digit multiplication
 arith679 Multiplication by 10, 100, and 1000
 arith003 Multiplication without carry
 arith004 Multiplication with carry
 arith632 Multiplication with trailing zeros: Problem type 1
 arith615 Introduction to multiplication of large numbers
 arith638 Multiplication with trailing zeros: Problem type 2
 arith014 Multiplication of large numbers
 arith641 Multiples: Problem type 1
 arith642 Multiples: Problem type 2
 arith656 Introduction to properties of multiplication
 arith075 Division facts
 arith614 Word problem with multiplication or division of whole numbers
 arith130 Word problem with multiplication and addition or subtraction of whole numbers
 arith243 Division of whole numbers given in fractional form
 arith711 Division involving zero
 arith052 Division without carry
 arith005 Division with carry
 arith680 Division with trailing zeros: Problem type 1
 arith649 Division with trailing zeros: Problem type 2
 arith616 Quotient and remainder: Problem type 1
 arith644 Word problem on quotient and remainder
 arith617 Quotient and remainder: Problem type 2
 arith631 Quotient and remainder: Problem type 3
 arith650 Division involving quotients with intermediate zeros
 arith023 Word problem with division of whole numbers and rounding

arith651 Introduction to inequalities
arith077 Ordering large numbers
arith078 Rounding to tens or hundreds
arith123 Rounding to hundreds or thousands
arith061 Rounding to thousands, ten thousands, or hundred thousands
arith101 Estimating a sum of whole numbers
arith102 Estimating a difference of whole numbers
arith604 Estimating a product or quotient of whole numbers
arith692 Writing expressions using exponents
arith233 Introduction to exponents
arith683 Power of 10: Positive exponent
arith645 Introduction to parentheses
arith681 Introduction to order of operations
arith048 Order of operations with whole numbers
arith051 Order of operations with whole numbers and grouping symbols
arith693 Order of operations with whole numbers and exponents: Basic
arith713 Order of operations with whole numbers and exponents: Advanced
arith657 Understanding the distributive property
alge284 Evaluating an algebraic expression: Whole number addition or subtraction
alge683 Evaluating an algebraic expression: Whole number multiplication or division
alge285 Evaluating an algebraic expression: Whole numbers with two operations
alge832 Evaluating an algebraic expression: Whole number operations and exponents
alge009 Additive property of equality with whole numbers
alge008 Multiplicative property of equality with whole numbers
alge803 Using two steps to solve an equation with whole numbers
arith646 Even and odd numbers
arith647 Divisibility rules for 2, 5, and 10
arith648 Divisibility rules for 3 and 9
arith056 Factors
arith034 Prime numbers
arith035 Prime factorization
arith033 Greatest common factor of 2 numbers
arith070 Least common multiple of 2 numbers
arith804 Least common multiple of 3 numbers
arith240 Word problem with common multiples
alge925 Finding the next terms of an arithmetic sequence with whole numbers
alge933 Finding the next terms of a geometric sequence with whole numbers
alge732 Finding patterns in shapes

Fractions

arith623 Introduction to fractions
arith665 Understanding equivalent fractions
arith212 Equivalent fractions
arith666 Introduction to simplifying a fraction
arith067 Simplifying a fraction
arith687 Fractional position on a number line
arith667 Plotting fractions on a number line
arith044 Ordering fractions with the same denominator
arith091 Ordering fractions with the same numerator
arith092 Using a common denominator to order fractions
arith662 Writing a mixed number and an improper fraction for a shaded region
arith015 Writing an improper fraction as a mixed number
arith619 Writing a mixed number as an improper fraction
arith215 Addition or subtraction of mixed numbers with the same denominator
arith084 Addition of mixed numbers with the same denominator and carry
arith216 Subtraction of mixed numbers with the same denominator and borrowing
arith806 Addition or subtraction of mixed numbers with different denominators and no carry or borrow
arith808 Addition of mixed numbers with different denominators and carry
arith809 Subtraction of mixed numbers with different denominators and borrowing

arith807 Addition and subtraction of 3 mixed numbers with different denominators
 arith810 Word problem involving addition or subtraction of mixed numbers with different denominators
 arith815 Mixed number multiplication
 arith816 Multiplication of a mixed number and a whole number
 arith817 Division with a mixed number and a whole number
 arith068 Mixed number division
 arith820 Word problem involving multiplication or division with mixed numbers

Decimals, Proportions, and Percents

arith717 Converting a decimal to a proper fraction without simplifying: Basic
 arith719 Converting a decimal to a proper fraction without simplifying: Advanced
 arith718 Converting a decimal to a proper fraction in simplest form: Basic
 arith087 Converting a decimal to a proper fraction in simplest form: Advanced
 arith721 Converting a decimal to a mixed number and an improper fraction without simplifying
 arith722 Converting a decimal to a mixed number and an improper fraction in simplest form: Basic
 arith724 Converting a decimal to a mixed number and an improper fraction in simplest form: Advanced
 arith624 Addition of aligned decimals
 arith013 Decimal addition with 3 numbers
 arith734 Subtraction of aligned decimals
 arith735 Decimal subtraction: Basic
 arith736 Decimal subtraction: Advanced
 arith737 Decimal addition and subtraction with 3 or more numbers
 arith131 Estimating a decimal sum or difference
 arith132 Word problem with addition or subtraction of 2 decimals
 arith133 Word problem with addition of 3 or 4 decimals and whole numbers
 arith134 Word problem with subtraction of a whole number and a decimal: Regrouping with zeros
 arith739 Introduction to decimal multiplication
 arith017 Multiplication of a decimal by a whole number
 arith055 Decimal multiplication: Problem type 1
 arith046 Decimal multiplication: Problem type 2
 arith082 Multiplication of a decimal by a power of ten
 arith738 Multiplication of a decimal by a power of 0.1
 arith740 Multiplication of decimals that have a product less than 0.1
 arith752 Estimating a product of decimals
 arith135 Word problem with multiplication of a decimal and a whole number
 arith137 Word problem with multiplication of two decimals
 arith224 Word problem with decimal addition and multiplication
 arith744 Whole number division with decimal answers
 arith081 Division of a decimal by a whole number
 arith743 Division of a decimal by a 1-digit decimal
 arith019 Division of a decimal by a 2-digit decimal
 arith083 Division of a decimal by a power of ten
 arith742 Division of a decimal by a power of 0.1
 arith745 Decimal division with rounding
 arith136 Word problem with division of a decimal and a whole number
 arith138 Word problem with division of two decimals
 arith227 Word problem with decimal subtraction and division
 alge823 Solving a one-step word problem using the formula $d = rt$
 arith725 Converting a fraction with a denominator of 10 or 100 to a decimal
 arith726 Converting a fraction with a denominator of 100 or 1000 to a decimal
 arith609 Ordering fractions and decimals
 arith727 Converting a fraction to a terminating decimal: Basic
 arith728 Converting a fraction to a terminating decimal: Advanced
 arith730 Converting a fraction to a repeating decimal: Basic
 arith731 Converting a fraction to a repeating decimal: Advanced
 arith733 Using a calculator to convert a fraction to a rounded decimal
 arith111 Converting a mixed number to a terminating decimal: Basic
 arith112 Converting a mixed number to a terminating decimal: Advanced
 arith732 Converting a fraction or mixed number to a rounded decimal

arith753 Squaring decimal bases: Products greater than 0.1
arith741 Exponents and decimals: Products less than 0.1
arith720 Order of operations with decimals: Problem type 1
arith746 Order of operations with decimals: Problem type 2
arith747 Order of operations with decimals: Problem type 3
arith748 Addition or subtraction with a decimal and a mixed number
arith749 Multiplication with a decimal and a fraction
arith823 Writing ratios using different notations
arith663 Writing ratios for real-world situations
arith824 Simplifying a ratio of whole numbers: Problem type 1
arith825 Simplifying a ratio of decimals
arith827 Finding a unit price
arith828 Computing unit prices to find the better buy
arith064 Solving a word problem on proportions using a unit rate
arith228 Word problem on unit rates associated with ratios of whole numbers: Decimal answers
alge272 Solving a proportion of the form $x/a = b/c$
arith610 Word problem on proportions: Problem type 1
arith611 Word problem on proportions: Problem type 2
alge063 Word problem on mixed number proportions
arith045 Word problem with powers of ten
arith836 Converting a fraction with a denominator of 100 to a percentage
arith837 Converting a percentage to a fraction with a denominator of 100
arith674 Finding the percentage of a grid that is shaded
arith723 Introduction to converting a percentage to a decimal
arith833 Introduction to converting a decimal to a percentage
arith834 Converting between percentages and decimals
arith841 Converting a mixed number percentage to a decimal
arith835 Converting between percentages and decimals in a real-world situation
arith090 Converting a percentage to a fraction in simplest form
arith839 Converting a decimal percentage to a fraction
arith838 Converting a fraction to a percentage: Denominator of 4, 5, or 10
arith002 Converting a fraction to a percentage: Denominator of 20, 25, or 50
arith843 Using a calculator to convert a fraction to a rounded percentage
arith842 Converting a fraction to a percentage in a real-world situation
arith840 Finding a percentage of a whole number
arith030 Finding a percentage of a whole number without a calculator: Basic
arith844 Finding a percentage of a whole number without a calculator: Advanced
arith862 Applying the percent equation: Problem type 1
arith863 Applying the percent equation: Problem type 2
arith845 Finding a percentage of a total amount: Real-world situations
arith846 Finding a percentage of a total amount without a calculator: Sales tax, commission, discount
arith857 Estimating a tip without a calculator
arith069 Writing a ratio as a percentage without a calculator
mstat049 Computing a percentage from a table of values
arith850 Finding the rate of a tax or commission
arith849 Finding the total amount given the percentage of a partial amount
arith852 Finding the multiplier to give a final amount after a percentage increase or decrease
arith851 Finding the final amount given the original amount and a percentage increase or decrease
arith847 Finding the sale price given the original price and percent discount
arith074 Finding the sale price without a calculator given the original price and percent discount
arith848 Finding the total cost including tax or markup
arith855 Finding the original amount given the result of a percentage increase or decrease
arith031 Finding the original price given the sale price and percent discount
arith858 Finding the percentage increase or decrease: Basic
arith225 Finding the percentage increase or decrease: Advanced
arith232 Finding simple interest without a calculator
arith856 Finding a percentage of a total amount in a circle graph
stat801 Computations from a circle graph

geom339 Perimeter of a polygon
geom300 Perimeter of a square or a rectangle
geom618 Perimeter of a polygon involving mixed numbers and fractions
geom078 Sides of polygons having the same perimeter
geom221 Finding the missing length in a figure
geom353 Perimeter of a piecewise rectangular figure
geom358 Identifying parallel and perpendicular lines
geom349 Naming segments, rays, and lines
geom151 Measuring an angle with the protractor
geom152 Drawing an angle with the protractor
geom303 Acute, obtuse, and right angles
geom039 Finding supplementary and complementary angles
geom305 Identifying supplementary and vertical angles
geom304 Identifying corresponding and alternate angles
geom306 Acute, obtuse, and right triangles
geom307 Classifying scalene, isosceles, and equilateral triangles by side lengths or angles
geom001 Finding an angle measure of a triangle given two angles
geom908 Finding an angle measure for a triangle with an extended side
geom812 Finding an angle measure given extended triangles
geom813 Finding an angle measure given a triangle and parallel lines
geom361 Naming polygons
mstat042 Interpreting a Venn diagram of 2 sets
geom867 Identifying parallelograms, rectangles, and squares
geom310 Properties of quadrilaterals
geom532 Classifying parallelograms
geom019 Area of a square or a rectangle
geom866 Perimeter and area on a grid
geom620 Area of a rectangle involving fractions
geom619 Area of a rectangle involving mixed numbers and fractions
geom350 Distinguishing between the area and perimeter of a rectangle
geom351 Areas of rectangles with the same perimeter
geom217 Finding the side length of a rectangle given its perimeter or area
geom340 Area of a piecewise rectangular figure
geom142 Word problem involving the area between two rectangles
geom801 Area of a triangle
geom344 Area involving rectangles and triangles
geom022 Area of a parallelogram
geom023 Area of a trapezoid
geom347 Introduction to a circle: Diameter, radius, and chord
geom016 Circumference of a circle
geom301 Perimeter involving rectangles and circles
geom802 Circumference and area of a circle
geom302 Area involving rectangles and circles
geom036 Word problem involving the area between two concentric circles
geom214 Area involving inscribed figures
geom814 Angle measure in a circle graph
geom868 Classifying solids
geom348 Vertices, edges, and faces of a solid
geom830 Counting the cubes in a solid made of cubes
geom354 Volume of a rectangular prism made of unit cubes
geom311 Volume of a rectangular prism
geom505 Volume of a piecewise rectangular prism
geom090 Volume of a triangular prism
geom033 Volume of a pyramid
geom035 Volume of a cylinder
geom092 Word problem involving the rate of filling or emptying a cylinder
geom622 Volume of a cone
geom841 Volume of a sphere
geom219 Nets of solids
geom816 Side views of a solid made of cubes
geom031 Surface area of a cube or a rectangular prism
geom345 Surface area of a piecewise rectangular prism made of unit cubes

geom091 Surface area of a triangular prism
 geom621 Surface area of a cylinder
 geom842 Surface area of a sphere
 arith016 Square root of a perfect square
 arith763 Using a calculator to approximate a square root
 arith602 Estimating a square root
 arith601 Square root of a rational perfect square
 alge407 Introduction to the Pythagorean Theorem
 geom044 Pythagorean Theorem
 alge408 Word problem involving the Pythagorean Theorem
 geom359 Identifying congruent shapes on a grid
 geom520 Identifying and naming congruent triangles
 geom360 Identifying similar or congruent shapes on a grid
 geom037 Similar polygons
 geom038 Similar right triangles
 geom337 Indirect measurement

Measurement and Data Analysis

mstat059 Choosing U.S. Customary measurement units
 unit005 U.S. Customary unit conversion with whole number values
 mstat035 Conversions involving measurements in feet and inches
 mstat036 Adding measurements in feet and inches
 unit006 U.S. Customary unit conversion with whole number values: Two-step conversion
 unit007 U.S. Customary unit conversion with mixed number values: One-step conversion
 unit008 U.S. Customary unit conversion with mixed number values: Two-step conversion
 unit009 U.S. Customary area unit conversion with whole number values
 mstat060 Choosing metric measurement units
 unit001 Metric distance conversion with whole number values
 unit002 Metric mass or capacity conversion with whole number values
 unit003 Metric distance conversion with decimal values
 unit004 Metric conversion with decimal values: Two-step problem
 unit010 Metric area unit conversion with decimal values
 unit012 Time unit conversion with whole number values
 time006 Adding time
 time007 Elapsed time
 arith063 Word problem with clocks
 mstat065 Converting between temperatures in Fahrenheit and Celsius
 arith826 Simplifying a ratio of whole numbers: Problem type 2
 unit034 Converting between metric and U.S. Customary unit systems
 unit035 Converting between compound units: Basic
 unit036 Converting between compound units: Advanced
 mstat056 Interpreting a tally table
 mstat037 Constructing a line plot
 mstat005 Constructing a bar graph for non-numerical data
 mstat004 Constructing a histogram for numerical data
 mstat024 Interpreting a bar graph
 mstat044 Interpreting a double bar graph
 mstat057 Interpreting a pictograph table
 mstat007 Interpreting a line graph
 mstat031 Interpreting a stem-and-leaf plot
 stat804 Interpreting a circle graph or pie chart
 stat020 Calculating relative frequencies in a contingency table
 stat805 Making a reasonable inference based on proportion statistics
 mstat025 Finding if a question can be answered by the data
 mstat003 Mode of a data set
 mstat055 Finding the mode and range of a data set
 arith103 Average of two numbers
 mstat001 Mean of a data set
 mstat028 Mean and median of a data set

mstat029 How changing a value affects the mean and median
 mstat053 Choosing the best measure to describe data
 stat802 Rejecting unreasonable claims based on average statistics
 mstat066 Weighted mean
 mstat027 Using back-to-back stem-and-leaf plots to compare data sets
 mstat072 Five-number summary and interquartile range
 mstat006 Constructing a box-and-whisker plot
 mstat073 Using box-and-whisker plots to compare data sets
 mstat043 Interpreting a Venn diagram of 3 sets
 mstat041 Interpreting a tree diagram
 mstat040 Introduction to the counting principle
 mstat015 Counting principle
 pcalc082 Factorial expressions
 mstat017 Computing permutations and combinations
 mstat008 Word problem involving permutations
 mstat009 Word problem involving combinations
 mstat026 Introduction to the probability of an event
 mstat010 Probability of an event
 mstat039 Understanding likelihood
 mstat048 Odds of an event
 stat106 Outcomes and event probability
 stat112 Probabilities involving two dice
 mstat011 Area as probability
 mstat046 Experimental and theoretical probability
 mstat047 Introduction to expectation
 mstat012 Probability of independent events
 mstat013 Probability of dependent events
 mstat032 Probability of the union of two events

Real Numbers and Algebraic Expressions

arith618 Addition or subtraction of fractions with the same denominator
 arith802 Addition or subtraction of fractions with the same denominator and simplification
 arith801 Finding the LCD of two fractions
 arith109 Addition or subtraction of unit fractions
 arith664 Introduction to addition or subtraction of fractions with different denominators
 arith230 Addition or subtraction of fractions with different denominators
 arith803 Addition and subtraction of 3 fractions with different denominators
 arith805 Word problem involving addition or subtraction of fractions with different denominators
 arith100 Fractional part of a circle
 arith079 Product of a unit fraction and a whole number
 arith086 Product of a fraction and a whole number: Problem type 1
 arith119 Introduction to fraction multiplication
 arith053 Fraction multiplication
 arith812 Product of a fraction and a whole number: Problem type 2
 arith813 Multiplication of 3 fractions
 arith818 Word problem involving fractions and multiplication
 arith095 Multi-step word problem involving fractions and multiplication
 arith088 The reciprocal of a number
 arith694 Division involving a whole number and a fraction
 arith022 Fraction division
 arith819 Word problem involving fractions and division
 arith821 Exponents and fractions
 arith859 Order of operations with fractions: Problem type 1
 arith860 Order of operations with fractions: Problem type 2
 arith861 Order of operations with fractions: Problem type 3
 arith695 Complex fraction without variables: Problem type 1
 arith127 Writing a decimal and a fraction for a shaded region
 arith110 Decimal place value: Tenths and hundredths
 arith220 Decimal place value: Hundreds to ten thousandths

arith714 Writing a decimal number less than 1 given its name
arith715 Writing a decimal number greater than 1 given its name
arith716 Writing a decimal number given its name: Advanced
arith829 Reading decimal position on a number line: Tenths
arith830 Reading decimal position on a number line: Hundredths
arith831 Understanding decimal position on a number line using zoom: Hundredths
arith832 Understanding decimal position on a number line using zoom: Thousandths
arith129 Introduction to ordering decimals
arith608 Ordering decimals
arith221 Rounding decimals
alge286 Plotting integers on a number line
arith605 Plotting rational numbers on a number line
mstat038 Reading the temperature from a thermometer
arith699 Writing a signed number for a real-world situation
arith691 Ordering integers
arith712 Ordering real numbers
arith071 Absolute value of a number
arith200 Integer addition: Problem type 1
arith108 Integer addition: Problem type 2
arith688 Integer subtraction: Problem type 1
arith689 Integer subtraction: Problem type 2
arith690 Integer subtraction: Problem type 3
arith754 Addition and subtraction with 3 integers
arith755 Addition and subtraction with 4 or 5 integers
arith701 Word problem with addition or subtraction of integers
arith231 Integer multiplication and division
arith800 Multiplication of 3 or 4 integers
alge001 Identifying numbers as integers or non-integers
alge002 Identifying numbers as rational or irrational
arith116 Signed fraction addition or subtraction: Basic
arith864 Signed fraction subtraction involving double negation
arith106 Signed fraction addition or subtraction: Advanced
arith811 Addition and subtraction of 3 fractions involving signs
arith822 Signed fraction multiplication: Basic
arith105 Signed fraction multiplication: Advanced
arith814 Signed fraction division
arith117 Signed decimal addition and subtraction
arith234 Signed decimal addition and subtraction with 3 numbers
arith750 Signed decimal multiplication
arith751 Signed decimal division
arith104 Operations with absolute value: Problem type 2
geom525 Computing distances between decimals on the number line
unit052 Finding the absolute error and percent error of a measurement
arith702 Exponents and integers: Problem type 1
arith703 Exponents and integers: Problem type 2
arith704 Exponents and signed fractions
arith118 Order of operations with integers
arith600 Order of operations with integers and exponents
arith696 Complex fraction without variables: Problem type 2
alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
alge808 Evaluating a linear expression: Signed fraction multiplication with addition or subtraction
alge302 Evaluating a linear expression: Signed decimal addition and subtraction
alge303 Evaluating a linear expression: Signed decimal multiplication with addition or subtraction
alge004 Evaluating a quadratic expression: Integers
alge700 Combining like terms: Whole number coefficients
alge607 Combining like terms: Integer coefficients
alge187 Properties of addition
alge310 Multiplying a constant and a linear monomial
alge606 Distributive property: Whole number coefficients
alge604 Distributive property: Integer coefficients
alge188 Properties of real numbers
alge608 Using distribution and combining like terms to simplify: Univariate

alge609 Using distribution with double negation and combining like terms to simplify: Multivariate
 alge293 Combining like terms in a quadratic expression
 alge432 Introduction to adding fractions with variables and common denominators
 alge436 Adding rational expressions with different denominators and a single occurrence of a variable

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alge801 Additive property of equality with fractions and mixed numbers
 alge800 Additive property of equality with decimals
 alge010 Additive property of equality with integers
 alge836 Additive property of equality with signed fractions
 alge820 Multiplicative property of equality with fractions
 alge825 Multiplicative property of equality with decimals
 alge797 Multiplicative property of equality with integers
 alge012 Multiplicative property of equality with signed fractions

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alge834 Identifying solutions to a linear equation in one variable: Two-step equations
 alge266 Additive property of equality with a negative coefficient
 alge006 Solving a two-step equation with integers
 alge200 Solving an equation to find the value of an expression
 alge920 Introduction to solving an equation with parentheses
 alge837 Solving a multi-step equation given in fractional form
 alge986 Identifying properties used to solve a linear equation
 alge824 Solving a two-step equation with signed decimals
 alge838 Introduction to solving an equation with variables on the same side
 alge862 Solving a linear equation with several occurrences of the variable: Variables on the same side
 alge863 Solving a linear equation with several occurrences of the variable: Variables on both sides
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
 alge420 Solving a linear equation with several occurrences of the variable: Fractional forms with monomial numerators
 alge208 Solving a two-step equation with signed fractions
 alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
 alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
 alge742 Solving equations with zero, one, or infinitely many solutions
 alge840 Solving a proportion of the form $(x+a)\div b = c\div d$
 alge271 Solving a proportion of the form $a/(x+b) = c/x$
 alge603 Introduction to solving an absolute value equation
 alge864 Solving an absolute value equation: Problem type 1
 alge511 Solving for a variable in terms of other variables using addition or subtraction: Basic
 alge512 Solving for a variable in terms of other variables using addition or subtraction: Advanced
 alge513 Solving for a variable in terms of other variables using multiplication or division: Basic
 alge514 Solving for a variable in terms of other variables using multiplication or division: Advanced
 alge517 Solving for a variable in terms of other variables using addition or subtraction with division
 alge518 Solving for a variable inside parentheses in terms of other variables
 alge507 Solving for a variable in terms of other variables in a linear equation with fractions
 alge733 Writing a one-step expression for a real-world situation
 alge831 Translating a phrase into a one-step expression
 alge291 Translating a phrase into a two-step expression
 alge016 Translating a sentence into a one-step equation

alge841 Translating a sentence into a multi-step equation
alge802 Solving a fraction word problem using a linear equation of the form $Ax = B$
alge014 Solving a word problem with two unknowns using a linear equation
alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
alge730 Writing a multi-step equation for a real-world situation
alge219 Solving a decimal word problem using a linear equation with the variable on both sides
alge704 Solving a fraction word problem using a linear equation with the variable on both sides
alge792 Solving a word problem with three unknowns using a linear equation
alge842 Solving a word problem involving consecutive integers
alge794 Solving a value mixture problem using a linear equation
alge218 Solving a word problem involving rates and time conversion
alge796 Solving a distance, rate, time problem using a linear equation
arith854 Computing a percent mixture
alge795 Solving a percent mixture problem using a linear equation
geom817 Finding a side length given the perimeter and side lengths with variables
geom143 Finding the perimeter or area of a rectangle given one of these values
geom218 Finding the radius or the diameter of a circle given its circumference
geom838 Circumference ratios
geom530 Solving equations involving vertical angles
geom531 Solving equations involving angles and a pair of parallel lines
geom623 Finding angle measures of a triangle given angles with variables
geom502 Finding angle measures of a right or isosceles triangle given angles with variables
stat803 Finding the value for a new score that will yield a given mean
alge015 Translating a sentence by using an inequality symbol
alge845 Translating a sentence into a one-step inequality
alge846 Translating a sentence into a multi-step inequality
alge748 Writing an inequality for a real-world situation
alge017 Graphing a linear inequality on the number line
alge822 Writing an inequality given a graph on the number line
alge186 Translating a sentence into a compound inequality
alge166 Graphing a compound inequality on the number line
alge847 Writing a compound inequality given a graph on the number line
set001 Set builder notation
set002 Union and intersection of finite sets
alge844 Identifying solutions to a two-step linear inequality in one variable
alge848 Additive property of inequality with whole numbers
alge849 Additive property of inequality with integers
alge852 Additive property of inequality with signed fractions
alge853 Additive property of inequality with signed decimals
alge854 Multiplicative property of inequality with integers
alge964 Multiplicative property of inequality with signed fractions
alge855 Solving a two-step linear inequality: Problem type 1
alge856 Solving a two-step linear inequality: Problem type 2
alge857 Solving a two-step linear inequality with a fractional coefficient
alge977 Solving a linear inequality with multiple occurrences of the variable: Problem type 1
alge858 Solving a linear inequality with multiple occurrences of the variable: Problem type 2
alge859 Solving a linear inequality with multiple occurrences of the variable: Problem type 3
alge860 Solving inequalities with no solution or all real numbers as solutions
alge746 Solving a compound linear inequality: Graph solution, basic
alge747 Solving a compound linear inequality: Interval notation
alge868 Solving an absolute value inequality: Problem type 1
alge749 Solving a decimal word problem using a two-step linear inequality
alge750 Solving a decimal word problem using a linear inequality with the variable on both sides
alge064 Reading a point in the coordinate plane
alge067 Plotting a point in the coordinate plane
alge850 Table for a linear equation
alge873 Identifying solutions to a linear equation in two variables
alge066 Finding a solution to a linear equation in two variables
alge191 Midpoint of a line segment in the plane
alge877 Graphing a linear equation of the form $y = mx$
alge878 Graphing a line given its equation in slope-intercept form: Integer slope
alge879 Graphing a line given its equation in slope-intercept form: Fractional slope

alge880 Graphing a line given its equation in standard form
 alge198 Graphing a vertical or horizontal line
 alge884 Finding x- and y-intercepts given the graph of a line on a grid
 alge924 Finding x- and y-intercepts of a line given the equation: Basic
 alge210 Finding x- and y-intercepts of a line given the equation: Advanced
 alge197 Graphing a line given its x- and y-intercepts
 alge881 Graphing a line by first finding its x- and y-intercepts
 alge875 Classifying slopes given graphs of lines
 alge886 Finding slope given the graph of a line on a grid
 alge887 Finding slope given two points on the line
 alge885 Finding the slope of horizontal and vertical lines
 alge888 Finding the coordinate that yields a given slope
 alge259 Graphing a line given its slope and y-intercept
 alge196 Graphing a line through a given point with a given slope
 alge876 Identifying linear equations: Advanced
 alge874 Identifying linear functions given ordered pairs
 alge891 Rewriting a linear equation in the form $Ax + By = C$
 alge889 Finding the slope and y-intercept of a line given its equation in the form $y = mx + b$
 alge890 Finding the slope and y-intercept of a line given its equation in the form $Ax + By = C$
 alge882 Graphing a line by first finding its slope and y-intercept
 alge258 Writing an equation of a line given its slope and y-intercept
 alge892 Writing an equation and graphing a line given its slope and y-intercept
 alge893 Writing an equation in slope-intercept form given the slope and a point
 alge883 Graphing a line given its equation in point-slope form
 alge894 Writing an equation in point-slope form given the slope and a point
 alge070 Writing an equation of a line given the y-intercept and another point
 alge072 Writing the equation of the line through two given points
 alge073 Writing the equations of vertical and horizontal lines through a given point
 geom806 Finding slopes of lines parallel and perpendicular to a line given in slope-intercept form
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 alge895 Identifying parallel and perpendicular lines from equations
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 alge897 Writing and evaluating a function that models a real-world situation: Advanced
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 fun005 Writing a function rule given a table of ordered pairs: One-step rules
 fun006 Writing a function rule given a table of ordered pairs: Two-step rules
 alge992 Combining functions to write a new function that models a real-world situation
 alge987 Comparing properties of linear functions given in different forms
 alge989 Interpreting the parameters of a linear function that models a real-world situation
 alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
 alge806 Application problem with a linear function: Finding a coordinate given two points
 mstat052 Identifying independent and dependent variables from equations or real-world situations
 alge991 Solving a linear equation by graphing
 mstat030 Sketching the line of best fit
 mstat023 Scatter plots and correlation
 mstat068 Predictions from the line of best fit
 mstat067 Approximating the equation of a line of best fit and making predictions
 mstat069 Computing residuals
 mstat070 Interpreting residual plots
 mstat071 Linear relationship and the correlation coefficient
 mstat074 Identifying correlation and causation
 alge898 Translating the graph of an absolute value function: One step
 alge899 Translating the graph of an absolute value function: Two steps
 alge913 Graphing an absolute value equation of the form $y = A - |x - h| + k$
 alge900 Graphing an absolute value equation in the plane: Basic
 alge168 Graphing an absolute value equation in the plane: Advanced
 alge901 How the leading coefficient affects the graph of an absolute value function
 fun032 Identifying functions from relations
 fun010 Vertical line test
 fun016 Domain and range from ordered pairs
 fun001 Table for a linear function
 pcalc760 Evaluating functions: Linear and quadratic or cubic

fun033 Variable expressions as inputs of functions: Problem type 1
 alge294 Finding outputs of a one-step function that models a real-world situation: Function notation
 alge295 Finding outputs of a two-step function with decimals that models a real-world situation: Function notation
 alge296 Finding inputs and outputs of a two-step function that models a real-world situation: Function notation
 alge990 Domain and range of a linear function that models a real-world situation
 fun026 Finding an output of a function from its graph
 pcalc761 Finding inputs and outputs of a function from its graph
 fun007 Domain and range from the graph of a discrete relation
 set004 Set builder and interval notation
 fun024 Domain and range from the graph of a continuous function
 alge896 Graphing an integer function and finding its range for a given domain
 alge570 Graphing a function of the form $f(x) = ax + b$: Integer slope
 alge571 Graphing a function of the form $f(x) = ax + b$: Fractional slope
 alge572 Graphing a function of the form $f(x) = ax^2$
 alge573 Graphing a function of the form $f(x) = ax^2 + c$
 pcalc750 Finding intercepts of a nonlinear function given its graph
 pcalc751 Finding where a function is increasing, decreasing, or constant given the graph: Interval notation
 pcalc752 Finding local maxima and minima of a function given the graph
 mstat018 Choosing a graph to fit a narrative: Basic
 mstat051 Choosing a graph to fit a narrative: Advanced

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alge914 Identifying solutions to a system of linear equations
 alge075 Classifying systems of linear equations from graphs
 alge725 Graphically solving a system of linear equations
 alge751 Solving a system of linear equations using substitution
 alge915 Solving a system of linear equations using elimination with addition
 alge076 Solving a system of linear equations using elimination with multiplication and addition
 alge916 Solving a system of linear equations with fractional coefficients
 alge917 Solving a system of linear equations with decimal coefficients
 alge752 Solving a 2×2 system of linear equations that is inconsistent or consistent dependent
 alge988 Identifying the operations used to create equivalent systems of equations
 alge753 Solving a 3×3 system of linear equations: Problem type 1
 alge263 Interpreting the graphs of two functions
 alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations
 alge919 Solving a word problem using a system of linear equations of the form $Ax + By = C$
 alge918 Solving a word problem using a system of linear equations of the form $y = mx + b$
 alge184 Solving a value mixture problem using a system of linear equations
 alge192 Solving a percent mixture problem using a system of linear equations
 alge224 Solving a distance, rate, time problem using a system of linear equations
 alge172 Solving a tax rate or interest rate problem using a system of linear equations
 alge793 Solving a word problem using a 3×3 system of linear equations: Problem type 1
 alge912 Identifying solutions to a linear inequality in two variables
 alge225 Graphing a linear inequality in the plane: Vertical or horizontal line
 alge720 Graphing a linear inequality in the plane: Slope-intercept form
 alge018 Graphing a linear inequality in the plane: Standard form
 alge079 Graphing a system of two linear inequalities: Basic
 alge921 Graphing a system of two linear inequalities: Advanced
 alge922 Graphing a system of three linear inequalities
 alge729 Writing a multi-step inequality for a real-world situation
 pcalc093 Solving a word problem using a system of linear inequalities: Problem type 1

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alge821 Understanding the product rule of exponents
 alge024 Introduction to the product rule of exponents

alge311 Product rule with positive exponents: Univariate
alge030 Product rule with positive exponents: Multivariate
arith029 Ordering numbers with positive exponents
alge826 Understanding the power rules of exponents
alge306 Introduction to the power of a power rule of exponents
alge305 Introduction to the power of a product rule of exponents
alge307 Power rules with positive exponents: Multivariate products
alge308 Power rules with positive exponents: Multivariate quotients
alge756 Power and product rules with positive exponents
alge451 Simplifying a ratio of multivariate monomials: Basic
alge827 Introduction to the quotient rule of exponents
alge452 Simplifying a ratio of univariate monomials
alge026 Quotient of expressions involving exponents
alge453 Simplifying a ratio of multivariate monomials: Advanced
alge927 Power and quotient rules with positive exponents
alge790 Evaluating expressions with exponents of zero
arith684 Power of 10: Negative exponent
arith729 Evaluating an expression with a negative exponent: Whole number base
arith042 Evaluating an expression with a negative exponent: Positive fraction base
arith043 Evaluating an expression with a negative exponent: Negative integer base
arith024 Ordering numbers with negative exponents
alge791 Rewriting an algebraic expression without a negative exponent
alge961 Introduction to the product rule with negative exponents
alge028 Product rule with negative exponents
alge755 Quotient rule with negative exponents: Problem type 1
alge926 Quotient rule with negative exponents: Problem type 2
alge025 Power of a power rule with negative exponents
alge799 Power rules with negative exponents
alge928 Power and quotient rules with negative exponents: Problem type 1
alge929 Power and quotient rules with negative exponents: Problem type 2
alge757 Power, product, and quotient rules with negative exponents
arith036 Scientific notation with positive exponent
arith037 Scientific notation with negative exponent
scinot012 Converting between scientific notation and standard form in a real-world situation
scinot008 Multiplying numbers written in scientific notation: Basic
scinot009 Multiplying numbers written in scientific notation: Advanced
scinot010 Dividing numbers written in scientific notation: Basic
scinot011 Dividing numbers written in scientific notation: Advanced
alge971 Table for an exponential function
alge830 Evaluating an exponential function that models a real-world situation
arith853 Introduction to compound interest
alge177 Finding a final amount in a word problem on exponential growth or decay
alge741 Finding the final amount in a word problem on compound interest
alge966 Finding the initial amount and rate of change given an exponential function
alge968 Writing an equation that models exponential growth or decay
alge301 Solving an exponential equation by finding common bases: Linear exponents
alge969 Graphing an exponential function: $f(x) = ax$
alge970 Graphing an exponential function: $f(x) = a(b)x$
alge967 Writing an exponential function rule given a table of ordered pairs
alge993 Comparing linear, polynomial, and exponential functions
alge758 Degree and leading coefficient of a univariate polynomial
alge031 Degree of a multivariate polynomial
alge798 Simplifying a sum or difference of two univariate polynomials
alge029 Simplifying a sum or difference of three univariate polynomials
alge932 Simplifying a sum or difference of multivariate polynomials
alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
alge972 Multiplying a univariate polynomial by a monomial with a negative coefficient
alge835 Multiplying a multivariate polynomial by a monomial
alge033 Multiplying binomials with leading coefficients of 1
alge983 Multiplying binomials with leading coefficients greater than 1
alge765 Multiplying binomials in two variables
alge764 Multiplying conjugate binomials: Univariate

alge081 Multiplying conjugate binomials: Multivariate
 alge032 Squaring a binomial: Univariate
 alge068 Squaring a binomial: Multivariate
 alge973 Multiplying binomials with negative coefficients
 alge935 Multiplication involving binomials and trinomials in one variable
 alge180 Multiplication involving binomials and trinomials in two variables
 alge759 Dividing a polynomial by a monomial: Univariate
 alge760 Dividing a polynomial by a monomial: Multivariate
 alge761 Polynomial long division: Problem type 1
 alge762 Polynomial long division: Problem type 2
 alge763 Polynomial long division: Problem type 3
 alge985 Closure properties of integers and polynomials
 alge605 Factoring a linear binomial
 alge736 Introduction to the GCF of two monomials
 alge930 Greatest common factor of three univariate monomials
 alge037 Greatest common factor of two multivariate monomials
 alge738 Factoring out a monomial from a polynomial: Univariate
 alge739 Factoring out a monomial from a polynomial: Multivariate
 alge949 Factoring out a binomial from a polynomial: GCF factoring, basic
 alge923 Factoring a univariate polynomial by grouping: Problem type 1
 alge950 Factoring a univariate polynomial by grouping: Problem type 2
 alge951 Factoring a multivariate polynomial by grouping: Problem type 1
 alge952 Factoring a multivariate polynomial by grouping: Problem type 2
 alge039 Factoring a quadratic with leading coefficient 1
 alge942 Factoring a quadratic in two variables with leading coefficient 1
 alge936 Factoring out a constant before factoring a quadratic
 alge939 Factoring a quadratic with leading coefficient greater than 1: Problem type 1
 alge940 Factoring a quadratic with leading coefficient greater than 1: Problem type 2
 alge941 Factoring a quadratic with leading coefficient greater than 1: Problem type 3
 alge978 Factoring a quadratic by the ac-method
 alge265 Factoring a quadratic in two variables with leading coefficient greater than 1
 alge937 Factoring a quadratic with a negative leading coefficient
 alge944 Factoring a perfect square trinomial with leading coefficient 1
 alge945 Factoring a perfect square trinomial with leading coefficient greater than 1
 alge946 Factoring a perfect square trinomial in two variables
 alge290 Factoring a difference of squares in one variable: Basic
 alge947 Factoring a difference of squares in one variable: Advanced
 alge839 Factoring a difference of squares in two variables
 alge948 Factoring a polynomial involving a GCF and a difference of squares: Univariate
 alge833 Factoring a polynomial involving a GCF and a difference of squares: Multivariate
 alge041 Factoring a product of a quadratic trinomial and a monomial
 alge042 Factoring with repeated use of the difference of squares formula
 alge044 Factoring a sum or difference of two cubes

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alge049 Restriction on a variable in a denominator: Linear
 alge467 Restriction on a variable in a denominator: Quadratic
 alge468 Evaluating a rational function: Problem type 1
 alge469 Evaluating a rational function: Problem type 2
 alge715 Domain of a rational function: Excluded values
 alge454 Simplifying a ratio of factored polynomials: Linear factors
 alge455 Simplifying a ratio of factored polynomials: Factors with exponents
 alge456 Simplifying a ratio of polynomials using GCF factoring
 alge457 Simplifying a ratio of linear polynomials: 1, -1, and no simplification
 alge458 Simplifying a ratio of polynomials by factoring a quadratic with leading coefficient 1
 alge710 Simplifying a ratio of polynomials: Problem type 1
 alge682 Simplifying a ratio of polynomials: Problem type 2
 alge459 Simplifying a ratio of polynomials: Problem type 3
 alge034 Simplifying a ratio of multivariate polynomials

alge053 Multiplying rational expressions involving multivariate monomials
 alge460 Multiplying rational expressions made up of linear expressions
 alge620 Multiplying rational expressions involving quadratics with leading coefficients of 1
 alge461 Multiplying rational expressions involving quadratics with leading coefficients greater than 1
 alge462 Multiplying rational expressions involving multivariate quadratics
 alge054 Dividing rational expressions involving multivariate monomials
 alge463 Dividing rational expressions involving linear expressions
 alge766 Dividing rational expressions involving quadratics with leading coefficients of 1
 alge464 Dividing rational expressions involving quadratics with leading coefficients greater than 1
 alge465 Dividing rational expressions involving multivariate quadratics
 alge466 Multiplication and division of 3 rational expressions
 alge737 Introduction to the LCM of two monomials
 alge055 Least common multiple of two monomials
 alge427 Finding the LCD of rational expressions with linear denominators: Relatively prime
 alge428 Finding the LCD of rational expressions with linear denominators: Common factors
 alge429 Finding the LCD of rational expressions with quadratic denominators
 alge430 Writing equivalent rational expressions with monomial denominators
 alge431 Writing equivalent rational expressions with polynomial denominators
 alge304 Writing equivalent rational expressions involving opposite factors
 alge433 Adding rational expressions with common denominators and monomial numerators
 alge056 Adding rational expressions with common denominators and binomial numerators
 alge434 Adding rational expressions with common denominators and GCF factoring
 alge435 Adding rational expressions with common denominators and quadratic factoring
 alge437 Adding rational expressions with denominators ax and bx : Basic
 alge438 Adding rational expressions with denominators ax and bx : Advanced
 alge439 Adding rational expressions with denominators axn and bxm
 alge440 Adding rational expressions with multivariate monomial denominators: Basic
 alge226 Adding rational expressions with multivariate monomial denominators: Advanced
 alge441 Adding rational expressions with linear denominators without common factors: Basic
 alge442 Adding rational expressions with linear denominators without common factors: Advanced
 alge443 Adding rational expressions with linear denominators with common factors: Basic
 alge444 Adding rational expressions with linear denominators with common factors: Advanced
 alge445 Adding rational expressions with denominators $ax-b$ and $b-ax$
 alge661 Adding rational expressions involving different quadratic denominators
 alge446 Adding 3 rational expressions with different quadratic denominators
 alge470 Complex fraction involving univariate monomials
 alge058 Complex fraction involving multivariate monomials
 alge471 Complex fraction: GCF factoring
 alge472 Complex fraction: Quadratic factoring
 alge473 Complex fraction made of sums involving rational expressions: Problem type 1
 alge474 Complex fraction made of sums involving rational expressions: Problem type 2
 alge475 Complex fraction made of sums involving rational expressions: Problem type 3
 alge476 Complex fraction made of sums involving rational expressions: Problem type 4
 alge477 Complex fraction made of sums involving rational expressions: Problem type 5
 alge478 Complex fraction made of sums involving rational expressions: Problem type 6
 alge479 Complex fraction made of sums involving rational expressions: Multivariate
 alge480 Complex fraction with negative exponents: Problem type 1
 alge481 Complex fraction with negative exponents: Problem type 2
 alge162 Complex fraction that contains a complex fraction
 alge060 Solving a rational equation that simplifies to linear: Denominator x
 alge205 Solving a rational equation that simplifies to linear: Denominator $x+a$
 alge769 Solving a rational equation that simplifies to linear: Denominators a , x , or ax
 alge421 Solving a rational equation that simplifies to linear: Denominators ax and bx
 alge422 Solving a rational equation that simplifies to linear: Like binomial denominators
 alge206 Solving a rational equation that simplifies to linear: Unlike binomial denominators
 alge423 Solving a rational equation that simplifies to linear: Factorable quadratic denominator
 alge424 Solving a rational equation that simplifies to quadratic: Proportional form, basic
 alge425 Solving a rational equation that simplifies to quadratic: Denominator x
 alge212 Solving a rational equation that simplifies to quadratic: Binomial denominators, constant numerators
 alge062 Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators
 alge426 Solving a rational equation that simplifies to quadratic: Factorable quadratic denominator
 alge047 Solving a rational equation that simplifies to quadratic: Proportional form, advanced

alge508 Solving for a variable in terms of other variables in a rational equation: Problem type 1
 alge509 Solving for a variable in terms of other variables in a rational equation: Problem type 2
 alge510 Solving for a variable in terms of other variables in a rational equation: Problem type 3
 arith612 Word problem involving multiple rates
 alge770 Solving a work problem using a rational equation
 alge450 Solving a distance, rate, time problem using a rational equation
 alge059 Ordering fractions with variables
 alge982 Identifying direct variation equations
 alge938 Identifying direct variation from ordered pairs and writing equations
 alge904 Writing a direct variation equation
 alge175 Word problem on direct variation
 alge828 Interpreting direct variation from a graph
 alge905 Writing an inverse variation equation
 alge903 Identifying direct and inverse variation equations
 alge902 Identifying direct and inverse variation from ordered pairs and writing equations
 alge176 Word problem on inverse variation
 alge220 Word problem on inverse proportions
 pcalc681 Writing an equation that models variation
 alge772 Word problem on combined variation

Quadratic Equations and Functions

alge681 Solving an equation written in factored form
 alge956 Finding the roots of a quadratic equation of the form $ax^2 + bx = 0$
 alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
 alge211 Solving a quadratic equation needing simplification
 alge703 Solving a word problem using a quadratic equation with rational roots
 alge713 Using the Pythagorean Theorem and a quadratic equation to find side lengths of a right triangle
 alge413 Finding all square roots of a number
 arith760 Square roots of perfect squares with signs
 alge415 Introduction to simplifying a radical expression with an even exponent
 alge264 Square root of a perfect square monomial
 arith094 Cube root of an integer
 alge549 Finding n th roots of perfect n th powers with signs
 arith768 Finding the n th root of a perfect n th power fraction
 alge550 Finding the n th root of a perfect n th power monomial
 arith093 Simplifying the square root of a whole number less than 100
 arith762 Simplifying the square root of a whole number greater than 100
 alge080 Simplifying a radical expression with an even exponent
 alge520 Introduction to simplifying a radical expression with an odd exponent
 alge521 Simplifying a radical expression with an odd exponent
 alge275 Simplifying a radical expression with two variables
 alge273 Simplifying a higher root of a whole number
 alge551 Introduction to simplifying a higher radical expression
 alge552 Simplifying a higher radical expression: Univariate
 alge811 Simplifying a higher radical expression: Multivariate
 arith767 Introduction to square root addition or subtraction
 arith032 Square root addition or subtraction
 alge533 Square root addition or subtraction with three terms
 alge531 Introduction to simplifying a sum or difference of radical expressions: Univariate
 alge532 Simplifying a sum or difference of radical expressions: Univariate
 alge084 Simplifying a sum or difference of radical expressions: Multivariate
 alge554 Simplifying a sum or difference of higher roots
 alge555 Simplifying a sum or difference of higher radical expressions
 arith764 Introduction to square root multiplication
 arith765 Square root multiplication: Basic
 arith039 Square root multiplication: Advanced
 alge522 Introduction to simplifying a product of radical expressions: Univariate
 alge523 Simplifying a product of radical expressions: Univariate

alge640 Simplifying a product of radical expressions: Multivariate
 alge556 Introduction to simplifying a product of higher roots
 alge557 Simplifying a product of higher radical expressions
 alge525 Introduction to simplifying a product involving square roots using the distributive property
 alge526 Simplifying a product involving square roots using the distributive property: Basic
 alge276 Simplifying a product involving square roots using the distributive property: Advanced
 alge774 Special products of radical expressions: Conjugates and squaring
 alge984 Classifying sums and products as rational or irrational
 arith766 Simplifying a quotient of square roots
 alge530 Simplifying a quotient involving a sum or difference with a square root
 alge527 Rationalizing a denominator: Quotient involving square roots
 alge528 Rationalizing a denominator: Square root of a fraction
 alge529 Rationalizing a denominator: Quotient involving a monomial
 alge534 Rationalizing a denominator using conjugates: Integer numerator
 alge535 Rationalizing a denominator using conjugates: Square root in numerator
 alge536 Rationalizing a denominator using conjugates: Variable in denominator
 alge564 Rationalizing a denominator: Quotient involving a higher radical
 alge400 Introduction to solving a radical equation
 alge089 Solving a radical equation that simplifies to a linear equation: One radical, basic
 alge402 Solving a radical equation that simplifies to a linear equation: One radical, advanced
 alge090 Solving a radical equation that simplifies to a linear equation: Two radicals
 alge405 Solving a radical equation with two radicals that simplifies to $\sqrt{x} = a$
 alge403 Solving a radical equation that simplifies to a quadratic equation: One radical, basic
 alge404 Solving a radical equation that simplifies to a quadratic equation: One radical, advanced
 alge411 Solving a radical equation with a quadratic expression under the radical
 alge182 Solving a radical equation that simplifies to a quadratic equation: Two radicals
 alge410 Solving an equation with a root index greater than 2: Problem type 1
 alge417 Solving an equation with a root index greater than 2: Problem type 2
 alge412 Algebraic symbol manipulation with radicals
 alge542 Word problem involving radical equations: Basic
 alge409 Word problem involving radical equations: Advanced
 alge132 Distance between two points in the plane: Exact answers
 alge539 Table for a square root function
 alge540 Domain of a square root function: Basic
 pcalc763 Domain of a square root function: Advanced
 alge543 Graphing a square root function: Problem type 1
 alge544 Graphing a square root function: Problem type 2
 alge812 Converting between radical form and exponent form
 alge560 Rational exponents: Unit fraction exponents and whole number bases
 alge561 Rational exponents: Unit fraction exponents and bases involving signs
 alge250 Rational exponents: Non-unit fraction exponent with a whole number base
 alge251 Rational exponents: Negative exponents and fractional bases
 alge558 Rational exponents: Product rule
 alge559 Rational exponents: Quotient rule
 alge773 Rational exponents: Products and quotients with negative exponents
 alge562 Rational exponents: Power of a power rule
 alge249 Rational exponents: Powers of powers with negative exponents
 alge563 Simplifying products or quotients of higher radicals with different indices: Univariate
 alge778 Using i to rewrite square roots of negative numbers
 alge779 Simplifying a product and quotient involving square roots of negative numbers
 pcalc048 Adding or subtracting complex numbers
 pcalc049 Multiplying complex numbers
 pcalc050 Dividing complex numbers
 pcalc053 Simplifying a power of i
 alge962 Solving an equation of the form $x^2 = a$ using the square root property
 alge092 Solving a quadratic equation using the square root property: Exact answers, basic
 alge227 Solving a quadratic equation using the square root property: Exact answers, advanced
 alge094 Completing the square
 alge780 Solving a quadratic equation by completing the square: Exact answers
 alge095 Applying the quadratic formula: Exact answers
 alge963 Applying the quadratic formula: Decimal answers
 pcalc051 Solving a quadratic equation with complex roots

alge214 Discriminant of a quadratic equation
 alge524 Solving a word problem using a quadratic equation with irrational roots
 alge954 Graphing a parabola of the form $y = ax^2$
 alge955 Graphing a parabola of the form $y = ax^2 + c$
 alge974 Finding the vertex, x-intercepts, and axis of symmetry from the graph of a parabola
 alge953 Translating the graph of a parabola: One step
 alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
 alge569 Graphing a parabola of the form $y = x^2 + bx + c$
 pcalc746 Graphing a parabola of the form $y = ax^2 + bx + c$: Integer coefficients
 pcalc747 Graphing a parabola of the form $y = ax^2 + bx + c$: Rational coefficients
 alge277 Finding the x-intercept(s) and the vertex of a parabola
 pcalc774 Rewriting a quadratic function to find the vertex of its graph
 pcalc775 Finding the maximum or minimum of a quadratic function
 alge785 Word problem involving the maximum or minimum of a quadratic function
 alge975 Domain and range from the graph of a parabola
 pcalc762 Range of a quadratic function
 alge957 Solving a quadratic equation by graphing
 alge996 Comparing properties of quadratic functions given in different forms
 alge702 Classifying the graph of a function
 alge723 How the leading coefficient affects the shape of a parabola
 alge965 Identifying linear, quadratic, and exponential functions given ordered pairs
 alge262 Graphing a cubic function of the form $y = ax^3$
 fun019 Sum, difference, and product of two functions
 fun022 Composition of two functions: Basic
 pcalc776 Expressing a function as a composition of two functions
 pcalc924 Determining whether an equation defines a function: Basic
 pcalc757 Determining whether an equation defines a function: Advanced

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Whole Numbers

arith124 Whole number place value: Problem type 1
 arith125 Whole number place value: Problem type 2
 arith066 Expanded form
 arith643 Expanded form with zeros
 arith028 Numeral translation: Problem type 1
 arith060 Numeral translation: Problem type 2
 arith633 One-digit addition with carry
 arith634 Addition of 3 or 4 one-digit numbers
 arith001 Addition without carry
 arith635 Adding a 2-digit number and a 1-digit number with carry
 arith050 Addition with carry
 arith630 Addition with carry to the hundreds place
 arith012 Addition of large numbers
 arith636 Subtracting a 1-digit number from a 2-digit number
 arith007 Subtraction without borrowing
 arith128 Adding or subtracting 10, 100, or 1000
 arith006 Subtraction with borrowing
 arith682 Subtraction with multiple regrouping steps
 arith637 Subtraction and regrouping with zeros
 arith613 Word problem with addition or subtraction of whole numbers
 arith655 Introduction to properties of addition
 arith126 Multiplication as repeated addition
 arith008 One-digit multiplication
 arith679 Multiplication by 10, 100, and 1000
 arith003 Multiplication without carry
 arith004 Multiplication with carry

arith632 Multiplication with trailing zeros: Problem type 1
arith615 Introduction to multiplication of large numbers
arith638 Multiplication with trailing zeros: Problem type 2
arith014 Multiplication of large numbers
arith641 Multiples: Problem type 1
arith642 Multiples: Problem type 2
arith656 Introduction to properties of multiplication
arith075 Division facts
arith614 Word problem with multiplication or division of whole numbers
arith130 Word problem with multiplication and addition or subtraction of whole numbers
arith243 Division of whole numbers given in fractional form
arith711 Division involving zero
arith052 Division without carry
arith005 Division with carry
arith680 Division with trailing zeros: Problem type 1
arith649 Division with trailing zeros: Problem type 2
arith616 Quotient and remainder: Problem type 1
arith644 Word problem on quotient and remainder
arith617 Quotient and remainder: Problem type 2
arith631 Quotient and remainder: Problem type 3
arith650 Division involving quotients with intermediate zeros
arith023 Word problem with division of whole numbers and rounding
arith651 Introduction to inequalities
arith077 Ordering large numbers
arith078 Rounding to tens or hundreds
arith123 Rounding to hundreds or thousands
arith061 Rounding to thousands, ten thousands, or hundred thousands
arith101 Estimating a sum of whole numbers
arith102 Estimating a difference of whole numbers
arith604 Estimating a product or quotient of whole numbers
arith692 Writing expressions using exponents
arith233 Introduction to exponents
arith683 Power of 10: Positive exponent
arith645 Introduction to parentheses
arith681 Introduction to order of operations
arith048 Order of operations with whole numbers
arith051 Order of operations with whole numbers and grouping symbols
arith693 Order of operations with whole numbers and exponents: Basic
arith713 Order of operations with whole numbers and exponents: Advanced
arith657 Understanding the distributive property
alge284 Evaluating an algebraic expression: Whole number addition or subtraction
alge683 Evaluating an algebraic expression: Whole number multiplication or division
alge285 Evaluating an algebraic expression: Whole numbers with two operations
alge832 Evaluating an algebraic expression: Whole number operations and exponents
alge009 Additive property of equality with whole numbers
alge008 Multiplicative property of equality with whole numbers
alge803 Using two steps to solve an equation with whole numbers
arith646 Even and odd numbers
arith647 Divisibility rules for 2, 5, and 10
arith648 Divisibility rules for 3 and 9
arith056 Factors
arith034 Prime numbers
arith035 Prime factorization
arith033 Greatest common factor of 2 numbers
arith070 Least common multiple of 2 numbers
arith804 Least common multiple of 3 numbers
arith240 Word problem with common multiples
alge925 Finding the next terms of an arithmetic sequence with whole numbers
alge933 Finding the next terms of a geometric sequence with whole numbers
alge732 Finding patterns in shapes

Fractions

arith623 Introduction to fractions
arith665 Understanding equivalent fractions
arith212 Equivalent fractions
arith666 Introduction to simplifying a fraction
arith067 Simplifying a fraction
arith687 Fractional position on a number line
arith667 Plotting fractions on a number line
arith044 Ordering fractions with the same denominator
arith091 Ordering fractions with the same numerator
arith092 Using a common denominator to order fractions
arith079 Product of a unit fraction and a whole number
arith086 Product of a fraction and a whole number: Problem type 1
arith119 Introduction to fraction multiplication
arith053 Fraction multiplication
arith812 Product of a fraction and a whole number: Problem type 2
arith813 Multiplication of 3 fractions
arith818 Word problem involving fractions and multiplication
arith095 Multi-step word problem involving fractions and multiplication
arith088 The reciprocal of a number
arith694 Division involving a whole number and a fraction
arith022 Fraction division
arith819 Word problem involving fractions and division
arith618 Addition or subtraction of fractions with the same denominator
arith802 Addition or subtraction of fractions with the same denominator and simplification
arith801 Finding the LCD of two fractions
arith109 Addition or subtraction of unit fractions
arith664 Introduction to addition or subtraction of fractions with different denominators
arith230 Addition or subtraction of fractions with different denominators
arith803 Addition and subtraction of 3 fractions with different denominators
arith805 Word problem involving addition or subtraction of fractions with different denominators
arith100 Fractional part of a circle
arith662 Writing a mixed number and an improper fraction for a shaded region
arith015 Writing an improper fraction as a mixed number
arith619 Writing a mixed number as an improper fraction
arith215 Addition or subtraction of mixed numbers with the same denominator
arith084 Addition of mixed numbers with the same denominator and carry
arith216 Subtraction of mixed numbers with the same denominator and borrowing
arith806 Addition or subtraction of mixed numbers with different denominators and no carry or borrow
arith808 Addition of mixed numbers with different denominators and carry
arith809 Subtraction of mixed numbers with different denominators and borrowing
arith807 Addition and subtraction of 3 mixed numbers with different denominators
arith810 Word problem involving addition or subtraction of mixed numbers with different denominators
arith815 Mixed number multiplication
arith816 Multiplication of a mixed number and a whole number
arith817 Division with a mixed number and a whole number
arith068 Mixed number division
arith820 Word problem involving multiplication or division with mixed numbers
arith821 Exponents and fractions
arith859 Order of operations with fractions: Problem type 1
arith860 Order of operations with fractions: Problem type 2
arith861 Order of operations with fractions: Problem type 3
arith695 Complex fraction without variables: Problem type 1

Decimals, Proportions, and Percents

arith127 Writing a decimal and a fraction for a shaded region
arith110 Decimal place value: Tenths and hundredths

arith220 Decimal place value: Hundreds to ten thousandths
arith714 Writing a decimal number less than 1 given its name
arith715 Writing a decimal number greater than 1 given its name
arith716 Writing a decimal number given its name: Advanced
arith829 Reading decimal position on a number line: Tenths
arith830 Reading decimal position on a number line: Hundredths
arith831 Understanding decimal position on a number line using zoom: Hundredths
arith832 Understanding decimal position on a number line using zoom: Thousandths
arith129 Introduction to ordering decimals
arith608 Ordering decimals
arith221 Rounding decimals
arith717 Converting a decimal to a proper fraction without simplifying: Basic
arith719 Converting a decimal to a proper fraction without simplifying: Advanced
arith718 Converting a decimal to a proper fraction in simplest form: Basic
arith087 Converting a decimal to a proper fraction in simplest form: Advanced
arith721 Converting a decimal to a mixed number and an improper fraction without simplifying
arith722 Converting a decimal to a mixed number and an improper fraction in simplest form: Basic
arith724 Converting a decimal to a mixed number and an improper fraction in simplest form: Advanced
arith624 Addition of aligned decimals
arith013 Decimal addition with 3 numbers
arith734 Subtraction of aligned decimals
arith735 Decimal subtraction: Basic
arith736 Decimal subtraction: Advanced
arith737 Decimal addition and subtraction with 3 or more numbers
arith131 Estimating a decimal sum or difference
arith132 Word problem with addition or subtraction of 2 decimals
arith133 Word problem with addition of 3 or 4 decimals and whole numbers
arith134 Word problem with subtraction of a whole number and a decimal: Regrouping with zeros
arith739 Introduction to decimal multiplication
arith017 Multiplication of a decimal by a whole number
arith055 Decimal multiplication: Problem type 1
arith046 Decimal multiplication: Problem type 2
arith082 Multiplication of a decimal by a power of ten
arith738 Multiplication of a decimal by a power of 0.1
arith740 Multiplication of decimals that have a product less than 0.1
arith752 Estimating a product of decimals
arith135 Word problem with multiplication of a decimal and a whole number
arith137 Word problem with multiplication of two decimals
arith224 Word problem with decimal addition and multiplication
arith744 Whole number division with decimal answers
arith081 Division of a decimal by a whole number
arith743 Division of a decimal by a 1-digit decimal
arith019 Division of a decimal by a 2-digit decimal
arith083 Division of a decimal by a power of ten
arith742 Division of a decimal by a power of 0.1
arith745 Decimal division with rounding
arith136 Word problem with division of a decimal and a whole number
arith138 Word problem with division of two decimals
arith227 Word problem with decimal subtraction and division
alge823 Solving a one-step word problem using the formula $d = rt$
arith725 Converting a fraction with a denominator of 10 or 100 to a decimal
arith726 Converting a fraction with a denominator of 100 or 1000 to a decimal
arith609 Ordering fractions and decimals
arith727 Converting a fraction to a terminating decimal: Basic
arith728 Converting a fraction to a terminating decimal: Advanced
arith730 Converting a fraction to a repeating decimal: Basic
arith731 Converting a fraction to a repeating decimal: Advanced
arith733 Using a calculator to convert a fraction to a rounded decimal
arith111 Converting a mixed number to a terminating decimal: Basic
arith112 Converting a mixed number to a terminating decimal: Advanced
arith732 Converting a fraction or mixed number to a rounded decimal
arith753 Squaring decimal bases: Products greater than 0.1

arith741 Exponents and decimals: Products less than 0.1
 arith720 Order of operations with decimals: Problem type 1
 arith746 Order of operations with decimals: Problem type 2
 arith747 Order of operations with decimals: Problem type 3
 arith748 Addition or subtraction with a decimal and a mixed number
 arith749 Multiplication with a decimal and a fraction
 arith823 Writing ratios using different notations
 arith663 Writing ratios for real-world situations
 arith824 Simplifying a ratio of whole numbers: Problem type 1
 arith825 Simplifying a ratio of decimals
 arith827 Finding a unit price
 arith828 Computing unit prices to find the better buy
 arith064 Solving a word problem on proportions using a unit rate
 arith228 Word problem on unit rates associated with ratios of whole numbers: Decimal answers
 arith611 Word problem on proportions: Problem type 2
 alge063 Word problem on mixed number proportions
 arith045 Word problem with powers of ten
 arith836 Converting a fraction with a denominator of 100 to a percentage
 arith837 Converting a percentage to a fraction with a denominator of 100
 arith674 Finding the percentage of a grid that is shaded
 arith723 Introduction to converting a percentage to a decimal
 arith833 Introduction to converting a decimal to a percentage
 arith834 Converting between percentages and decimals
 arith841 Converting a mixed number percentage to a decimal
 arith835 Converting between percentages and decimals in a real-world situation
 arith090 Converting a percentage to a fraction in simplest form
 arith839 Converting a decimal percentage to a fraction
 arith838 Converting a fraction to a percentage: Denominator of 4, 5, or 10
 arith002 Converting a fraction to a percentage: Denominator of 20, 25, or 50
 arith843 Using a calculator to convert a fraction to a rounded percentage
 arith842 Converting a fraction to a percentage in a real-world situation
 arith840 Finding a percentage of a whole number
 arith030 Finding a percentage of a whole number without a calculator: Basic
 arith844 Finding a percentage of a whole number without a calculator: Advanced
 arith862 Applying the percent equation: Problem type 1
 arith863 Applying the percent equation: Problem type 2
 arith845 Finding a percentage of a total amount: Real-world situations
 arith846 Finding a percentage of a total amount without a calculator: Sales tax, commission, discount
 arith857 Estimating a tip without a calculator
 arith069 Writing a ratio as a percentage without a calculator
 mstat049 Computing a percentage from a table of values
 arith850 Finding the rate of a tax or commission
 arith849 Finding the total amount given the percentage of a partial amount
 arith852 Finding the multiplier to give a final amount after a percentage increase or decrease
 arith851 Finding the final amount given the original amount and a percentage increase or decrease
 arith847 Finding the sale price given the original price and percent discount
 arith074 Finding the sale price without a calculator given the original price and percent discount
 arith848 Finding the total cost including tax or markup
 arith855 Finding the original amount given the result of a percentage increase or decrease
 arith031 Finding the original price given the sale price and percent discount
 arith858 Finding the percentage increase or decrease: Basic
 arith225 Finding the percentage increase or decrease: Advanced
 arith232 Finding simple interest without a calculator
 arith856 Finding a percentage of a total amount in a circle graph
 stat801 Computations from a circle graph

Geometry

geom339 Perimeter of a polygon
 geom300 Perimeter of a square or a rectangle

geom618 Perimeter of a polygon involving mixed numbers and fractions
geom078 Sides of polygons having the same perimeter
geom221 Finding the missing length in a figure
geom353 Perimeter of a piecewise rectangular figure
geom358 Identifying parallel and perpendicular lines
geom349 Naming segments, rays, and lines
geom151 Measuring an angle with the protractor
geom152 Drawing an angle with the protractor
geom303 Acute, obtuse, and right angles
geom039 Finding supplementary and complementary angles
geom305 Identifying supplementary and vertical angles
geom304 Identifying corresponding and alternate angles
geom306 Acute, obtuse, and right triangles
geom307 Classifying scalene, isosceles, and equilateral triangles by side lengths or angles
geom001 Finding an angle measure of a triangle given two angles
geom908 Finding an angle measure for a triangle with an extended side
geom812 Finding an angle measure given extended triangles
geom813 Finding an angle measure given a triangle and parallel lines
geom361 Naming polygons
mstat042 Interpreting a Venn diagram of 2 sets
geom867 Identifying parallelograms, rectangles, and squares
geom310 Properties of quadrilaterals
geom532 Classifying parallelograms
geom019 Area of a square or a rectangle
geom866 Perimeter and area on a grid
geom620 Area of a rectangle involving fractions
geom619 Area of a rectangle involving mixed numbers and fractions
geom350 Distinguishing between the area and perimeter of a rectangle
geom351 Areas of rectangles with the same perimeter
geom217 Finding the side length of a rectangle given its perimeter or area
geom340 Area of a piecewise rectangular figure
geom142 Word problem involving the area between two rectangles
geom801 Area of a triangle
geom344 Area involving rectangles and triangles
geom022 Area of a parallelogram
geom023 Area of a trapezoid
geom347 Introduction to a circle: Diameter, radius, and chord
geom016 Circumference of a circle
geom301 Perimeter involving rectangles and circles
geom802 Circumference and area of a circle
geom302 Area involving rectangles and circles
geom036 Word problem involving the area between two concentric circles
geom214 Area involving inscribed figures
geom814 Angle measure in a circle graph
geom868 Classifying solids
geom348 Vertices, edges, and faces of a solid
geom830 Counting the cubes in a solid made of cubes
geom354 Volume of a rectangular prism made of unit cubes
geom311 Volume of a rectangular prism
geom505 Volume of a piecewise rectangular prism
geom090 Volume of a triangular prism
geom033 Volume of a pyramid
geom035 Volume of a cylinder
geom092 Word problem involving the rate of filling or emptying a cylinder
geom622 Volume of a cone
geom841 Volume of a sphere
geom219 Nets of solids
geom816 Side views of a solid made of cubes
geom031 Surface area of a cube or a rectangular prism
geom345 Surface area of a piecewise rectangular prism made of unit cubes
geom091 Surface area of a triangular prism
geom621 Surface area of a cylinder

geom842 Surface area of a sphere
 arith016 Square root of a perfect square
 arith763 Using a calculator to approximate a square root
 arith602 Estimating a square root
 arith601 Square root of a rational perfect square
 alge407 Introduction to the Pythagorean Theorem
 geom044 Pythagorean Theorem
 alge408 Word problem involving the Pythagorean Theorem
 geom359 Identifying congruent shapes on a grid
 geom520 Identifying and naming congruent triangles
 geom360 Identifying similar or congruent shapes on a grid
 geom037 Similar polygons
 geom038 Similar right triangles
 geom337 Indirect measurement

Measurement and Data Analysis

mstat059 Choosing U.S. Customary measurement units
 unit005 U.S. Customary unit conversion with whole number values
 mstat035 Conversions involving measurements in feet and inches
 mstat036 Adding measurements in feet and inches
 unit006 U.S. Customary unit conversion with whole number values: Two-step conversion
 unit007 U.S. Customary unit conversion with mixed number values: One-step conversion
 unit008 U.S. Customary unit conversion with mixed number values: Two-step conversion
 unit009 U.S. Customary area unit conversion with whole number values
 mstat060 Choosing metric measurement units
 unit001 Metric distance conversion with whole number values
 unit002 Metric mass or capacity conversion with whole number values
 unit003 Metric distance conversion with decimal values
 unit004 Metric conversion with decimal values: Two-step problem
 unit010 Metric area unit conversion with decimal values
 unit012 Time unit conversion with whole number values
 time006 Adding time
 time007 Elapsed time
 arith063 Word problem with clocks
 mstat065 Converting between temperatures in Fahrenheit and Celsius
 arith826 Simplifying a ratio of whole numbers: Problem type 2
 unit034 Converting between metric and U.S. Customary unit systems
 unit035 Converting between compound units: Basic
 unit036 Converting between compound units: Advanced
 mstat056 Interpreting a tally table
 mstat037 Constructing a line plot
 mstat005 Constructing a bar graph for non-numerical data
 mstat004 Constructing a histogram for numerical data
 mstat024 Interpreting a bar graph
 mstat044 Interpreting a double bar graph
 mstat057 Interpreting a pictograph table
 mstat007 Interpreting a line graph
 mstat031 Interpreting a stem-and-leaf plot
 stat804 Interpreting a circle graph or pie chart
 stat020 Calculating relative frequencies in a contingency table
 stat805 Making a reasonable inference based on proportion statistics
 mstat025 Finding if a question can be answered by the data
 mstat003 Mode of a data set
 mstat055 Finding the mode and range of a data set
 arith103 Average of two numbers
 mstat001 Mean of a data set
 mstat028 Mean and median of a data set
 mstat029 How changing a value affects the mean and median
 mstat053 Choosing the best measure to describe data

stat802 Rejecting unreasonable claims based on average statistics
 mstat066 Weighted mean
 mstat027 Using back-to-back stem-and-leaf plots to compare data sets
 mstat072 Five-number summary and interquartile range
 mstat006 Constructing a box-and-whisker plot
 mstat073 Using box-and-whisker plots to compare data sets
 mstat043 Interpreting a Venn diagram of 3 sets
 mstat041 Interpreting a tree diagram
 mstat040 Introduction to the counting principle
 mstat015 Counting principle
 pcalc082 Factorial expressions
 mstat017 Computing permutations and combinations
 mstat008 Word problem involving permutations
 mstat009 Word problem involving combinations
 mstat026 Introduction to the probability of an event
 mstat010 Probability of an event
 mstat039 Understanding likelihood
 mstat048 Odds of an event
 stat106 Outcomes and event probability
 stat112 Probabilities involving two dice
 mstat011 Area as probability
 mstat046 Experimental and theoretical probability
 mstat047 Introduction to expectation
 mstat012 Probability of independent events
 mstat013 Probability of dependent events
 mstat032 Probability of the union of two events

Real Numbers and Algebraic Expressions

alge286 Plotting integers on a number line
 arith605 Plotting rational numbers on a number line
 mstat038 Reading the temperature from a thermometer
 arith699 Writing a signed number for a real-world situation
 arith691 Ordering integers
 arith712 Ordering real numbers
 arith071 Absolute value of a number
 arith200 Integer addition: Problem type 1
 arith108 Integer addition: Problem type 2
 arith688 Integer subtraction: Problem type 1
 arith689 Integer subtraction: Problem type 2
 arith690 Integer subtraction: Problem type 3
 arith754 Addition and subtraction with 3 integers
 arith755 Addition and subtraction with 4 or 5 integers
 arith701 Word problem with addition or subtraction of integers
 arith231 Integer multiplication and division
 arith800 Multiplication of 3 or 4 integers
 alge001 Identifying numbers as integers or non-integers
 alge002 Identifying numbers as rational or irrational
 arith116 Signed fraction addition or subtraction: Basic
 arith864 Signed fraction subtraction involving double negation
 arith106 Signed fraction addition or subtraction: Advanced
 arith811 Addition and subtraction of 3 fractions involving signs
 arith822 Signed fraction multiplication: Basic
 arith105 Signed fraction multiplication: Advanced
 arith814 Signed fraction division
 arith117 Signed decimal addition and subtraction
 arith234 Signed decimal addition and subtraction with 3 numbers
 arith750 Signed decimal multiplication
 arith751 Signed decimal division
 arith104 Operations with absolute value: Problem type 2

geom525 Computing distances between decimals on the number line
 unit052 Finding the absolute error and percent error of a measurement
 arith704 Exponents and signed fractions
 arith702 Exponents and integers: Problem type 1
 arith703 Exponents and integers: Problem type 2
 arith118 Order of operations with integers
 arith600 Order of operations with integers and exponents
 arith696 Complex fraction without variables: Problem type 2
 alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge808 Evaluating a linear expression: Signed fraction multiplication with addition or subtraction
 alge302 Evaluating a linear expression: Signed decimal addition and subtraction
 alge303 Evaluating a linear expression: Signed decimal multiplication with addition or subtraction
 alge004 Evaluating a quadratic expression: Integers
 alge700 Combining like terms: Whole number coefficients
 alge607 Combining like terms: Integer coefficients
 alge187 Properties of addition
 alge310 Multiplying a constant and a linear monomial
 alge606 Distributive property: Whole number coefficients
 alge604 Distributive property: Integer coefficients
 alge188 Properties of real numbers
 alge608 Using distribution and combining like terms to simplify: Univariate
 alge609 Using distribution with double negation and combining like terms to simplify: Multivariate
 alge293 Combining like terms in a quadratic expression
 alge432 Introduction to adding fractions with variables and common denominators
 alge436 Adding rational expressions with different denominators and a single occurrence of a variable

Linear Equations

alge801 Additive property of equality with fractions and mixed numbers
 alge800 Additive property of equality with decimals
 alge010 Additive property of equality with integers
 alge836 Additive property of equality with signed fractions
 alge820 Multiplicative property of equality with fractions
 alge825 Multiplicative property of equality with decimals
 alge797 Multiplicative property of equality with integers
 alge012 Multiplicative property of equality with signed fractions
 alge834 Identifying solutions to a linear equation in one variable: Two-step equations
 alge266 Additive property of equality with a negative coefficient
 alge006 Solving a two-step equation with integers
 alge200 Solving an equation to find the value of an expression
 alge920 Introduction to solving an equation with parentheses
 alge837 Solving a multi-step equation given in fractional form
 alge986 Identifying properties used to solve a linear equation
 alge824 Solving a two-step equation with signed decimals
 alge838 Introduction to solving an equation with variables on the same side
 alge862 Solving a linear equation with several occurrences of the variable: Variables on the same side
 alge863 Solving a linear equation with several occurrences of the variable: Variables on both sides
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
 alge420 Solving a linear equation with several occurrences of the variable: Fractional forms with monomial numerators
 alge208 Solving a two-step equation with signed fractions
 alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
 alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators

alge742 Solving equations with zero, one, or infinitely many solutions
 alge840 Solving a proportion of the form $(x+a)\div b = c\div d$
 alge603 Introduction to solving an absolute value equation
 alge864 Solving an absolute value equation: Problem type 1
 alge511 Solving for a variable in terms of other variables using addition or subtraction: Basic
 alge512 Solving for a variable in terms of other variables using addition or subtraction: Advanced
 alge513 Solving for a variable in terms of other variables using multiplication or division: Basic
 alge514 Solving for a variable in terms of other variables using multiplication or division: Advanced
 alge517 Solving for a variable in terms of other variables using addition or subtraction with division
 alge518 Solving for a variable inside parentheses in terms of other variables
 alge507 Solving for a variable in terms of other variables in a linear equation with fractions
 alge733 Writing a one-step expression for a real-world situation
 alge831 Translating a phrase into a one-step expression
 alge291 Translating a phrase into a two-step expression
 alge016 Translating a sentence into a one-step equation
 alge841 Translating a sentence into a multi-step equation
 alge802 Solving a fraction word problem using a linear equation of the form $Ax = B$
 alge014 Solving a word problem with two unknowns using a linear equation
 alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
 alge730 Writing a multi-step equation for a real-world situation
 alge219 Solving a decimal word problem using a linear equation with the variable on both sides
 alge704 Solving a fraction word problem using a linear equation with the variable on both sides
 alge792 Solving a word problem with three unknowns using a linear equation
 alge842 Solving a word problem involving consecutive integers
 alge794 Solving a value mixture problem using a linear equation
 alge218 Solving a word problem involving rates and time conversion
 alge796 Solving a distance, rate, time problem using a linear equation
 arith854 Computing a percent mixture
 alge795 Solving a percent mixture problem using a linear equation
 geom817 Finding a side length given the perimeter and side lengths with variables
 geom143 Finding the perimeter or area of a rectangle given one of these values
 geom218 Finding the radius or the diameter of a circle given its circumference
 geom838 Circumference ratios
 geom530 Solving equations involving vertical angles
 geom531 Solving equations involving angles and a pair of parallel lines
 geom623 Finding angle measures of a triangle given angles with variables
 geom502 Finding angle measures of a right or isosceles triangle given angles with variables
 stat803 Finding the value for a new score that will yield a given mean
 alge015 Translating a sentence by using an inequality symbol
 alge845 Translating a sentence into a one-step inequality
 alge846 Translating a sentence into a multi-step inequality
 alge748 Writing an inequality for a real-world situation
 alge017 Graphing a linear inequality on the number line
 alge822 Writing an inequality given a graph on the number line
 alge186 Translating a sentence into a compound inequality
 alge166 Graphing a compound inequality on the number line
 alge847 Writing a compound inequality given a graph on the number line
 set001 Set builder notation
 set004 Set builder and interval notation
 set002 Union and intersection of finite sets
 alge844 Identifying solutions to a two-step linear inequality in one variable
 alge848 Additive property of inequality with whole numbers
 alge849 Additive property of inequality with integers
 alge852 Additive property of inequality with signed fractions
 alge853 Additive property of inequality with signed decimals
 alge854 Multiplicative property of inequality with integers
 alge964 Multiplicative property of inequality with signed fractions
 alge855 Solving a two-step linear inequality: Problem type 1
 alge856 Solving a two-step linear inequality: Problem type 2
 alge857 Solving a two-step linear inequality with a fractional coefficient
 alge977 Solving a linear inequality with multiple occurrences of the variable: Problem type 1
 alge858 Solving a linear inequality with multiple occurrences of the variable: Problem type 2

alge859 Solving a linear inequality with multiple occurrences of the variable: Problem type 3
 alge860 Solving inequalities with no solution or all real numbers as solutions
 alge746 Solving a compound linear inequality: Graph solution, basic
 alge747 Solving a compound linear inequality: Interval notation
 alge868 Solving an absolute value inequality: Problem type 1
 alge749 Solving a decimal word problem using a two-step linear inequality
 alge750 Solving a decimal word problem using a linear inequality with the variable on both sides

Lines and Functions

alge064 Reading a point in the coordinate plane
 alge067 Plotting a point in the coordinate plane
 alge850 Table for a linear equation
 alge873 Identifying solutions to a linear equation in two variables
 alge066 Finding a solution to a linear equation in two variables
 alge191 Midpoint of a line segment in the plane
 alge877 Graphing a linear equation of the form $y = mx$
 alge878 Graphing a line given its equation in slope-intercept form: Integer slope
 alge879 Graphing a line given its equation in slope-intercept form: Fractional slope
 alge880 Graphing a line given its equation in standard form
 alge198 Graphing a vertical or horizontal line
 alge884 Finding x- and y-intercepts given the graph of a line on a grid
 alge924 Finding x- and y-intercepts of a line given the equation: Basic
 alge210 Finding x- and y-intercepts of a line given the equation: Advanced
 alge197 Graphing a line given its x- and y-intercepts
 alge881 Graphing a line by first finding its x- and y-intercepts
 alge875 Classifying slopes given graphs of lines
 alge886 Finding slope given the graph of a line on a grid
 alge887 Finding slope given two points on the line
 alge885 Finding the slope of horizontal and vertical lines
 alge888 Finding the coordinate that yields a given slope
 alge259 Graphing a line given its slope and y-intercept
 alge196 Graphing a line through a given point with a given slope
 alge876 Identifying linear equations: Advanced
 alge874 Identifying linear functions given ordered pairs
 alge891 Rewriting a linear equation in the form $Ax + By = C$
 alge889 Finding the slope and y-intercept of a line given its equation in the form $y = mx + b$
 alge890 Finding the slope and y-intercept of a line given its equation in the form $Ax + By = C$
 alge882 Graphing a line by first finding its slope and y-intercept
 alge258 Writing an equation of a line given its slope and y-intercept
 alge892 Writing an equation and graphing a line given its slope and y-intercept
 alge893 Writing an equation in slope-intercept form given the slope and a point
 alge883 Graphing a line given its equation in point-slope form
 alge894 Writing an equation in point-slope form given the slope and a point
 alge070 Writing an equation of a line given the y-intercept and another point
 alge072 Writing the equation of the line through two given points
 alge073 Writing the equations of vertical and horizontal lines through a given point
 geom806 Finding slopes of lines parallel and perpendicular to a line given in slope-intercept form
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 alge895 Identifying parallel and perpendicular lines from equations
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 alge897 Writing and evaluating a function that models a real-world situation: Advanced
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 fun005 Writing a function rule given a table of ordered pairs: One-step rules
 fun006 Writing a function rule given a table of ordered pairs: Two-step rules
 alge992 Combining functions to write a new function that models a real-world situation
 alge987 Comparing properties of linear functions given in different forms
 alge989 Interpreting the parameters of a linear function that models a real-world situation
 alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
 alge806 Application problem with a linear function: Finding a coordinate given two points

mstat052 Identifying independent and dependent variables from equations or real-world situations
 alge991 Solving a linear equation by graphing
 mstat030 Sketching the line of best fit
 mstat023 Scatter plots and correlation
 mstat068 Predictions from the line of best fit
 mstat067 Approximating the equation of a line of best fit and making predictions
 mstat069 Computing residuals
 mstat070 Interpreting residual plots
 mstat071 Linear relationship and the correlation coefficient
 mstat074 Identifying correlation and causation
 alge898 Translating the graph of an absolute value function: One step
 alge899 Translating the graph of an absolute value function: Two steps
 alge913 Graphing an absolute value equation of the form $y = A|x - h| + k$
 alge900 Graphing an absolute value equation in the plane: Basic
 alge168 Graphing an absolute value equation in the plane: Advanced
 alge901 How the leading coefficient affects the graph of an absolute value function
 fun032 Identifying functions from relations
 fun010 Vertical line test
 fun016 Domain and range from ordered pairs
 fun001 Table for a linear function
 pcalc760 Evaluating functions: Linear and quadratic or cubic
 fun033 Variable expressions as inputs of functions: Problem type 1
 alge294 Finding outputs of a one-step function that models a real-world situation: Function notation
 alge295 Finding outputs of a two-step function with decimals that models a real-world situation: Function notation
 alge296 Finding inputs and outputs of a two-step function that models a real-world situation: Function notation
 alge990 Domain and range of a linear function that models a real-world situation
 fun026 Finding an output of a function from its graph
 pcalc761 Finding inputs and outputs of a function from its graph
 fun007 Domain and range from the graph of a discrete relation
 fun024 Domain and range from the graph of a continuous function
 alge896 Graphing an integer function and finding its range for a given domain
 alge570 Graphing a function of the form $f(x) = ax + b$: Integer slope
 alge571 Graphing a function of the form $f(x) = ax + b$: Fractional slope
 alge954 Graphing a parabola of the form $y = ax^2$
 alge955 Graphing a parabola of the form $y = ax^2 + c$
 alge572 Graphing a function of the form $f(x) = ax^2$
 alge573 Graphing a function of the form $f(x) = ax^2 + c$
 pcalc750 Finding intercepts of a nonlinear function given its graph
 pcalc751 Finding where a function is increasing, decreasing, or constant given the graph: Interval notation
 pcalc752 Finding local maxima and minima of a function given the graph
 mstat018 Choosing a graph to fit a narrative: Basic
 mstat051 Choosing a graph to fit a narrative: Advanced

Systems

alge914 Identifying solutions to a system of linear equations
 alge075 Classifying systems of linear equations from graphs
 alge725 Graphically solving a system of linear equations
 alge751 Solving a system of linear equations using substitution
 alge915 Solving a system of linear equations using elimination with addition
 alge076 Solving a system of linear equations using elimination with multiplication and addition
 alge916 Solving a system of linear equations with fractional coefficients
 alge917 Solving a system of linear equations with decimal coefficients
 alge752 Solving a 2×2 system of linear equations that is inconsistent or consistent dependent
 alge988 Identifying the operations used to create equivalent systems of equations
 alge753 Solving a 3×3 system of linear equations: Problem type 1
 alge263 Interpreting the graphs of two functions
 alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations
 alge919 Solving a word problem using a system of linear equations of the form $Ax + By = C$

alge918 Solving a word problem using a system of linear equations of the form $y = mx + b$
 alge184 Solving a value mixture problem using a system of linear equations
 alge192 Solving a percent mixture problem using a system of linear equations
 alge224 Solving a distance, rate, time problem using a system of linear equations
 alge172 Solving a tax rate or interest rate problem using a system of linear equations
 alge793 Solving a word problem using a 3x3 system of linear equations: Problem type 1
 alge912 Identifying solutions to a linear inequality in two variables
 alge225 Graphing a linear inequality in the plane: Vertical or horizontal line
 alge720 Graphing a linear inequality in the plane: Slope-intercept form
 alge018 Graphing a linear inequality in the plane: Standard form
 alge079 Graphing a system of two linear inequalities: Basic
 alge921 Graphing a system of two linear inequalities: Advanced
 alge922 Graphing a system of three linear inequalities
 alge729 Writing a multi-step inequality for a real-world situation
 pcalc093 Solving a word problem using a system of linear inequalities: Problem type 1

Exponents and Polynomials

alge821 Understanding the product rule of exponents
 alge024 Introduction to the product rule of exponents
 alge311 Product rule with positive exponents: Univariate
 alge030 Product rule with positive exponents: Multivariate
 arith029 Ordering numbers with positive exponents
 alge826 Understanding the power rules of exponents
 alge306 Introduction to the power of a power rule of exponents
 alge305 Introduction to the power of a product rule of exponents
 alge307 Power rules with positive exponents: Multivariate products
 alge308 Power rules with positive exponents: Multivariate quotients
 alge756 Power and product rules with positive exponents
 alge451 Simplifying a ratio of multivariate monomials: Basic
 alge827 Introduction to the quotient rule of exponents
 alge452 Simplifying a ratio of univariate monomials
 alge026 Quotient of expressions involving exponents
 alge453 Simplifying a ratio of multivariate monomials: Advanced
 alge927 Power and quotient rules with positive exponents
 alge790 Evaluating expressions with exponents of zero
 arith684 Power of 10: Negative exponent
 arith729 Evaluating an expression with a negative exponent: Whole number base
 arith042 Evaluating an expression with a negative exponent: Positive fraction base
 arith043 Evaluating an expression with a negative exponent: Negative integer base
 arith024 Ordering numbers with negative exponents
 alge791 Rewriting an algebraic expression without a negative exponent
 alge961 Introduction to the product rule with negative exponents
 alge028 Product rule with negative exponents
 alge755 Quotient rule with negative exponents: Problem type 1
 alge926 Quotient rule with negative exponents: Problem type 2
 alge025 Power of a power rule with negative exponents
 alge799 Power rules with negative exponents
 alge928 Power and quotient rules with negative exponents: Problem type 1
 alge929 Power and quotient rules with negative exponents: Problem type 2
 alge757 Power, product, and quotient rules with negative exponents
 arith036 Scientific notation with positive exponent
 arith037 Scientific notation with negative exponent
 scinot012 Converting between scientific notation and standard form in a real-world situation
 scinot008 Multiplying numbers written in scientific notation: Basic
 scinot009 Multiplying numbers written in scientific notation: Advanced
 scinot010 Dividing numbers written in scientific notation: Basic
 scinot011 Dividing numbers written in scientific notation: Advanced
 alge971 Table for an exponential function
 alge830 Evaluating an exponential function that models a real-world situation

arith853 Introduction to compound interest
 alge177 Finding a final amount in a word problem on exponential growth or decay
 alge741 Finding the final amount in a word problem on compound interest
 alge966 Finding the initial amount and rate of change given an exponential function
 alge968 Writing an equation that models exponential growth or decay
 alge301 Solving an exponential equation by finding common bases: Linear exponents
 alge969 Graphing an exponential function: $f(x) = ax$
 alge970 Graphing an exponential function: $f(x) = a(b)^x$
 alge967 Writing an exponential function rule given a table of ordered pairs
 alge993 Comparing linear, polynomial, and exponential functions
 alge758 Degree and leading coefficient of a univariate polynomial
 alge031 Degree of a multivariate polynomial
 alge798 Simplifying a sum or difference of two univariate polynomials
 alge029 Simplifying a sum or difference of three univariate polynomials
 alge932 Simplifying a sum or difference of multivariate polynomials
 alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
 alge972 Multiplying a univariate polynomial by a monomial with a negative coefficient
 alge835 Multiplying a multivariate polynomial by a monomial
 alge033 Multiplying binomials with leading coefficients of 1
 alge983 Multiplying binomials with leading coefficients greater than 1
 alge765 Multiplying binomials in two variables
 alge764 Multiplying conjugate binomials: Univariate
 alge081 Multiplying conjugate binomials: Multivariate
 alge032 Squaring a binomial: Univariate
 alge068 Squaring a binomial: Multivariate
 alge973 Multiplying binomials with negative coefficients
 alge935 Multiplication involving binomials and trinomials in one variable
 alge180 Multiplication involving binomials and trinomials in two variables
 alge759 Dividing a polynomial by a monomial: Univariate
 alge760 Dividing a polynomial by a monomial: Multivariate
 alge761 Polynomial long division: Problem type 1
 alge762 Polynomial long division: Problem type 2
 alge763 Polynomial long division: Problem type 3
 alge985 Closure properties of integers and polynomials
 alge605 Factoring a linear binomial
 alge736 Introduction to the GCF of two monomials
 alge930 Greatest common factor of three univariate monomials
 alge037 Greatest common factor of two multivariate monomials
 alge738 Factoring out a monomial from a polynomial: Univariate
 alge739 Factoring out a monomial from a polynomial: Multivariate
 alge949 Factoring out a binomial from a polynomial: GCF factoring, basic
 alge923 Factoring a univariate polynomial by grouping: Problem type 1
 alge950 Factoring a univariate polynomial by grouping: Problem type 2
 alge951 Factoring a multivariate polynomial by grouping: Problem type 1
 alge952 Factoring a multivariate polynomial by grouping: Problem type 2
 alge039 Factoring a quadratic with leading coefficient 1
 alge942 Factoring a quadratic in two variables with leading coefficient 1
 alge936 Factoring out a constant before factoring a quadratic
 alge939 Factoring a quadratic with leading coefficient greater than 1: Problem type 1
 alge940 Factoring a quadratic with leading coefficient greater than 1: Problem type 2
 alge941 Factoring a quadratic with leading coefficient greater than 1: Problem type 3
 alge978 Factoring a quadratic by the ac-method
 alge265 Factoring a quadratic in two variables with leading coefficient greater than 1
 alge937 Factoring a quadratic with a negative leading coefficient
 alge944 Factoring a perfect square trinomial with leading coefficient 1
 alge945 Factoring a perfect square trinomial with leading coefficient greater than 1
 alge946 Factoring a perfect square trinomial in two variables
 alge290 Factoring a difference of squares in one variable: Basic
 alge947 Factoring a difference of squares in one variable: Advanced
 alge839 Factoring a difference of squares in two variables
 alge948 Factoring a polynomial involving a GCF and a difference of squares: Univariate
 alge833 Factoring a polynomial involving a GCF and a difference of squares: Multivariate

alge041 Factoring a product of a quadratic trinomial and a monomial
 alge042 Factoring with repeated use of the difference of squares formula
 alge044 Factoring a sum or difference of two cubes
 alge681 Solving an equation written in factored form
 alge956 Finding the roots of a quadratic equation of the form $ax^2 + bx = 0$
 alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
 alge211 Solving a quadratic equation needing simplification
 alge703 Solving a word problem using a quadratic equation with rational roots
 alge713 Using the Pythagorean Theorem and a quadratic equation to find side lengths of a right triangle

Rational Expressions

alge049 Restriction on a variable in a denominator: Linear
 alge467 Restriction on a variable in a denominator: Quadratic
 alge468 Evaluating a rational function: Problem type 1
 alge469 Evaluating a rational function: Problem type 2
 alge715 Domain of a rational function: Excluded values
 alge454 Simplifying a ratio of factored polynomials: Linear factors
 alge455 Simplifying a ratio of factored polynomials: Factors with exponents
 alge456 Simplifying a ratio of polynomials using GCF factoring
 alge457 Simplifying a ratio of linear polynomials: 1, -1, and no simplification
 alge458 Simplifying a ratio of polynomials by factoring a quadratic with leading coefficient 1
 alge710 Simplifying a ratio of polynomials: Problem type 1
 alge682 Simplifying a ratio of polynomials: Problem type 2
 alge459 Simplifying a ratio of polynomials: Problem type 3
 alge034 Simplifying a ratio of multivariate polynomials
 alge053 Multiplying rational expressions involving multivariate monomials
 alge460 Multiplying rational expressions made up of linear expressions
 alge620 Multiplying rational expressions involving quadratics with leading coefficients of 1
 alge461 Multiplying rational expressions involving quadratics with leading coefficients greater than 1
 alge462 Multiplying rational expressions involving multivariate quadratics
 alge054 Dividing rational expressions involving multivariate monomials
 alge463 Dividing rational expressions involving linear expressions
 alge766 Dividing rational expressions involving quadratics with leading coefficients of 1
 alge464 Dividing rational expressions involving quadratics with leading coefficients greater than 1
 alge465 Dividing rational expressions involving multivariate quadratics
 alge466 Multiplication and division of 3 rational expressions
 alge737 Introduction to the LCM of two monomials
 alge055 Least common multiple of two monomials
 alge427 Finding the LCD of rational expressions with linear denominators: Relatively prime
 alge428 Finding the LCD of rational expressions with linear denominators: Common factors
 alge429 Finding the LCD of rational expressions with quadratic denominators
 alge430 Writing equivalent rational expressions with monomial denominators
 alge431 Writing equivalent rational expressions with polynomial denominators
 alge304 Writing equivalent rational expressions involving opposite factors
 alge433 Adding rational expressions with common denominators and monomial numerators
 alge056 Adding rational expressions with common denominators and binomial numerators
 alge434 Adding rational expressions with common denominators and GCF factoring
 alge435 Adding rational expressions with common denominators and quadratic factoring
 alge437 Adding rational expressions with denominators ax and bx : Basic
 alge438 Adding rational expressions with denominators ax and bx : Advanced
 alge439 Adding rational expressions with denominators ax^n and bx^m
 alge440 Adding rational expressions with multivariate monomial denominators: Basic
 alge226 Adding rational expressions with multivariate monomial denominators: Advanced
 alge441 Adding rational expressions with linear denominators without common factors: Basic
 alge442 Adding rational expressions with linear denominators without common factors: Advanced
 alge443 Adding rational expressions with linear denominators with common factors: Basic
 alge444 Adding rational expressions with linear denominators with common factors: Advanced
 alge445 Adding rational expressions with denominators $ax-b$ and $b-ax$

alge661 Adding rational expressions involving different quadratic denominators
 alge446 Adding 3 rational expressions with different quadratic denominators
 alge470 Complex fraction involving univariate monomials
 alge058 Complex fraction involving multivariate monomials
 alge471 Complex fraction: GCF factoring
 alge472 Complex fraction: Quadratic factoring
 alge473 Complex fraction made of sums involving rational expressions: Problem type 1
 alge474 Complex fraction made of sums involving rational expressions: Problem type 2
 alge475 Complex fraction made of sums involving rational expressions: Problem type 3
 alge476 Complex fraction made of sums involving rational expressions: Problem type 4
 alge477 Complex fraction made of sums involving rational expressions: Problem type 5
 alge478 Complex fraction made of sums involving rational expressions: Problem type 6
 alge479 Complex fraction made of sums involving rational expressions: Multivariate
 alge480 Complex fraction with negative exponents: Problem type 1
 alge481 Complex fraction with negative exponents: Problem type 2
 alge162 Complex fraction that contains a complex fraction
 alge060 Solving a rational equation that simplifies to linear: Denominator x
 alge205 Solving a rational equation that simplifies to linear: Denominator $x+a$
 alge769 Solving a rational equation that simplifies to linear: Denominators a , x , or ax
 alge421 Solving a rational equation that simplifies to linear: Denominators ax and bx
 alge422 Solving a rational equation that simplifies to linear: Like binomial denominators
 alge206 Solving a rational equation that simplifies to linear: Unlike binomial denominators
 alge423 Solving a rational equation that simplifies to linear: Factorable quadratic denominator
 alge424 Solving a rational equation that simplifies to quadratic: Proportional form, basic
 alge425 Solving a rational equation that simplifies to quadratic: Denominator x
 alge212 Solving a rational equation that simplifies to quadratic: Binomial denominators, constant numerators
 alge062 Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators
 alge426 Solving a rational equation that simplifies to quadratic: Factorable quadratic denominator
 alge047 Solving a rational equation that simplifies to quadratic: Proportional form, advanced
 alge272 Solving a proportion of the form $x/a = b/c$
 arith610 Word problem on proportions: Problem type 1
 alge271 Solving a proportion of the form $a/(x+b) = c/x$
 alge508 Solving for a variable in terms of other variables in a rational equation: Problem type 1
 alge509 Solving for a variable in terms of other variables in a rational equation: Problem type 2
 alge510 Solving for a variable in terms of other variables in a rational equation: Problem type 3
 arith612 Word problem involving multiple rates
 alge770 Solving a work problem using a rational equation
 alge450 Solving a distance, rate, time problem using a rational equation
 alge059 Ordering fractions with variables
 alge982 Identifying direct variation equations
 alge938 Identifying direct variation from ordered pairs and writing equations
 alge904 Writing a direct variation equation
 alge175 Word problem on direct variation
 alge828 Interpreting direct variation from a graph
 alge905 Writing an inverse variation equation
 alge903 Identifying direct and inverse variation equations
 alge902 Identifying direct and inverse variation from ordered pairs and writing equations
 alge176 Word problem on inverse variation
 alge220 Word problem on inverse proportions
 pcalc681 Writing an equation that models variation
 alge772 Word problem on combined variation

Radicals and Quadratic Equations

alge413 Finding all square roots of a number
 arith760 Square roots of perfect squares with signs
 alge415 Introduction to simplifying a radical expression with an even exponent
 alge264 Square root of a perfect square monomial
 arith094 Cube root of an integer
 alge549 Finding n th roots of perfect n th powers with signs

arith768 Finding the n th root of a perfect n th power fraction
alge550 Finding the n th root of a perfect n th power monomial
arith093 Simplifying the square root of a whole number less than 100
arith762 Simplifying the square root of a whole number greater than 100
alge080 Simplifying a radical expression with an even exponent
alge520 Introduction to simplifying a radical expression with an odd exponent
alge521 Simplifying a radical expression with an odd exponent
alge275 Simplifying a radical expression with two variables
alge273 Simplifying a higher root of a whole number
alge551 Introduction to simplifying a higher radical expression
alge552 Simplifying a higher radical expression: Univariate
alge811 Simplifying a higher radical expression: Multivariate
arith767 Introduction to square root addition or subtraction
arith032 Square root addition or subtraction
alge533 Square root addition or subtraction with three terms
alge531 Introduction to simplifying a sum or difference of radical expressions: Univariate
alge532 Simplifying a sum or difference of radical expressions: Univariate
alge084 Simplifying a sum or difference of radical expressions: Multivariate
alge554 Simplifying a sum or difference of higher roots
alge555 Simplifying a sum or difference of higher radical expressions
arith764 Introduction to square root multiplication
arith765 Square root multiplication: Basic
arith039 Square root multiplication: Advanced
alge522 Introduction to simplifying a product of radical expressions: Univariate
alge523 Simplifying a product of radical expressions: Univariate
alge640 Simplifying a product of radical expressions: Multivariate
alge556 Introduction to simplifying a product of higher roots
alge557 Simplifying a product of higher radical expressions
alge525 Introduction to simplifying a product involving square roots using the distributive property
alge526 Simplifying a product involving square roots using the distributive property: Basic
alge276 Simplifying a product involving square roots using the distributive property: Advanced
alge774 Special products of radical expressions: Conjugates and squaring
alge984 Classifying sums and products as rational or irrational
arith766 Simplifying a quotient of square roots
alge530 Simplifying a quotient involving a sum or difference with a square root
alge527 Rationalizing a denominator: Quotient involving square roots
alge528 Rationalizing a denominator: Square root of a fraction
alge529 Rationalizing a denominator: Quotient involving a monomial
alge534 Rationalizing a denominator using conjugates: Integer numerator
alge535 Rationalizing a denominator using conjugates: Square root in numerator
alge536 Rationalizing a denominator using conjugates: Variable in denominator
alge564 Rationalizing a denominator: Quotient involving a higher radical
alge400 Introduction to solving a radical equation
alge089 Solving a radical equation that simplifies to a linear equation: One radical, basic
alge402 Solving a radical equation that simplifies to a linear equation: One radical, advanced
alge090 Solving a radical equation that simplifies to a linear equation: Two radicals
alge405 Solving a radical equation with two radicals that simplifies to $\sqrt{x} = a$
alge403 Solving a radical equation that simplifies to a quadratic equation: One radical, basic
alge404 Solving a radical equation that simplifies to a quadratic equation: One radical, advanced
alge411 Solving a radical equation with a quadratic expression under the radical
alge182 Solving a radical equation that simplifies to a quadratic equation: Two radicals
alge410 Solving an equation with a root index greater than 2: Problem type 1
alge417 Solving an equation with a root index greater than 2: Problem type 2
alge412 Algebraic symbol manipulation with radicals
alge542 Word problem involving radical equations: Basic
alge409 Word problem involving radical equations: Advanced
alge132 Distance between two points in the plane: Exact answers
alge539 Table for a square root function
alge540 Domain of a square root function: Basic
pcalc763 Domain of a square root function: Advanced
alge543 Graphing a square root function: Problem type 1
alge544 Graphing a square root function: Problem type 2

alge812 Converting between radical form and exponent form
 alge560 Rational exponents: Unit fraction exponents and whole number bases
 alge561 Rational exponents: Unit fraction exponents and bases involving signs
 alge250 Rational exponents: Non-unit fraction exponent with a whole number base
 alge251 Rational exponents: Negative exponents and fractional bases
 alge558 Rational exponents: Product rule
 alge559 Rational exponents: Quotient rule
 alge773 Rational exponents: Products and quotients with negative exponents
 alge562 Rational exponents: Power of a power rule
 alge249 Rational exponents: Powers of powers with negative exponents
 alge563 Simplifying products or quotients of higher radicals with different indices: Univariate
 alge778 Using i to rewrite square roots of negative numbers
 alge779 Simplifying a product and quotient involving square roots of negative numbers
 pcalc048 Adding or subtracting complex numbers
 pcalc049 Multiplying complex numbers
 pcalc050 Dividing complex numbers
 pcalc053 Simplifying a power of i
 alge962 Solving an equation of the form $x^2 = a$ using the square root property
 alge092 Solving a quadratic equation using the square root property: Exact answers, basic
 alge227 Solving a quadratic equation using the square root property: Exact answers, advanced
 alge094 Completing the square
 alge780 Solving a quadratic equation by completing the square: Exact answers
 alge095 Applying the quadratic formula: Exact answers
 alge963 Applying the quadratic formula: Decimal answers
 pcalc051 Solving a quadratic equation with complex roots
 alge214 Discriminant of a quadratic equation
 alge524 Solving a word problem using a quadratic equation with irrational roots
 alge974 Finding the vertex, x -intercepts, and axis of symmetry from the graph of a parabola
 alge953 Translating the graph of a parabola: One step
 alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
 alge569 Graphing a parabola of the form $y = x^2 + bx + c$
 pcalc746 Graphing a parabola of the form $y = ax^2 + bx + c$: Integer coefficients
 pcalc747 Graphing a parabola of the form $y = ax^2 + bx + c$: Rational coefficients
 alge277 Finding the x -intercept(s) and the vertex of a parabola
 pcalc774 Rewriting a quadratic function to find the vertex of its graph
 pcalc775 Finding the maximum or minimum of a quadratic function
 alge785 Word problem involving the maximum or minimum of a quadratic function
 alge975 Domain and range from the graph of a parabola
 pcalc762 Range of a quadratic function
 alge957 Solving a quadratic equation by graphing
 alge996 Comparing properties of quadratic functions given in different forms
 alge702 Classifying the graph of a function
 alge723 How the leading coefficient affects the shape of a parabola
 alge965 Identifying linear, quadratic, and exponential functions given ordered pairs
 alge262 Graphing a cubic function of the form $y = ax^3$
 fun019 Sum, difference, and product of two functions
 fun022 Composition of two functions: Basic
 pcalc776 Expressing a function as a composition of two functions
 pcalc924 Determining whether an equation defines a function: Basic
 pcalc757 Determining whether an equation defines a function: Advanced

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Whole Numbers

arith124 Whole number place value: Problem type 1
 arith125 Whole number place value: Problem type 2
 arith066 Expanded form

arith643 Expanded form with zeros
arith028 Numeral translation: Problem type 1
arith060 Numeral translation: Problem type 2
arith633 One-digit addition with carry
arith634 Addition of 3 or 4 one-digit numbers
arith001 Addition without carry
arith635 Adding a 2-digit number and a 1-digit number with carry
arith050 Addition with carry
arith630 Addition with carry to the hundreds place
arith012 Addition of large numbers
arith636 Subtracting a 1-digit number from a 2-digit number
arith007 Subtraction without borrowing
arith128 Adding or subtracting 10, 100, or 1000
arith006 Subtraction with borrowing
arith682 Subtraction with multiple regrouping steps
arith637 Subtraction and regrouping with zeros
arith613 Word problem with addition or subtraction of whole numbers
arith655 Introduction to properties of addition
arith126 Multiplication as repeated addition
arith008 One-digit multiplication
arith679 Multiplication by 10, 100, and 1000
arith003 Multiplication without carry
arith004 Multiplication with carry
arith632 Multiplication with trailing zeros: Problem type 1
arith615 Introduction to multiplication of large numbers
arith638 Multiplication with trailing zeros: Problem type 2
arith014 Multiplication of large numbers
arith641 Multiples: Problem type 1
arith642 Multiples: Problem type 2
arith656 Introduction to properties of multiplication
arith075 Division facts
arith614 Word problem with multiplication or division of whole numbers
arith130 Word problem with multiplication and addition or subtraction of whole numbers
arith243 Division of whole numbers given in fractional form
arith711 Division involving zero
arith052 Division without carry
arith005 Division with carry
arith680 Division with trailing zeros: Problem type 1
arith649 Division with trailing zeros: Problem type 2
arith616 Quotient and remainder: Problem type 1
arith644 Word problem on quotient and remainder
arith617 Quotient and remainder: Problem type 2
arith631 Quotient and remainder: Problem type 3
arith650 Division involving quotients with intermediate zeros
arith023 Word problem with division of whole numbers and rounding
arith651 Introduction to inequalities
arith077 Ordering large numbers
arith078 Rounding to tens or hundreds
arith123 Rounding to hundreds or thousands
arith061 Rounding to thousands, ten thousands, or hundred thousands
arith101 Estimating a sum of whole numbers
arith102 Estimating a difference of whole numbers
arith604 Estimating a product or quotient of whole numbers
arith692 Writing expressions using exponents
arith233 Introduction to exponents
arith683 Power of 10: Positive exponent
arith645 Introduction to parentheses
arith681 Introduction to order of operations
arith048 Order of operations with whole numbers
arith051 Order of operations with whole numbers and grouping symbols
arith693 Order of operations with whole numbers and exponents: Basic
arith713 Order of operations with whole numbers and exponents: Advanced

arith657 Understanding the distributive property
 alge284 Evaluating an algebraic expression: Whole number addition or subtraction
 alge683 Evaluating an algebraic expression: Whole number multiplication or division
 alge285 Evaluating an algebraic expression: Whole numbers with two operations
 alge832 Evaluating an algebraic expression: Whole number operations and exponents
 alge009 Additive property of equality with whole numbers
 alge008 Multiplicative property of equality with whole numbers
 alge803 Using two steps to solve an equation with whole numbers
 arith646 Even and odd numbers
 arith647 Divisibility rules for 2, 5, and 10
 arith648 Divisibility rules for 3 and 9
 arith056 Factors
 arith034 Prime numbers
 arith035 Prime factorization
 arith033 Greatest common factor of 2 numbers
 arith070 Least common multiple of 2 numbers
 arith804 Least common multiple of 3 numbers
 arith240 Word problem with common multiples
 alge925 Finding the next terms of an arithmetic sequence with whole numbers
 alge933 Finding the next terms of a geometric sequence with whole numbers
 alge732 Finding patterns in shapes

Fractions

arith623 Introduction to fractions
 arith665 Understanding equivalent fractions
 arith212 Equivalent fractions
 arith666 Introduction to simplifying a fraction
 arith067 Simplifying a fraction
 arith687 Fractional position on a number line
 arith667 Plotting fractions on a number line
 arith044 Ordering fractions with the same denominator
 arith091 Ordering fractions with the same numerator
 arith092 Using a common denominator to order fractions
 arith079 Product of a unit fraction and a whole number
 arith086 Product of a fraction and a whole number: Problem type 1
 arith119 Introduction to fraction multiplication
 arith053 Fraction multiplication
 arith812 Product of a fraction and a whole number: Problem type 2
 arith813 Multiplication of 3 fractions
 arith818 Word problem involving fractions and multiplication
 arith095 Multi-step word problem involving fractions and multiplication
 arith088 The reciprocal of a number
 arith694 Division involving a whole number and a fraction
 arith022 Fraction division
 arith819 Word problem involving fractions and division
 arith618 Addition or subtraction of fractions with the same denominator
 arith802 Addition or subtraction of fractions with the same denominator and simplification
 arith801 Finding the LCD of two fractions
 arith109 Addition or subtraction of unit fractions
 arith664 Introduction to addition or subtraction of fractions with different denominators
 arith230 Addition or subtraction of fractions with different denominators
 arith803 Addition and subtraction of 3 fractions with different denominators
 arith805 Word problem involving addition or subtraction of fractions with different denominators
 arith100 Fractional part of a circle
 arith662 Writing a mixed number and an improper fraction for a shaded region
 arith015 Writing an improper fraction as a mixed number
 arith619 Writing a mixed number as an improper fraction
 arith215 Addition or subtraction of mixed numbers with the same denominator
 arith084 Addition of mixed numbers with the same denominator and carry

arith216 Subtraction of mixed numbers with the same denominator and borrowing
 arith806 Addition or subtraction of mixed numbers with different denominators and no carry or borrow
 arith808 Addition of mixed numbers with different denominators and carry
 arith809 Subtraction of mixed numbers with different denominators and borrowing
 arith807 Addition and subtraction of 3 mixed numbers with different denominators
 arith810 Word problem involving addition or subtraction of mixed numbers with different denominators
 arith815 Mixed number multiplication
 arith816 Multiplication of a mixed number and a whole number
 arith817 Division with a mixed number and a whole number
 arith068 Mixed number division
 arith820 Word problem involving multiplication or division with mixed numbers
 arith821 Exponents and fractions
 arith859 Order of operations with fractions: Problem type 1
 arith860 Order of operations with fractions: Problem type 2
 arith861 Order of operations with fractions: Problem type 3
 arith695 Complex fraction without variables: Problem type 1

Decimals, Proportions, and Percents

arith127 Writing a decimal and a fraction for a shaded region
 arith110 Decimal place value: Tenths and hundredths
 arith220 Decimal place value: Hundreds to ten thousandths
 arith714 Writing a decimal number less than 1 given its name
 arith715 Writing a decimal number greater than 1 given its name
 arith716 Writing a decimal number given its name: Advanced
 arith829 Reading decimal position on a number line: Tenths
 arith830 Reading decimal position on a number line: Hundredths
 arith831 Understanding decimal position on a number line using zoom: Hundredths
 arith832 Understanding decimal position on a number line using zoom: Thousandths
 arith129 Introduction to ordering decimals
 arith608 Ordering decimals
 arith221 Rounding decimals
 arith717 Converting a decimal to a proper fraction without simplifying: Basic
 arith719 Converting a decimal to a proper fraction without simplifying: Advanced
 arith718 Converting a decimal to a proper fraction in simplest form: Basic
 arith087 Converting a decimal to a proper fraction in simplest form: Advanced
 arith721 Converting a decimal to a mixed number and an improper fraction without simplifying
 arith722 Converting a decimal to a mixed number and an improper fraction in simplest form: Basic
 arith724 Converting a decimal to a mixed number and an improper fraction in simplest form: Advanced
 arith624 Addition of aligned decimals
 arith013 Decimal addition with 3 numbers
 arith734 Subtraction of aligned decimals
 arith735 Decimal subtraction: Basic
 arith736 Decimal subtraction: Advanced
 arith737 Decimal addition and subtraction with 3 or more numbers
 arith131 Estimating a decimal sum or difference
 arith132 Word problem with addition or subtraction of 2 decimals
 arith133 Word problem with addition of 3 or 4 decimals and whole numbers
 arith134 Word problem with subtraction of a whole number and a decimal: Regrouping with zeros
 arith739 Introduction to decimal multiplication
 arith017 Multiplication of a decimal by a whole number
 arith055 Decimal multiplication: Problem type 1
 arith046 Decimal multiplication: Problem type 2
 arith082 Multiplication of a decimal by a power of ten
 arith738 Multiplication of a decimal by a power of 0.1
 arith740 Multiplication of decimals that have a product less than 0.1
 arith752 Estimating a product of decimals
 arith135 Word problem with multiplication of a decimal and a whole number
 arith137 Word problem with multiplication of two decimals
 arith224 Word problem with decimal addition and multiplication

arith744 Whole number division with decimal answers
arith081 Division of a decimal by a whole number
arith743 Division of a decimal by a 1-digit decimal
arith019 Division of a decimal by a 2-digit decimal
arith083 Division of a decimal by a power of ten
arith742 Division of a decimal by a power of 0.1
arith745 Decimal division with rounding
arith136 Word problem with division of a decimal and a whole number
arith138 Word problem with division of two decimals
arith227 Word problem with decimal subtraction and division
alge823 Solving a one-step word problem using the formula $d = rt$
arith725 Converting a fraction with a denominator of 10 or 100 to a decimal
arith726 Converting a fraction with a denominator of 100 or 1000 to a decimal
arith609 Ordering fractions and decimals
arith727 Converting a fraction to a terminating decimal: Basic
arith728 Converting a fraction to a terminating decimal: Advanced
arith730 Converting a fraction to a repeating decimal: Basic
arith731 Converting a fraction to a repeating decimal: Advanced
arith733 Using a calculator to convert a fraction to a rounded decimal
arith111 Converting a mixed number to a terminating decimal: Basic
arith112 Converting a mixed number to a terminating decimal: Advanced
arith732 Converting a fraction or mixed number to a rounded decimal
arith753 Squaring decimal bases: Products greater than 0.1
arith741 Exponents and decimals: Products less than 0.1
arith720 Order of operations with decimals: Problem type 1
arith746 Order of operations with decimals: Problem type 2
arith747 Order of operations with decimals: Problem type 3
arith748 Addition or subtraction with a decimal and a mixed number
arith749 Multiplication with a decimal and a fraction
arith823 Writing ratios using different notations
arith663 Writing ratios for real-world situations
arith824 Simplifying a ratio of whole numbers: Problem type 1
arith825 Simplifying a ratio of decimals
arith827 Finding a unit price
arith828 Computing unit prices to find the better buy
arith064 Solving a word problem on proportions using a unit rate
arith228 Word problem on unit rates associated with ratios of whole numbers: Decimal answers
alge272 Solving a proportion of the form $x/a = b/c$
arith610 Word problem on proportions: Problem type 1
arith611 Word problem on proportions: Problem type 2
alge063 Word problem on mixed number proportions
arith045 Word problem with powers of ten
arith836 Converting a fraction with a denominator of 100 to a percentage
arith837 Converting a percentage to a fraction with a denominator of 100
arith674 Finding the percentage of a grid that is shaded
arith723 Introduction to converting a percentage to a decimal
arith833 Introduction to converting a decimal to a percentage
arith834 Converting between percentages and decimals
arith841 Converting a mixed number percentage to a decimal
arith835 Converting between percentages and decimals in a real-world situation
arith090 Converting a percentage to a fraction in simplest form
arith839 Converting a decimal percentage to a fraction
arith838 Converting a fraction to a percentage: Denominator of 4, 5, or 10
arith002 Converting a fraction to a percentage: Denominator of 20, 25, or 50
arith843 Using a calculator to convert a fraction to a rounded percentage
arith842 Converting a fraction to a percentage in a real-world situation
arith840 Finding a percentage of a whole number
arith030 Finding a percentage of a whole number without a calculator: Basic
arith844 Finding a percentage of a whole number without a calculator: Advanced
arith862 Applying the percent equation: Problem type 1
arith863 Applying the percent equation: Problem type 2
arith845 Finding a percentage of a total amount: Real-world situations

arith846 Finding a percentage of a total amount without a calculator: Sales tax, commission, discount
 arith857 Estimating a tip without a calculator
 arith069 Writing a ratio as a percentage without a calculator
 mstat049 Computing a percentage from a table of values
 arith850 Finding the rate of a tax or commission
 arith849 Finding the total amount given the percentage of a partial amount
 arith852 Finding the multiplier to give a final amount after a percentage increase or decrease
 arith851 Finding the final amount given the original amount and a percentage increase or decrease
 arith847 Finding the sale price given the original price and percent discount
 arith074 Finding the sale price without a calculator given the original price and percent discount
 arith848 Finding the total cost including tax or markup
 arith855 Finding the original amount given the result of a percentage increase or decrease
 arith031 Finding the original price given the sale price and percent discount
 arith858 Finding the percentage increase or decrease: Basic
 arith225 Finding the percentage increase or decrease: Advanced
 arith232 Finding simple interest without a calculator
 arith856 Finding a percentage of a total amount in a circle graph
 stat801 Computations from a circle graph

Geometry

geom339 Perimeter of a polygon
 geom300 Perimeter of a square or a rectangle
 geom618 Perimeter of a polygon involving mixed numbers and fractions
 geom078 Sides of polygons having the same perimeter
 geom221 Finding the missing length in a figure
 geom353 Perimeter of a piecewise rectangular figure
 geom358 Identifying parallel and perpendicular lines
 geom349 Naming segments, rays, and lines
 geom151 Measuring an angle with the protractor
 geom152 Drawing an angle with the protractor
 geom303 Acute, obtuse, and right angles
 geom039 Finding supplementary and complementary angles
 geom305 Identifying supplementary and vertical angles
 geom304 Identifying corresponding and alternate angles
 geom306 Acute, obtuse, and right triangles
 geom307 Classifying scalene, isosceles, and equilateral triangles by side lengths or angles
 geom001 Finding an angle measure of a triangle given two angles
 geom908 Finding an angle measure for a triangle with an extended side
 geom812 Finding an angle measure given extended triangles
 geom813 Finding an angle measure given a triangle and parallel lines
 geom361 Naming polygons
 mstat042 Interpreting a Venn diagram of 2 sets
 geom867 Identifying parallelograms, rectangles, and squares
 geom310 Properties of quadrilaterals
 geom532 Classifying parallelograms
 geom019 Area of a square or a rectangle
 geom866 Perimeter and area on a grid
 geom620 Area of a rectangle involving fractions
 geom619 Area of a rectangle involving mixed numbers and fractions
 geom350 Distinguishing between the area and perimeter of a rectangle
 geom351 Areas of rectangles with the same perimeter
 geom217 Finding the side length of a rectangle given its perimeter or area
 geom340 Area of a piecewise rectangular figure
 geom142 Word problem involving the area between two rectangles
 geom801 Area of a triangle
 geom344 Area involving rectangles and triangles
 geom022 Area of a parallelogram
 geom023 Area of a trapezoid
 geom347 Introduction to a circle: Diameter, radius, and chord

geom016 Circumference of a circle
 geom301 Perimeter involving rectangles and circles
 geom802 Circumference and area of a circle
 geom302 Area involving rectangles and circles
 geom036 Word problem involving the area between two concentric circles
 geom214 Area involving inscribed figures
 geom814 Angle measure in a circle graph
 geom868 Classifying solids
 geom348 Vertices, edges, and faces of a solid
 geom830 Counting the cubes in a solid made of cubes
 geom354 Volume of a rectangular prism made of unit cubes
 geom311 Volume of a rectangular prism
 geom505 Volume of a piecewise rectangular prism
 geom090 Volume of a triangular prism
 geom033 Volume of a pyramid
 geom035 Volume of a cylinder
 geom092 Word problem involving the rate of filling or emptying a cylinder
 geom622 Volume of a cone
 geom841 Volume of a sphere
 geom219 Nets of solids
 geom816 Side views of a solid made of cubes
 geom031 Surface area of a cube or a rectangular prism
 geom345 Surface area of a piecewise rectangular prism made of unit cubes
 geom091 Surface area of a triangular prism
 geom621 Surface area of a cylinder
 geom842 Surface area of a sphere
 geom359 Identifying congruent shapes on a grid
 geom520 Identifying and naming congruent triangles
 geom360 Identifying similar or congruent shapes on a grid
 geom037 Similar polygons
 geom038 Similar right triangles
 geom337 Indirect measurement

Measurement and Data Analysis

mstat059 Choosing U.S. Customary measurement units
 unit005 U.S. Customary unit conversion with whole number values
 mstat035 Conversions involving measurements in feet and inches
 mstat036 Adding measurements in feet and inches
 unit006 U.S. Customary unit conversion with whole number values: Two-step conversion
 unit007 U.S. Customary unit conversion with mixed number values: One-step conversion
 unit008 U.S. Customary unit conversion with mixed number values: Two-step conversion
 unit009 U.S. Customary area unit conversion with whole number values
 mstat060 Choosing metric measurement units
 unit001 Metric distance conversion with whole number values
 unit002 Metric mass or capacity conversion with whole number values
 unit003 Metric distance conversion with decimal values
 unit004 Metric conversion with decimal values: Two-step problem
 unit010 Metric area unit conversion with decimal values
 unit012 Time unit conversion with whole number values
 time006 Adding time
 time007 Elapsed time
 arith063 Word problem with clocks
 mstat065 Converting between temperatures in Fahrenheit and Celsius
 arith826 Simplifying a ratio of whole numbers: Problem type 2
 unit034 Converting between metric and U.S. Customary unit systems
 unit035 Converting between compound units: Basic
 unit036 Converting between compound units: Advanced
 mstat056 Interpreting a tally table
 mstat037 Constructing a line plot

mstat005 Constructing a bar graph for non-numerical data
 mstat004 Constructing a histogram for numerical data
 mstat024 Interpreting a bar graph
 mstat044 Interpreting a double bar graph
 mstat057 Interpreting a pictograph table
 mstat007 Interpreting a line graph
 mstat031 Interpreting a stem-and-leaf plot
 stat804 Interpreting a circle graph or pie chart
 stat020 Calculating relative frequencies in a contingency table
 stat805 Making a reasonable inference based on proportion statistics
 mstat025 Finding if a question can be answered by the data
 mstat003 Mode of a data set
 mstat055 Finding the mode and range of a data set
 arith103 Average of two numbers
 mstat001 Mean of a data set
 mstat028 Mean and median of a data set
 mstat029 How changing a value affects the mean and median
 mstat053 Choosing the best measure to describe data
 stat802 Rejecting unreasonable claims based on average statistics
 mstat066 Weighted mean
 mstat027 Using back-to-back stem-and-leaf plots to compare data sets
 mstat072 Five-number summary and interquartile range
 mstat006 Constructing a box-and-whisker plot
 mstat073 Using box-and-whisker plots to compare data sets
 mstat043 Interpreting a Venn diagram of 3 sets
 mstat041 Interpreting a tree diagram
 mstat040 Introduction to the counting principle
 mstat015 Counting principle
 pcalc082 Factorial expressions
 mstat017 Computing permutations and combinations
 mstat008 Word problem involving permutations
 mstat009 Word problem involving combinations
 mstat026 Introduction to the probability of an event
 mstat010 Probability of an event
 mstat039 Understanding likelihood
 mstat048 Odds of an event
 stat106 Outcomes and event probability
 stat112 Probabilities involving two dice
 mstat011 Area as probability
 mstat046 Experimental and theoretical probability
 mstat047 Introduction to expectation
 mstat012 Probability of independent events
 mstat013 Probability of dependent events
 mstat032 Probability of the union of two events

Real Numbers

arith016 Square root of a perfect square
 arith763 Using a calculator to approximate a square root
 arith602 Estimating a square root
 arith601 Square root of a rational perfect square
 alge407 Introduction to the Pythagorean Theorem
 geom044 Pythagorean Theorem
 alge408 Word problem involving the Pythagorean Theorem
 alge286 Plotting integers on a number line
 arith605 Plotting rational numbers on a number line
 mstat038 Reading the temperature from a thermometer
 arith699 Writing a signed number for a real-world situation
 arith691 Ordering integers
 arith712 Ordering real numbers

arith071 Absolute value of a number
 arith200 Integer addition: Problem type 1
 arith108 Integer addition: Problem type 2
 arith688 Integer subtraction: Problem type 1
 arith689 Integer subtraction: Problem type 2
 arith690 Integer subtraction: Problem type 3
 arith754 Addition and subtraction with 3 integers
 arith755 Addition and subtraction with 4 or 5 integers
 arith701 Word problem with addition or subtraction of integers
 arith231 Integer multiplication and division
 arith800 Multiplication of 3 or 4 integers
 alge001 Identifying numbers as integers or non-integers
 alge002 Identifying numbers as rational or irrational
 arith116 Signed fraction addition or subtraction: Basic
 arith864 Signed fraction subtraction involving double negation
 arith106 Signed fraction addition or subtraction: Advanced
 arith811 Addition and subtraction of 3 fractions involving signs
 arith822 Signed fraction multiplication: Basic
 arith105 Signed fraction multiplication: Advanced
 arith814 Signed fraction division
 arith117 Signed decimal addition and subtraction
 arith234 Signed decimal addition and subtraction with 3 numbers
 arith750 Signed decimal multiplication
 arith751 Signed decimal division
 arith104 Operations with absolute value: Problem type 2
 geom525 Computing distances between decimals on the number line
 unit052 Finding the absolute error and percent error of a measurement
 arith702 Exponents and integers: Problem type 1
 arith703 Exponents and integers: Problem type 2
 arith704 Exponents and signed fractions
 arith118 Order of operations with integers
 arith600 Order of operations with integers and exponents
 arith696 Complex fraction without variables: Problem type 2
 alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge808 Evaluating a linear expression: Signed fraction multiplication with addition or subtraction
 alge302 Evaluating a linear expression: Signed decimal addition and subtraction
 alge303 Evaluating a linear expression: Signed decimal multiplication with addition or subtraction
 alge004 Evaluating a quadratic expression: Integers
 alge700 Combining like terms: Whole number coefficients
 alge607 Combining like terms: Integer coefficients
 alge187 Properties of addition
 alge310 Multiplying a constant and a linear monomial
 alge606 Distributive property: Whole number coefficients
 alge604 Distributive property: Integer coefficients
 alge188 Properties of real numbers
 alge608 Using distribution and combining like terms to simplify: Univariate
 alge609 Using distribution with double negation and combining like terms to simplify: Multivariate
 alge293 Combining like terms in a quadratic expression
 alge432 Introduction to adding fractions with variables and common denominators
 alge436 Adding rational expressions with different denominators and a single occurrence of a variable

Linear Equations

alge801 Additive property of equality with fractions and mixed numbers
 alge800 Additive property of equality with decimals
 alge010 Additive property of equality with integers
 alge836 Additive property of equality with signed fractions
 alge820 Multiplicative property of equality with fractions
 alge825 Multiplicative property of equality with decimals
 alge797 Multiplicative property of equality with integers

alge012 Multiplicative property of equality with signed fractions
alge834 Identifying solutions to a linear equation in one variable: Two-step equations
alge266 Additive property of equality with a negative coefficient
alge006 Solving a two-step equation with integers
alge200 Solving an equation to find the value of an expression
alge920 Introduction to solving an equation with parentheses
alge837 Solving a multi-step equation given in fractional form
alge986 Identifying properties used to solve a linear equation
alge824 Solving a two-step equation with signed decimals
alge838 Introduction to solving an equation with variables on the same side
alge862 Solving a linear equation with several occurrences of the variable: Variables on the same side
alge863 Solving a linear equation with several occurrences of the variable: Variables on both sides
alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
alge420 Solving a linear equation with several occurrences of the variable: Fractional forms with monomial numerators
alge208 Solving a two-step equation with signed fractions
alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
alge742 Solving equations with zero, one, or infinitely many solutions
alge840 Solving a proportion of the form $(x+a)\div b = c\div d$
alge271 Solving a proportion of the form $a/(x+b) = c/x$
alge603 Introduction to solving an absolute value equation
alge864 Solving an absolute value equation: Problem type 1
alge511 Solving for a variable in terms of other variables using addition or subtraction: Basic
alge512 Solving for a variable in terms of other variables using addition or subtraction: Advanced
alge513 Solving for a variable in terms of other variables using multiplication or division: Basic
alge514 Solving for a variable in terms of other variables using multiplication or division: Advanced
alge517 Solving for a variable in terms of other variables using addition or subtraction with division
alge518 Solving for a variable inside parentheses in terms of other variables
alge507 Solving for a variable in terms of other variables in a linear equation with fractions
alge733 Writing a one-step expression for a real-world situation
alge831 Translating a phrase into a one-step expression
alge291 Translating a phrase into a two-step expression
alge016 Translating a sentence into a one-step equation
alge841 Translating a sentence into a multi-step equation
alge802 Solving a fraction word problem using a linear equation of the form $Ax = B$
alge014 Solving a word problem with two unknowns using a linear equation
alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
alge730 Writing a multi-step equation for a real-world situation
alge219 Solving a decimal word problem using a linear equation with the variable on both sides
alge704 Solving a fraction word problem using a linear equation with the variable on both sides
alge792 Solving a word problem with three unknowns using a linear equation
alge842 Solving a word problem involving consecutive integers
alge794 Solving a value mixture problem using a linear equation
alge218 Solving a word problem involving rates and time conversion
alge796 Solving a distance, rate, time problem using a linear equation
arith854 Computing a percent mixture
alge795 Solving a percent mixture problem using a linear equation
geom817 Finding a side length given the perimeter and side lengths with variables
geom143 Finding the perimeter or area of a rectangle given one of these values
geom218 Finding the radius or the diameter of a circle given its circumference
geom838 Circumference ratios
geom530 Solving equations involving vertical angles
geom531 Solving equations involving angles and a pair of parallel lines
geom623 Finding angle measures of a triangle given angles with variables

geom502 Finding angle measures of a right or isosceles triangle given angles with variables
 stat803 Finding the value for a new score that will yield a given mean
 alge015 Translating a sentence by using an inequality symbol
 alge845 Translating a sentence into a one-step inequality
 alge846 Translating a sentence into a multi-step inequality
 alge748 Writing an inequality for a real-world situation
 alge017 Graphing a linear inequality on the number line
 alge822 Writing an inequality given a graph on the number line
 alge186 Translating a sentence into a compound inequality
 alge166 Graphing a compound inequality on the number line
 alge847 Writing a compound inequality given a graph on the number line
 set001 Set builder notation
 set004 Set builder and interval notation
 set002 Union and intersection of finite sets
 alge844 Identifying solutions to a two-step linear inequality in one variable
 alge848 Additive property of inequality with whole numbers
 alge849 Additive property of inequality with integers
 alge852 Additive property of inequality with signed fractions
 alge853 Additive property of inequality with signed decimals
 alge854 Multiplicative property of inequality with integers
 alge964 Multiplicative property of inequality with signed fractions
 alge855 Solving a two-step linear inequality: Problem type 1
 alge856 Solving a two-step linear inequality: Problem type 2
 alge857 Solving a two-step linear inequality with a fractional coefficient
 alge977 Solving a linear inequality with multiple occurrences of the variable: Problem type 1
 alge858 Solving a linear inequality with multiple occurrences of the variable: Problem type 2
 alge859 Solving a linear inequality with multiple occurrences of the variable: Problem type 3
 alge860 Solving inequalities with no solution or all real numbers as solutions
 alge746 Solving a compound linear inequality: Graph solution, basic
 alge747 Solving a compound linear inequality: Interval notation
 alge868 Solving an absolute value inequality: Problem type 1
 alge749 Solving a decimal word problem using a two-step linear inequality
 alge750 Solving a decimal word problem using a linear inequality with the variable on both sides

Functions and Lines

alge064 Reading a point in the coordinate plane
 alge067 Plotting a point in the coordinate plane
 alge850 Table for a linear equation
 alge873 Identifying solutions to a linear equation in two variables
 alge066 Finding a solution to a linear equation in two variables
 alge191 Midpoint of a line segment in the plane
 alge877 Graphing a linear equation of the form $y = mx$
 alge878 Graphing a line given its equation in slope-intercept form: Integer slope
 alge879 Graphing a line given its equation in slope-intercept form: Fractional slope
 alge880 Graphing a line given its equation in standard form
 alge198 Graphing a vertical or horizontal line
 alge884 Finding x - and y -intercepts given the graph of a line on a grid
 alge924 Finding x - and y -intercepts of a line given the equation: Basic
 alge210 Finding x - and y -intercepts of a line given the equation: Advanced
 alge197 Graphing a line given its x - and y -intercepts
 alge881 Graphing a line by first finding its x - and y -intercepts
 alge875 Classifying slopes given graphs of lines
 alge886 Finding slope given the graph of a line on a grid
 alge887 Finding slope given two points on the line
 alge885 Finding the slope of horizontal and vertical lines
 alge888 Finding the coordinate that yields a given slope
 alge259 Graphing a line given its slope and y -intercept
 alge196 Graphing a line through a given point with a given slope
 alge876 Identifying linear equations: Advanced

alge874 Identifying linear functions given ordered pairs
alge891 Rewriting a linear equation in the form $Ax + By = C$
alge889 Finding the slope and y-intercept of a line given its equation in the form $y = mx + b$
alge890 Finding the slope and y-intercept of a line given its equation in the form $Ax + By = C$
alge882 Graphing a line by first finding its slope and y-intercept
alge258 Writing an equation of a line given its slope and y-intercept
alge892 Writing an equation and graphing a line given its slope and y-intercept
alge893 Writing an equation in slope-intercept form given the slope and a point
alge883 Graphing a line given its equation in point-slope form
alge894 Writing an equation in point-slope form given the slope and a point
alge070 Writing an equation of a line given the y-intercept and another point
alge072 Writing the equation of the line through two given points
alge073 Writing the equations of vertical and horizontal lines through a given point
geom806 Finding slopes of lines parallel and perpendicular to a line given in slope-intercept form
geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
alge895 Identifying parallel and perpendicular lines from equations
geom808 Writing equations of lines parallel and perpendicular to a given line through a point
alge897 Writing and evaluating a function that models a real-world situation: Advanced
alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
fun005 Writing a function rule given a table of ordered pairs: One-step rules
fun006 Writing a function rule given a table of ordered pairs: Two-step rules
alge992 Combining functions to write a new function that models a real-world situation
alge987 Comparing properties of linear functions given in different forms
alge989 Interpreting the parameters of a linear function that models a real-world situation
alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
alge806 Application problem with a linear function: Finding a coordinate given two points
mstat052 Identifying independent and dependent variables from equations or real-world situations
alge991 Solving a linear equation by graphing
mstat030 Sketching the line of best fit
mstat023 Scatter plots and correlation
mstat068 Predictions from the line of best fit
mstat067 Approximating the equation of a line of best fit and making predictions
mstat069 Computing residuals
mstat070 Interpreting residual plots
mstat071 Linear relationship and the correlation coefficient
mstat074 Identifying correlation and causation
alge898 Translating the graph of an absolute value function: One step
alge899 Translating the graph of an absolute value function: Two steps
alge913 Graphing an absolute value equation of the form $y = A - |x - h| + k$
alge900 Graphing an absolute value equation in the plane: Basic
alge168 Graphing an absolute value equation in the plane: Advanced
alge901 How the leading coefficient affects the graph of an absolute value function
fun032 Identifying functions from relations
fun010 Vertical line test
fun016 Domain and range from ordered pairs
fun001 Table for a linear function
pcalc760 Evaluating functions: Linear and quadratic or cubic
fun033 Variable expressions as inputs of functions: Problem type 1
alge294 Finding outputs of a one-step function that models a real-world situation: Function notation
alge295 Finding outputs of a two-step function with decimals that models a real-world situation: Function notation
alge296 Finding inputs and outputs of a two-step function that models a real-world situation: Function notation
alge990 Domain and range of a linear function that models a real-world situation
fun026 Finding an output of a function from its graph
pcalc761 Finding inputs and outputs of a function from its graph
fun007 Domain and range from the graph of a discrete relation
fun024 Domain and range from the graph of a continuous function
alge896 Graphing an integer function and finding its range for a given domain
alge570 Graphing a function of the form $f(x) = ax + b$: Integer slope
alge571 Graphing a function of the form $f(x) = ax + b$: Fractional slope
alge954 Graphing a parabola of the form $y = ax^2 + c$
alge955 Graphing a parabola of the form $y = ax^2 + c$

alge572 Graphing a function of the form $f(x) = ax^2$
 alge573 Graphing a function of the form $f(x) = ax^2 + c$
 pcalc750 Finding intercepts of a nonlinear function given its graph
 pcalc751 Finding where a function is increasing, decreasing, or constant given the graph: Interval notation
 pcalc752 Finding local maxima and minima of a function given the graph
 mstat018 Choosing a graph to fit a narrative: Basic
 mstat051 Choosing a graph to fit a narrative: Advanced

Systems

alge914 Identifying solutions to a system of linear equations
 alge075 Classifying systems of linear equations from graphs
 alge725 Graphically solving a system of linear equations
 alge751 Solving a system of linear equations using substitution
 alge915 Solving a system of linear equations using elimination with addition
 alge076 Solving a system of linear equations using elimination with multiplication and addition
 alge916 Solving a system of linear equations with fractional coefficients
 alge917 Solving a system of linear equations with decimal coefficients
 alge752 Solving a 2x2 system of linear equations that is inconsistent or consistent dependent
 alge988 Identifying the operations used to create equivalent systems of equations
 alge753 Solving a 3x3 system of linear equations: Problem type 1
 alge263 Interpreting the graphs of two functions
 alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations
 alge919 Solving a word problem using a system of linear equations of the form $Ax + By = C$
 alge918 Solving a word problem using a system of linear equations of the form $y = mx + b$
 alge184 Solving a value mixture problem using a system of linear equations
 alge192 Solving a percent mixture problem using a system of linear equations
 alge224 Solving a distance, rate, time problem using a system of linear equations
 alge172 Solving a tax rate or interest rate problem using a system of linear equations
 alge793 Solving a word problem using a 3x3 system of linear equations: Problem type 1
 alge912 Identifying solutions to a linear inequality in two variables
 alge225 Graphing a linear inequality in the plane: Vertical or horizontal line
 alge720 Graphing a linear inequality in the plane: Slope-intercept form
 alge018 Graphing a linear inequality in the plane: Standard form
 alge079 Graphing a system of two linear inequalities: Basic
 alge921 Graphing a system of two linear inequalities: Advanced
 alge922 Graphing a system of three linear inequalities
 alge729 Writing a multi-step inequality for a real-world situation
 pcalc093 Solving a word problem using a system of linear inequalities: Problem type 1

Exponents and Polynomials

alge821 Understanding the product rule of exponents
 alge024 Introduction to the product rule of exponents
 alge311 Product rule with positive exponents: Univariate
 alge030 Product rule with positive exponents: Multivariate
 arith029 Ordering numbers with positive exponents
 alge826 Understanding the power rules of exponents
 alge306 Introduction to the power of a power rule of exponents
 alge305 Introduction to the power of a product rule of exponents
 alge307 Power rules with positive exponents: Multivariate products
 alge308 Power rules with positive exponents: Multivariate quotients
 alge756 Power and product rules with positive exponents
 alge451 Simplifying a ratio of multivariate monomials: Basic
 alge827 Introduction to the quotient rule of exponents
 alge452 Simplifying a ratio of univariate monomials
 alge026 Quotient of expressions involving exponents
 alge453 Simplifying a ratio of multivariate monomials: Advanced

alge927 Power and quotient rules with positive exponents
arith042 Evaluating an expression with a negative exponent: Positive fraction base
alge790 Evaluating expressions with exponents of zero
arith684 Power of 10: Negative exponent
arith729 Evaluating an expression with a negative exponent: Whole number base
arith043 Evaluating an expression with a negative exponent: Negative integer base
arith024 Ordering numbers with negative exponents
alge791 Rewriting an algebraic expression without a negative exponent
alge961 Introduction to the product rule with negative exponents
alge028 Product rule with negative exponents
alge755 Quotient rule with negative exponents: Problem type 1
alge926 Quotient rule with negative exponents: Problem type 2
alge025 Power of a power rule with negative exponents
alge799 Power rules with negative exponents
alge928 Power and quotient rules with negative exponents: Problem type 1
alge929 Power and quotient rules with negative exponents: Problem type 2
alge757 Power, product, and quotient rules with negative exponents
arith036 Scientific notation with positive exponent
arith037 Scientific notation with negative exponent
scinot012 Converting between scientific notation and standard form in a real-world situation
scinot008 Multiplying numbers written in scientific notation: Basic
scinot009 Multiplying numbers written in scientific notation: Advanced
scinot010 Dividing numbers written in scientific notation: Basic
scinot011 Dividing numbers written in scientific notation: Advanced
alge971 Table for an exponential function
alge830 Evaluating an exponential function that models a real-world situation
arith853 Introduction to compound interest
alge177 Finding a final amount in a word problem on exponential growth or decay
alge741 Finding the final amount in a word problem on compound interest
alge966 Finding the initial amount and rate of change given an exponential function
alge968 Writing an equation that models exponential growth or decay
alge301 Solving an exponential equation by finding common bases: Linear exponents
alge969 Graphing an exponential function: $f(x) = ax$
alge970 Graphing an exponential function: $f(x) = a(b)^x$
alge967 Writing an exponential function rule given a table of ordered pairs
alge993 Comparing linear, polynomial, and exponential functions
alge758 Degree and leading coefficient of a univariate polynomial
alge031 Degree of a multivariate polynomial
alge798 Simplifying a sum or difference of two univariate polynomials
alge029 Simplifying a sum or difference of three univariate polynomials
alge932 Simplifying a sum or difference of multivariate polynomials
alge735 Multiplying a univariate polynomial by a monomial with a positive coefficient
alge972 Multiplying a univariate polynomial by a monomial with a negative coefficient
alge835 Multiplying a multivariate polynomial by a monomial
alge033 Multiplying binomials with leading coefficients of 1
alge983 Multiplying binomials with leading coefficients greater than 1
alge765 Multiplying binomials in two variables
alge764 Multiplying conjugate binomials: Univariate
alge081 Multiplying conjugate binomials: Multivariate
alge032 Squaring a binomial: Univariate
alge068 Squaring a binomial: Multivariate
alge973 Multiplying binomials with negative coefficients
alge935 Multiplication involving binomials and trinomials in one variable
alge180 Multiplication involving binomials and trinomials in two variables
alge759 Dividing a polynomial by a monomial: Univariate
alge760 Dividing a polynomial by a monomial: Multivariate
alge761 Polynomial long division: Problem type 1
alge762 Polynomial long division: Problem type 2
alge763 Polynomial long division: Problem type 3
alge985 Closure properties of integers and polynomials
alge605 Factoring a linear binomial
alge736 Introduction to the GCF of two monomials

alge930 Greatest common factor of three univariate monomials
 alge037 Greatest common factor of two multivariate monomials
 alge738 Factoring out a monomial from a polynomial: Univariate
 alge739 Factoring out a monomial from a polynomial: Multivariate
 alge949 Factoring out a binomial from a polynomial: GCF factoring, basic
 alge923 Factoring a univariate polynomial by grouping: Problem type 1
 alge950 Factoring a univariate polynomial by grouping: Problem type 2
 alge951 Factoring a multivariate polynomial by grouping: Problem type 1
 alge952 Factoring a multivariate polynomial by grouping: Problem type 2
 alge039 Factoring a quadratic with leading coefficient 1
 alge942 Factoring a quadratic in two variables with leading coefficient 1
 alge936 Factoring out a constant before factoring a quadratic
 alge939 Factoring a quadratic with leading coefficient greater than 1: Problem type 1
 alge940 Factoring a quadratic with leading coefficient greater than 1: Problem type 2
 alge941 Factoring a quadratic with leading coefficient greater than 1: Problem type 3
 alge978 Factoring a quadratic by the ac-method
 alge265 Factoring a quadratic in two variables with leading coefficient greater than 1
 alge937 Factoring a quadratic with a negative leading coefficient
 alge944 Factoring a perfect square trinomial with leading coefficient 1
 alge945 Factoring a perfect square trinomial with leading coefficient greater than 1
 alge946 Factoring a perfect square trinomial in two variables
 alge290 Factoring a difference of squares in one variable: Basic
 alge947 Factoring a difference of squares in one variable: Advanced
 alge839 Factoring a difference of squares in two variables
 alge948 Factoring a polynomial involving a GCF and a difference of squares: Univariate
 alge833 Factoring a polynomial involving a GCF and a difference of squares: Multivariate
 alge041 Factoring a product of a quadratic trinomial and a monomial
 alge042 Factoring with repeated use of the difference of squares formula
 alge044 Factoring a sum or difference of two cubes
 alge681 Solving an equation written in factored form
 alge956 Finding the roots of a quadratic equation of the form $ax^2 + bx = 0$
 alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
 alge211 Solving a quadratic equation needing simplification
 alge703 Solving a word problem using a quadratic equation with rational roots
 alge713 Using the Pythagorean Theorem and a quadratic equation to find side lengths of a right triangle

Rational Expressions

alge049 Restriction on a variable in a denominator: Linear
 alge467 Restriction on a variable in a denominator: Quadratic
 alge468 Evaluating a rational function: Problem type 1
 alge469 Evaluating a rational function: Problem type 2
 alge715 Domain of a rational function: Excluded values
 alge454 Simplifying a ratio of factored polynomials: Linear factors
 alge455 Simplifying a ratio of factored polynomials: Factors with exponents
 alge456 Simplifying a ratio of polynomials using GCF factoring
 alge457 Simplifying a ratio of linear polynomials: 1, -1, and no simplification
 alge458 Simplifying a ratio of polynomials by factoring a quadratic with leading coefficient 1
 alge710 Simplifying a ratio of polynomials: Problem type 1
 alge682 Simplifying a ratio of polynomials: Problem type 2
 alge459 Simplifying a ratio of polynomials: Problem type 3
 alge034 Simplifying a ratio of multivariate polynomials
 alge053 Multiplying rational expressions involving multivariate monomials
 alge460 Multiplying rational expressions made up of linear expressions
 alge620 Multiplying rational expressions involving quadratics with leading coefficients of 1
 alge461 Multiplying rational expressions involving quadratics with leading coefficients greater than 1
 alge462 Multiplying rational expressions involving multivariate quadratics
 alge054 Dividing rational expressions involving multivariate monomials
 alge463 Dividing rational expressions involving linear expressions

alge766 Dividing rational expressions involving quadratics with leading coefficients of 1
alge464 Dividing rational expressions involving quadratics with leading coefficients greater than 1
alge465 Dividing rational expressions involving multivariate quadratics
alge466 Multiplication and division of 3 rational expressions
alge737 Introduction to the LCM of two monomials
alge055 Least common multiple of two monomials
alge427 Finding the LCD of rational expressions with linear denominators: Relatively prime
alge428 Finding the LCD of rational expressions with linear denominators: Common factors
alge429 Finding the LCD of rational expressions with quadratic denominators
alge430 Writing equivalent rational expressions with monomial denominators
alge431 Writing equivalent rational expressions with polynomial denominators
alge304 Writing equivalent rational expressions involving opposite factors
alge433 Adding rational expressions with common denominators and monomial numerators
alge056 Adding rational expressions with common denominators and binomial numerators
alge434 Adding rational expressions with common denominators and GCF factoring
alge435 Adding rational expressions with common denominators and quadratic factoring
alge437 Adding rational expressions with denominators ax and bx : Basic
alge438 Adding rational expressions with denominators ax and bx : Advanced
alge439 Adding rational expressions with denominators axn and bxm
alge440 Adding rational expressions with multivariate monomial denominators: Basic
alge226 Adding rational expressions with multivariate monomial denominators: Advanced
alge441 Adding rational expressions with linear denominators without common factors: Basic
alge442 Adding rational expressions with linear denominators without common factors: Advanced
alge443 Adding rational expressions with linear denominators with common factors: Basic
alge444 Adding rational expressions with linear denominators with common factors: Advanced
alge445 Adding rational expressions with denominators $ax-b$ and $b-ax$
alge661 Adding rational expressions involving different quadratic denominators
alge446 Adding 3 rational expressions with different quadratic denominators
alge470 Complex fraction involving univariate monomials
alge058 Complex fraction involving multivariate monomials
alge471 Complex fraction: GCF factoring
alge472 Complex fraction: Quadratic factoring
alge473 Complex fraction made of sums involving rational expressions: Problem type 1
alge474 Complex fraction made of sums involving rational expressions: Problem type 2
alge475 Complex fraction made of sums involving rational expressions: Problem type 3
alge476 Complex fraction made of sums involving rational expressions: Problem type 4
alge477 Complex fraction made of sums involving rational expressions: Problem type 5
alge478 Complex fraction made of sums involving rational expressions: Problem type 6
alge479 Complex fraction made of sums involving rational expressions: Multivariate
alge480 Complex fraction with negative exponents: Problem type 1
alge481 Complex fraction with negative exponents: Problem type 2
alge162 Complex fraction that contains a complex fraction
alge060 Solving a rational equation that simplifies to linear: Denominator x
alge205 Solving a rational equation that simplifies to linear: Denominator $x+a$
alge769 Solving a rational equation that simplifies to linear: Denominators a , x , or ax
alge421 Solving a rational equation that simplifies to linear: Denominators ax and bx
alge422 Solving a rational equation that simplifies to linear: Like binomial denominators
alge206 Solving a rational equation that simplifies to linear: Unlike binomial denominators
alge423 Solving a rational equation that simplifies to linear: Factorable quadratic denominator
alge424 Solving a rational equation that simplifies to quadratic: Proportional form, basic
alge425 Solving a rational equation that simplifies to quadratic: Denominator x
alge212 Solving a rational equation that simplifies to quadratic: Binomial denominators, constant numerators
alge062 Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators
alge426 Solving a rational equation that simplifies to quadratic: Factorable quadratic denominator
alge047 Solving a rational equation that simplifies to quadratic: Proportional form, advanced
alge508 Solving for a variable in terms of other variables in a rational equation: Problem type 1
alge509 Solving for a variable in terms of other variables in a rational equation: Problem type 2
alge510 Solving for a variable in terms of other variables in a rational equation: Problem type 3
arith612 Word problem involving multiple rates
alge770 Solving a work problem using a rational equation
alge450 Solving a distance, rate, time problem using a rational equation
alge059 Ordering fractions with variables

alge982 Identifying direct variation equations
 alge938 Identifying direct variation from ordered pairs and writing equations
 alge904 Writing a direct variation equation
 alge175 Word problem on direct variation
 alge828 Interpreting direct variation from a graph
 alge905 Writing an inverse variation equation
 alge903 Identifying direct and inverse variation equations
 alge902 Identifying direct and inverse variation from ordered pairs and writing equations
 alge176 Word problem on inverse variation
 alge220 Word problem on inverse proportions
 pcalc681 Writing an equation that models variation
 alge772 Word problem on combined variation

Radicals and Quadratic Equations

alge413 Finding all square roots of a number
 arith760 Square roots of perfect squares with signs
 alge415 Introduction to simplifying a radical expression with an even exponent
 alge264 Square root of a perfect square monomial
 arith094 Cube root of an integer
 alge549 Finding n th roots of perfect n th powers with signs
 arith768 Finding the n th root of a perfect n th power fraction
 alge550 Finding the n th root of a perfect n th power monomial
 arith093 Simplifying the square root of a whole number less than 100
 arith762 Simplifying the square root of a whole number greater than 100
 alge080 Simplifying a radical expression with an even exponent
 alge520 Introduction to simplifying a radical expression with an odd exponent
 alge521 Simplifying a radical expression with an odd exponent
 alge275 Simplifying a radical expression with two variables
 alge273 Simplifying a higher root of a whole number
 alge551 Introduction to simplifying a higher radical expression
 alge552 Simplifying a higher radical expression: Univariate
 alge811 Simplifying a higher radical expression: Multivariate
 arith767 Introduction to square root addition or subtraction
 arith032 Square root addition or subtraction
 alge533 Square root addition or subtraction with three terms
 alge531 Introduction to simplifying a sum or difference of radical expressions: Univariate
 alge532 Simplifying a sum or difference of radical expressions: Univariate
 alge084 Simplifying a sum or difference of radical expressions: Multivariate
 alge554 Simplifying a sum or difference of higher roots
 alge555 Simplifying a sum or difference of higher radical expressions
 arith764 Introduction to square root multiplication
 arith765 Square root multiplication: Basic
 arith039 Square root multiplication: Advanced
 alge522 Introduction to simplifying a product of radical expressions: Univariate
 alge523 Simplifying a product of radical expressions: Univariate
 alge640 Simplifying a product of radical expressions: Multivariate
 alge556 Introduction to simplifying a product of higher roots
 alge557 Simplifying a product of higher radical expressions
 alge525 Introduction to simplifying a product involving square roots using the distributive property
 alge526 Simplifying a product involving square roots using the distributive property: Basic
 alge276 Simplifying a product involving square roots using the distributive property: Advanced
 alge774 Special products of radical expressions: Conjugates and squaring
 alge984 Classifying sums and products as rational or irrational
 arith766 Simplifying a quotient of square roots
 alge530 Simplifying a quotient involving a sum or difference with a square root
 alge527 Rationalizing a denominator: Quotient involving square roots
 alge528 Rationalizing a denominator: Square root of a fraction
 alge529 Rationalizing a denominator: Quotient involving a monomial
 alge534 Rationalizing a denominator using conjugates: Integer numerator

alge535 Rationalizing a denominator using conjugates: Square root in numerator
alge536 Rationalizing a denominator using conjugates: Variable in denominator
alge564 Rationalizing a denominator: Quotient involving a higher radical
alge400 Introduction to solving a radical equation
alge089 Solving a radical equation that simplifies to a linear equation: One radical, basic
alge402 Solving a radical equation that simplifies to a linear equation: One radical, advanced
alge090 Solving a radical equation that simplifies to a linear equation: Two radicals
alge405 Solving a radical equation with two radicals that simplifies to $\sqrt{x} = a$
alge403 Solving a radical equation that simplifies to a quadratic equation: One radical, basic
alge404 Solving a radical equation that simplifies to a quadratic equation: One radical, advanced
alge411 Solving a radical equation with a quadratic expression under the radical
alge182 Solving a radical equation that simplifies to a quadratic equation: Two radicals
alge410 Solving an equation with a root index greater than 2: Problem type 1
alge417 Solving an equation with a root index greater than 2: Problem type 2
alge412 Algebraic symbol manipulation with radicals
alge542 Word problem involving radical equations: Basic
alge409 Word problem involving radical equations: Advanced
alge132 Distance between two points in the plane: Exact answers
alge539 Table for a square root function
alge540 Domain of a square root function: Basic
pcalc763 Domain of a square root function: Advanced
alge543 Graphing a square root function: Problem type 1
alge544 Graphing a square root function: Problem type 2
alge812 Converting between radical form and exponent form
alge560 Rational exponents: Unit fraction exponents and whole number bases
alge561 Rational exponents: Unit fraction exponents and bases involving signs
alge250 Rational exponents: Non-unit fraction exponent with a whole number base
alge251 Rational exponents: Negative exponents and fractional bases
alge558 Rational exponents: Product rule
alge559 Rational exponents: Quotient rule
alge773 Rational exponents: Products and quotients with negative exponents
alge562 Rational exponents: Power of a power rule
alge249 Rational exponents: Powers of powers with negative exponents
alge563 Simplifying products or quotients of higher radicals with different indices: Univariate
alge778 Using i to rewrite square roots of negative numbers
alge779 Simplifying a product and quotient involving square roots of negative numbers
pcalc048 Adding or subtracting complex numbers
pcalc049 Multiplying complex numbers
pcalc050 Dividing complex numbers
pcalc053 Simplifying a power of i
alge962 Solving an equation of the form $x^2 = a$ using the square root property
alge092 Solving a quadratic equation using the square root property: Exact answers, basic
alge227 Solving a quadratic equation using the square root property: Exact answers, advanced
alge094 Completing the square
alge780 Solving a quadratic equation by completing the square: Exact answers
alge095 Applying the quadratic formula: Exact answers
alge963 Applying the quadratic formula: Decimal answers
pcalc051 Solving a quadratic equation with complex roots
alge214 Discriminant of a quadratic equation
alge524 Solving a word problem using a quadratic equation with irrational roots
alge974 Finding the vertex, x -intercepts, and axis of symmetry from the graph of a parabola
alge953 Translating the graph of a parabola: One step
alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
alge569 Graphing a parabola of the form $y = x^2 + bx + c$
pcalc746 Graphing a parabola of the form $y = ax^2 + bx + c$: Integer coefficients
pcalc747 Graphing a parabola of the form $y = ax^2 + bx + c$: Rational coefficients
alge277 Finding the x -intercept(s) and the vertex of a parabola
pcalc774 Rewriting a quadratic function to find the vertex of its graph
pcalc775 Finding the maximum or minimum of a quadratic function
alge785 Word problem involving the maximum or minimum of a quadratic function
alge975 Domain and range from the graph of a parabola
pcalc762 Range of a quadratic function

alge957 Solving a quadratic equation by graphing
 alge996 Comparing properties of quadratic functions given in different forms
 alge702 Classifying the graph of a function
 alge723 How the leading coefficient affects the shape of a parabola
 alge965 Identifying linear, quadratic, and exponential functions given ordered pairs
 alge262 Graphing a cubic function of the form $y = ax^3$
 fun019 Sum, difference, and product of two functions
 fun022 Composition of two functions: Basic
 pcalc776 Expressing a function as a composition of two functions
 pcalc924 Determining whether an equation defines a function: Basic
 pcalc757 Determining whether an equation defines a function: Advanced

B.41 Math Toolbox

Integers

arith078 Rounding to tens or hundreds
 arith061 Rounding to thousands, ten thousands, or hundred thousands
 arith101 Estimating a sum of whole numbers
 arith102 Estimating a difference of whole numbers
 arith604 Estimating a product or quotient of whole numbers
 arith645 Introduction to parentheses
 arith048 Order of operations with whole numbers
 arith051 Order of operations with whole numbers and grouping symbols
 alge285 Evaluating an algebraic expression: Whole numbers with two operations
 arith657 Understanding the distributive property
 alge286 Plotting integers on a number line
 arith200 Integer addition: Problem type 1
 arith108 Integer addition: Problem type 2
 arith107 Integer subtraction
 arith231 Integer multiplication and division
 arith056 Factors
 arith033 Greatest common factor of 2 numbers
 arith070 Least common multiple of 2 numbers

Rational Numbers

arith623 Introduction to fractions
 arith665 Understanding equivalent fractions
 arith212 Equivalent fractions
 arith067 Simplifying a fraction
 arith618 Addition or subtraction of fractions with the same denominator
 arith230 Addition or subtraction of fractions with different denominators
 arith106 Signed fraction addition or subtraction: Advanced
 arith088 The reciprocal of a number
 arith079 Product of a unit fraction and a whole number
 arith009 Unit fraction multiplication
 arith086 Product of a fraction and a whole number: Problem type 1
 arith053 Fraction multiplication
 arith095 Multi-step word problem involving fractions and multiplication
 arith022 Fraction division
 arith105 Signed fraction multiplication: Advanced
 arith662 Writing a mixed number and an improper fraction for a shaded region
 arith015 Writing an improper fraction as a mixed number
 arith619 Writing a mixed number as an improper fraction

arith667 Plotting fractions on a number line
 arith605 Plotting rational numbers on a number line
 arith220 Decimal place value: Hundreds to ten thousandths
 arith221 Rounding decimals
 arith671 Converting a fraction with a denominator of 10, 100, or 1000 to a decimal
 arith087 Converting a decimal to a proper fraction in simplest form: Advanced
 arith222 Converting a fraction to a terminating decimal
 arith089 Converting a fraction to a repeating decimal
 arith624 Addition of aligned decimals
 arith625 Subtraction of aligned decimals
 arith626 Word problem with one decimal operation: Problem type 1
 arith627 Word problem with one decimal operation: Problem type 2
 arith234 Signed decimal addition and subtraction with 3 numbers
 arith082 Multiplication of a decimal by a power of ten
 arith017 Multiplication of a decimal by a whole number
 arith055 Decimal multiplication: Problem type 1
 arith045 Word problem with powers of ten
 arith224 Word problem with decimal addition and multiplication
 arith083 Division of a decimal by a power of ten
 arith081 Division of a decimal by a whole number
 arith019 Division of a decimal by a 2-digit decimal
 arith227 Word problem with decimal subtraction and division

Percentages and Proportions

arith674 Finding the percentage of a grid that is shaded
 arith226 Converting between percentages and decimals
 arith090 Converting a percentage to a fraction in simplest form
 arith002 Converting a fraction to a percentage: Denominator of 20, 25, or 50
 arith030 Finding a percentage of a whole number without a calculator: Basic
 arith069 Writing a ratio as a percentage without a calculator
 arith074 Finding the sale price without a calculator given the original price and percent discount
 arith031 Finding the original price given the sale price and percent discount
 arith225 Finding the percentage increase or decrease: Advanced
 arith663 Writing ratios for real-world situations
 arith228 Word problem on unit rates associated with ratios of whole numbers: Decimal answers
 alge218 Solving a word problem involving rates and time conversion
 alge272 Solving a proportion of the form $x/a = b/c$
 alge271 Solving a proportion of the form $a/(x+b) = c/x$
 arith064 Solving a word problem on proportions using a unit rate
 arith610 Word problem on proportions: Problem type 1
 arith611 Word problem on proportions: Problem type 2
 unit001 Metric distance conversion with whole number values
 unit002 Metric mass or capacity conversion with whole number values
 unit003 Metric distance conversion with decimal values
 unit004 Metric conversion with decimal values: Two-step problem
 unit010 Metric area unit conversion with decimal values

Basic Algebraic Operations

alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge004 Evaluating a quadratic expression: Integers
 alge606 Distributive property: Whole number coefficients
 alge604 Distributive property: Integer coefficients
 alge607 Combining like terms: Integer coefficients
 alge663 Combining like terms: Advanced
 alge602 Writing a one-step variable expression for a real-world situation
 arith233 Introduction to exponents

arith683 Power of 10: Positive exponent
 arith684 Power of 10: Negative exponent
 arith047 Evaluating expressions with exponents: Problem type 1
 arith049 Evaluating expressions with exponents: Problem type 2
 arith600 Order of operations with integers and exponents
 alge024 Introduction to the product rule of exponents
 alge026 Quotient of expressions involving exponents
 arith042 Evaluating an expression with a negative exponent: Positive fraction base
 arith043 Evaluating an expression with a negative exponent: Negative integer base
 alge027 Power rules with positive exponents
 alge025 Power of a power rule with negative exponents
 arith029 Ordering numbers with positive exponents
 arith036 Scientific notation with positive exponent
 arith037 Scientific notation with negative exponent
 alge029 Simplifying a sum or difference of three univariate polynomials
 alge037 Greatest common factor of two multivariate monomials
 alge030 Product rule with positive exponents: Multivariate
 alge033 Multiplying binomials with leading coefficients of 1
 alge032 Squaring a binomial: Univariate
 alge180 Multiplication involving binomials and trinomials in two variables
 alge053 Multiplying rational expressions involving multivariate monomials
 alge054 Dividing rational expressions involving multivariate monomials
 alge058 Complex fraction involving multivariate monomials
 arith016 Square root of a perfect square
 arith601 Square root of a rational perfect square
 arith602 Estimating a square root
 arith093 Simplifying the square root of a whole number less than 100
 arith094 Cube root of an integer
 alge812 Converting between radical form and exponent form
 alge250 Rational exponents: Non-unit fraction exponent with a whole number base
 alge108 Converting between logarithmic and exponential equations
 alge232 Evaluating a logarithmic expression
 pcalc708 Basic properties of logarithms

Linear Equations

alge009 Additive property of equality with whole numbers
 alge800 Additive property of equality with decimals
 alge801 Additive property of equality with fractions and mixed numbers
 alge010 Additive property of equality with integers
 alge266 Additive property of equality with a negative coefficient
 alge008 Multiplicative property of equality with whole numbers
 alge012 Multiplicative property of equality with signed fractions
 alge006 Solving a two-step equation with integers
 alge208 Solving a two-step equation with signed fractions
 alge200 Solving an equation to find the value of an expression
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
 alge016 Translating a sentence into a one-step equation
 alge802 Solving a fraction word problem using a linear equation of the form $Ax = B$
 alge014 Solving a word problem with two unknowns using a linear equation
 alge219 Solving a decimal word problem using a linear equation with the variable on both sides
 alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
 alge704 Solving a fraction word problem using a linear equation with the variable on both sides

alge076 Solving a system of linear equations using elimination with multiplication and addition
 alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations
 alge184 Solving a value mixture problem using a system of linear equations
 alge224 Solving a distance, rate, time problem using a system of linear equations
 alge192 Solving a percent mixture problem using a system of linear equations
 alge172 Solving a tax rate or interest rate problem using a system of linear equations

Functions and Graphs

fun001 Table for a linear function
 fun002 Graphing integer functions
 fun016 Domain and range from ordered pairs
 fun010 Vertical line test
 alge064 Reading a point in the coordinate plane
 alge067 Plotting a point in the coordinate plane
 alge197 Graphing a line given its x- and y-intercepts
 alge194 Graphing a line given its equation in slope-intercept form
 alge195 Graphing a line given its equation in standard form
 alge196 Graphing a line through a given point with a given slope
 alge198 Graphing a vertical or horizontal line
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 alge725 Graphically solving a system of linear equations
 alge066 Finding a solution to a linear equation in two variables
 alge216 Determining whether given points lie on one, both, or neither of 2 lines given equations
 alge069 Finding the y-intercept of a line given its equation
 alge210 Finding x- and y-intercepts of a line given the equation: Advanced
 alge631 Finding the slope of a line given its equation
 alge637 Determining the slope of a line given its graph
 alge070 Writing an equation of a line given the y-intercept and another point
 alge071 Writing the equation of a line given the slope and a point on the line
 alge072 Writing the equation of the line through two given points
 alge073 Writing the equations of vertical and horizontal lines through a given point
 alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
 alge806 Application problem with a linear function: Finding a coordinate given two points
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 alge263 Interpreting the graphs of two functions
 alge277 Finding the x-intercept(s) and the vertex of a parabola
 alge252 Graphing a parabola of the form $y = ax^2$
 alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
 alge254 Graphing a parabola of the form $y = ax^2 + bx + c$
 alge262 Graphing a cubic function of the form $y = ax^3$

Financial Mathematics

bmath061 Financial ratio analysis
 bmath021 Single trade discounts and net price
 bmath025 Markup based on cost or selling price
 bmath001 Markup based on cost: Finding the selling price
 bmath027 Markup based on cost: Finding the cost
 bmath107 Markup based on selling price: Finding the selling price
 bmath108 Markup based on selling price: Finding the cost
 bmath029 Markdown
 bmath033 Gross pay with commission and salary
 bmath037 Simple interest and maturity value
 bmath039 Solving for principal, rate, or time in simple interest problems
 bmath109 Computing compound interest with the simple interest formula
 bmath042 Compound interest for daily compounding

bmath041 Compound interest for annual, semiannual, and quarterly compounding
 bmath043 Present value tables
 bmath044 Ordinary annuity
 bmath046 Present value of an ordinary annuity
 bmath047 Sinking funds

Basic Statistics

mstat007 Interpreting a line graph
 stat904 Interpreting pie charts
 stat901 Computations from pie charts
 stat844 Double bar charts
 stat702 Histograms for grouped data
 stat703 Frequency polygons for grouped data
 stat717 Interpreting relative frequency histograms
 stat718 Cumulative distributions and ogives
 stat164 Comparing means without calculation
 stat165 Comparing standard deviations without calculation
 stat706 Mean, median, and mode: Computations
 stat902 Rejecting unreasonable claims based on average statistics
 stat007 Weighted mean: Tabular data
 stat719 Estimating the mean of grouped data
 stat009 Percentiles
 stat021 Population standard deviation
 stat011 Sample standard deviation
 stat729 Estimating the standard deviation of grouped data
 stat798 Mean, median, and mode: Comparisons
 stat905 Making reasonable inferences based on proportion statistics
 stat119 Venn diagrams: Two events
 stat101 Venn diagrams: Word problems
 stat106 Outcomes and event probability
 stat226 Die rolling
 stat114 Probability of intersection or union: Word problems
 stat115 Independent events: Basic
 stat120 Probability of union: Basic
 stat104 Mutually exclusive events: Two events
 stat850 Probability of independent events
 stat020 Calculating relative frequencies in a contingency table
 stat116 Conditional probability: Basic
 stat851 Probability of dependent events
 stat109 Intersection and conditional probability
 stat756 Tree diagrams for conditional probabilities

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Whole Numbers

arith124 Whole number place value: Problem type 1
 arith125 Whole number place value: Problem type 2
 arith066 Expanded form
 arith643 Expanded form with zeros
 arith028 Numeral translation: Problem type 1
 arith060 Numeral translation: Problem type 2
 arith633 One-digit addition with carry
 arith634 Addition of 3 or 4 one-digit numbers

arith635 Adding a 2-digit number and a 1-digit number with carry
arith001 Addition without carry
arith050 Addition with carry
arith630 Addition with carry to the hundreds place
arith012 Addition of large numbers
arith660 Finding the value of a collection of coins
arith661 Finding the value of a collection of bills and coins
arith636 Subtracting a 1-digit number from a 2-digit number
arith007 Subtraction without borrowing
arith006 Subtraction with borrowing
arith128 Adding or subtracting 10, 100, or 1000
arith682 Subtraction with multiple regrouping steps
arith637 Subtraction and regrouping with zeros
arith613 Word problem with addition or subtraction of whole numbers
arith641 Multiples: Problem type 1
arith642 Multiples: Problem type 2
arith008 One-digit multiplication
arith679 Multiplication by 10, 100, and 1000
arith675 Understanding multiplication of a one-digit number with a larger number
arith003 Multiplication without carry
arith004 Multiplication with carry
arith615 Introduction to multiplication of large numbers
arith632 Multiplication with trailing zeros: Problem type 1
arith638 Multiplication with trailing zeros: Problem type 2
arith014 Multiplication of large numbers
arith126 Multiplication as repeated addition
arith639 Using multiplication to find the number of squares
arith640 Using addition and multiplication to count the objects on a grid
arith075 Division facts
arith052 Division without carry
arith005 Division with carry
arith680 Division with trailing zeros: Problem type 1
arith649 Division with trailing zeros: Problem type 2
arith650 Division involving quotients with intermediate zeros
arith616 Quotient and remainder: Problem type 1
arith644 Word problem on quotient and remainder
arith617 Quotient and remainder: Problem type 2
arith631 Quotient and remainder: Problem type 3
arith023 Word problem with division of whole numbers and rounding
arith614 Word problem with multiplication or division of whole numbers
arith130 Word problem with multiplication and addition or subtraction of whole numbers
arith651 Introduction to inequalities
arith652 Comparing a numerical expression with a number
arith077 Ordering large numbers
arith078 Rounding to tens or hundreds
arith123 Rounding to hundreds or thousands
arith061 Rounding to thousands, ten thousands, or hundred thousands
arith101 Estimating a sum of whole numbers
arith102 Estimating a difference of whole numbers
arith677 Estimating a product
arith678 Estimating a quotient
arith103 Average of two numbers
arith645 Introduction to parentheses
arith681 Introduction to order of operations
arith048 Order of operations with whole numbers
arith051 Order of operations with whole numbers and grouping symbols
arith646 Even and odd numbers
arith647 Divisibility rules for 2, 5, and 10
arith648 Divisibility rules for 3 and 9
arith056 Factors
arith034 Prime numbers
arith035 Prime factorization

arith033 Greatest common factor of 2 numbers
 arith070 Least common multiple of 2 numbers
 arith240 Word problem with common multiples
 arith655 Introduction to properties of addition
 arith656 Introduction to properties of multiplication
 arith657 Understanding the distributive property
 arith653 Fact families for addition and subtraction
 arith654 Fact families for multiplication and division
 arith658 Filling in missing operations to make an equation
 alge807 Finding the next terms of a sequence with whole numbers

Fractions and Proportions

arith623 Introduction to fractions
 arith663 Writing ratios for real-world situations
 arith665 Understanding equivalent fractions
 arith212 Equivalent fractions
 arith666 Introduction to simplifying a fraction
 arith067 Simplifying a fraction
 arith044 Ordering fractions with the same denominator
 arith091 Ordering fractions with the same numerator
 arith092 Using a common denominator to order fractions
 arith687 Fractional position on a number line
 arith667 Plotting fractions on a number line
 arith618 Addition or subtraction of fractions with the same denominator
 arith109 Addition or subtraction of unit fractions
 arith664 Introduction to addition or subtraction of fractions with different denominators
 arith230 Addition or subtraction of fractions with different denominators
 arith100 Fractional part of a circle
 arith079 Product of a unit fraction and a whole number
 arith086 Product of a fraction and a whole number: Problem type 1
 arith119 Introduction to fraction multiplication
 arith053 Fraction multiplication
 arith095 Multi-step word problem involving fractions and multiplication
 arith088 The reciprocal of a number
 arith694 Division involving a whole number and a fraction
 arith022 Fraction division
 arith662 Writing a mixed number and an improper fraction for a shaded region
 arith015 Writing an improper fraction as a mixed number
 arith619 Writing a mixed number as an improper fraction
 arith215 Addition or subtraction of mixed numbers with the same denominator
 arith084 Addition of mixed numbers with the same denominator and carry
 arith216 Subtraction of mixed numbers with the same denominator and borrowing
 arith085 Addition or subtraction of mixed numbers with different denominators
 arith020 Mixed number multiplication: Problem type 1
 arith076 Mixed number multiplication: Problem type 2
 arith068 Mixed number division
 arith228 Word problem on unit rates associated with ratios of whole numbers: Decimal answers
 alge272 Solving a proportion of the form $x/a = b/c$
 arith064 Solving a word problem on proportions using a unit rate
 arith610 Word problem on proportions: Problem type 1
 unit034 Converting between metric and U.S. Customary unit systems

Decimals and Percents

arith127 Writing a decimal and a fraction for a shaded region
 arith110 Decimal place value: Tenths and hundredths
 arith220 Decimal place value: Hundreds to ten thousandths

arith221 Rounding decimals
arith129 Introduction to ordering decimals
arith608 Ordering decimals
arith609 Ordering fractions and decimals
arith670 Converting a decimal to a fraction: Basic
arith087 Converting a decimal to a proper fraction in simplest form: Advanced
arith671 Converting a fraction with a denominator of 10, 100, or 1000 to a decimal
arith222 Converting a fraction to a terminating decimal
arith089 Converting a fraction to a repeating decimal
arith672 Converting a decimal to a mixed number
arith223 Converting a mixed number to a decimal
arith624 Addition of aligned decimals
arith668 Addition with money
arith013 Decimal addition with 3 numbers
arith625 Subtraction of aligned decimals
arith669 Subtraction with money
arith626 Word problem with one decimal operation: Problem type 1
arith627 Word problem with one decimal operation: Problem type 2
arith131 Estimating a decimal sum or difference
arith082 Multiplication of a decimal by a power of ten
arith017 Multiplication of a decimal by a whole number
arith055 Decimal multiplication: Problem type 1
arith046 Decimal multiplication: Problem type 2
arith045 Word problem with powers of ten
arith628 Word problem with multiple decimal operations: Problem type 1
arith083 Division of a decimal by a power of ten
arith081 Division of a decimal by a whole number
arith019 Division of a decimal by a 2-digit decimal
arith629 Word problem with multiple decimal operations: Problem type 2
arith674 Finding the percentage of a grid that is shaded
arith226 Converting between percentages and decimals
arith090 Converting a percentage to a fraction in simplest form
arith002 Converting a fraction to a percentage: Denominator of 20, 25, or 50
arith069 Writing a ratio as a percentage without a calculator
arith030 Finding a percentage of a whole number without a calculator: Basic
arith074 Finding the sale price without a calculator given the original price and percent discount
arith232 Finding simple interest without a calculator

Geometry and Measurement

geom151 Measuring an angle with the protractor
geom152 Drawing an angle with the protractor
geom303 Acute, obtuse, and right angles
geom159 Constructing congruent angles
geom158 Constructing an angle bisector
geom349 Naming segments, rays, and lines
geom358 Identifying parallel and perpendicular lines
geom154 Constructing the perpendicular bisector of a line segment
geom361 Naming polygons
geom306 Acute, obtuse, and right triangles
geom307 Classifying scalene, isosceles, and equilateral triangles by side lengths or angles
geom801 Area of a triangle
geom001 Finding an angle measure of a triangle given two angles
geom908 Finding an angle measure for a triangle with an extended side
geom870 Sum of the angle measures of a quadrilateral
geom867 Identifying parallelograms, rectangles, and squares
geom310 Properties of quadrilaterals
geom532 Classifying parallelograms
geom300 Perimeter of a square or a rectangle
geom339 Perimeter of a polygon

geom078 Sides of polygons having the same perimeter
 geom221 Finding the missing length in a figure
 geom353 Perimeter of a piecewise rectangular figure
 geom866 Perimeter and area on a grid
 geom019 Area of a square or a rectangle
 geom217 Finding the side length of a rectangle given its perimeter or area
 geom350 Distinguishing between the area and perimeter of a rectangle
 geom351 Areas of rectangles with the same perimeter
 geom340 Area of a piecewise rectangular figure
 geom022 Area of a parallelogram
 geom023 Area of a trapezoid
 geom347 Introduction to a circle: Diameter, radius, and chord
 geom016 Circumference of a circle
 geom802 Circumference and area of a circle
 geom869 Estimates and exact answers
 alge732 Finding patterns in shapes
 geom868 Classifying solids
 geom354 Volume of a rectangular prism made of unit cubes
 geom311 Volume of a rectangular prism
 geom090 Volume of a triangular prism
 geom031 Surface area of a cube or a rectangular prism
 geom345 Surface area of a piecewise rectangular prism made of unit cubes
 geom091 Surface area of a triangular prism
 geom219 Nets of solids
 geom348 Vertices, edges, and faces of a solid
 geom816 Side views of a solid made of cubes
 geom359 Identifying congruent shapes on a grid
 geom360 Identifying similar or congruent shapes on a grid
 geom037 Similar polygons
 geom355 Introduction to translations
 geom356 Introduction to reflections
 geom357 Identifying transformations
 geom334 Drawing lines of symmetry
 mstat058 Choosing a measuring tool
 mstat059 Choosing U.S. Customary measurement units
 mstat062 Reading a positive temperature from a thermometer
 mstat033 Measuring length to the nearest inch
 mstat034 Measuring length to the nearest quarter or half inch
 mstat035 Conversions involving measurements in feet and inches
 mstat036 Adding measurements in feet and inches
 unit005 U.S. Customary unit conversion with whole number values
 unit006 U.S. Customary unit conversion with whole number values: Two-step conversion
 unit007 U.S. Customary unit conversion with mixed number values: One-step conversion
 unit008 U.S. Customary unit conversion with mixed number values: Two-step conversion
 mstat060 Choosing metric measurement units
 mstat063 Measuring length to the nearest centimeter
 mstat064 Measuring length to the nearest millimeter
 unit001 Metric distance conversion with whole number values
 unit002 Metric mass or capacity conversion with whole number values
 unit003 Metric distance conversion with decimal values
 unit004 Metric conversion with decimal values: Two-step problem
 time010 Telling time
 time008 Reading a calendar
 unit012 Time unit conversion with whole number values
 time009 Introduction to adding time
 time006 Adding time
 time011 Introduction to elapsed time
 time007 Elapsed time

mstat004 Constructing a histogram for numerical data
mstat005 Constructing a bar graph for non-numerical data
mstat037 Constructing a line plot
mstat056 Interpreting a tally table
mstat057 Interpreting a pictograph table
mstat024 Interpreting a bar graph
mstat044 Interpreting a double bar graph
mstat007 Interpreting a line graph
stat804 Interpreting a circle graph or pie chart
mstat031 Interpreting a stem-and-leaf plot
mstat003 Mode of a data set
mstat055 Finding the mode and range of a data set
mstat001 Mean of a data set
mstat028 Mean and median of a data set
stat803 Finding the value for a new score that will yield a given mean
mstat029 How changing a value affects the mean and median
mstat025 Finding if a question can be answered by the data
mstat041 Interpreting a tree diagram
mstat040 Introduction to the counting principle
stat106 Outcomes and event probability
mstat054 Classifying likelihood
mstat039 Understanding likelihood
mstat026 Introduction to the probability of an event
mstat010 Probability of an event
mstat042 Interpreting a Venn diagram of 2 sets
mstat043 Interpreting a Venn diagram of 3 sets
arith699 Writing a signed number for a real-world situation
mstat038 Reading the temperature from a thermometer
alge286 Plotting integers on a number line
arith691 Ordering integers
arith605 Plotting rational numbers on a number line
arith071 Absolute value of a number
arith200 Integer addition: Problem type 1
arith108 Integer addition: Problem type 2
arith688 Integer subtraction: Problem type 1
arith689 Integer subtraction: Problem type 2
arith690 Integer subtraction: Problem type 3
arith701 Word problem with addition or subtraction of integers
alge284 Evaluating an algebraic expression: Whole number addition or subtraction
alge683 Evaluating an algebraic expression: Whole number multiplication or division
alge285 Evaluating an algebraic expression: Whole numbers with two operations
alge733 Writing a one-step expression for a real-world situation
alge602 Writing a one-step variable expression for a real-world situation
alge016 Translating a sentence into a one-step equation
alge009 Additive property of equality with whole numbers
alge010 Additive property of equality with integers
alge800 Additive property of equality with decimals
alge801 Additive property of equality with fractions and mixed numbers
alge813 Introduction to solving an equation with multiplication or division
alge008 Multiplicative property of equality with whole numbers
alge802 Solving a fraction word problem using a linear equation of the form $Ax = B$
alge803 Using two steps to solve an equation with whole numbers
alge281 Function tables with one-step rules
alge282 Function tables with two-step rules
mstat061 Describing an increasing or decreasing pattern from a table of values
fun005 Writing a function rule given a table of ordered pairs: One-step rules
alge278 Reading a point in quadrant 1
alge064 Reading a point in the coordinate plane
alge279 Plotting a point in quadrant 1
alge067 Plotting a point in the coordinate plane
alge283 Graphing whole number functions
alge066 Finding a solution to a linear equation in two variables

alge280 Graphing a line in quadrant 1
 arith233 Introduction to exponents
 arith692 Writing expressions using exponents
 arith693 Order of operations with whole numbers and exponents: Basic
 arith683 Power of 10: Positive exponent
 arith036 Scientific notation with positive exponent
 arith016 Square root of a perfect square

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Arithmetic and algebra readiness

arith200 Integer addition: Problem type 1
 arith231 Integer multiplication and division
 arith048 Order of operations with whole numbers
 arith221 Rounding decimals
 arith212 Equivalent fractions
 arith067 Simplifying a fraction
 arith010 Addition of fractions with same denominator
 arith096 Subtraction of fractions with same denominator
 arith230 Addition or subtraction of fractions with different denominators
 arith086 Product of a fraction and a whole number: Problem type 1
 arith053 Fraction multiplication
 arith022 Fraction division
 arith047 Evaluating expressions with exponents: Problem type 1
 arith016 Square root of a perfect square
 alge009 Additive property of equality with whole numbers
 alge008 Multiplicative property of equality with whole numbers
 alge060 Solving a rational equation that simplifies to linear: Denominator x

Sets, probability, and statistics

set001 Set builder notation
 set002 Union and intersection of finite sets
 stat119 Venn diagrams: Two events
 stat101 Venn diagrams: Word problems
 stat100 Venn diagrams: Three events
 stat106 Outcomes and event probability
 mstat010 Probability of an event
 stat112 Probabilities involving two dice
 stat114 Probability of intersection or union: Word problems
 mstat012 Probability of independent events
 mstat013 Probability of dependent events
 stat117 Probabilities of draws with replacement
 stat120 Probability of union: Basic
 stat109 Intersection and conditional probability
 mstat015 Counting principle
 pcalc082 Factorial expressions
 pcalc088 Permutations and combinations: Problem type 1
 pcalc089 Permutations and combinations: Problem type 2
 pcalc090 Permutations and combinations: Problem type 3
 stat118 Probabilities of draws without replacement
 mstat007 Interpreting a line graph
 mstat004 Constructing a histogram for numerical data
 mstat005 Constructing a bar graph for non-numerical data

stat702 Histograms for grouped data
 stat703 Frequency polygons for grouped data
 bmath092 Frequency and weighted mean
 stat706 Mean, median, and mode: Computations
 stat798 Mean, median, and mode: Comparisons
 stat719 Estimating the mean of grouped data
 stat011 Sample standard deviation
 stat009 Percentiles
 mstat006 Constructing a box-and-whisker plot
 stat157 Standard normal probabilities
 stat159 Normal versus standard normal density curves
 stat163 Normal distribution: Word problems

Consumer mathematics

bmath018 Converting decimals to percentages
 bmath116 Converting percentages to decimals
 bmath117 Converting percentages to fractions
 bmath113 Converting fractions to percentages
 bmath019 Portion formula: Solving for portion
 bmath114 Portion formula: Solving for rate
 bmath115 Portion formula: Solving for base
 bmath020 Calculating percent decreases and increases
 bmath037 Simple interest and maturity value
 bmath039 Solving for principal, rate, or time in simple interest problems
 bmath109 Computing compound interest with the simple interest formula
 bmath044 Ordinary annuity
 bmath048 Amount financed, finance charge, and deferred payment
 bmath049 Cost of installment buying: Computing the APR
 bmath053 Monthly mortgage payment tables
 bmath054 Total cost of interest for a mortgage
 bmath055 Amortization schedule: Interest, principal, and new mortgage balance
 bmath025 Markup based on cost or selling price
 bmath001 Markup based on cost: Finding the selling price
 bmath027 Markup based on cost: Finding the cost
 bmath107 Markup based on selling price: Finding the selling price
 bmath108 Markup based on selling price: Finding the cost
 bmath029 Markdown

Geometry

geom303 Acute, obtuse, and right angles
 geom039 Finding supplementary and complementary angles
 geom304 Identifying corresponding and alternate angles
 geom305 Identifying supplementary and vertical angles
 geom306 Acute, obtuse, and right triangles
 geom307 Classifying scalene, isosceles, and equilateral triangles by side lengths or angles
 geom001 Finding an angle measure of a triangle given two angles
 geom801 Area of a triangle
 geom908 Finding an angle measure for a triangle with an extended side
 geom309 Finding an angle measure for a triangle sharing a side with another triangle
 geom522 Interior angles of convex polygons
 geom044 Pythagorean Theorem
 geom037 Similar polygons
 geom038 Similar right triangles
 geom337 Indirect measurement
 geom310 Properties of quadrilaterals
 geom300 Perimeter of a square or a rectangle

geom339 Perimeter of a polygon
 geom019 Area of a square or a rectangle
 geom340 Area of a piecewise rectangular figure
 geom022 Area of a parallelogram
 geom023 Area of a trapezoid
 geom301 Perimeter involving rectangles and circles
 geom802 Circumference and area of a circle
 geom838 Circumference ratios
 geom311 Volume of a rectangular prism
 geom090 Volume of a triangular prism
 geom033 Volume of a pyramid
 geom035 Volume of a cylinder
 geom086 Volume of a cone: Exact answers in terms of π
 geom841 Volume of a sphere
 geom842 Surface area of a sphere
 geom031 Surface area of a cube or a rectangular prism
 geom091 Surface area of a triangular prism
 geom034 Surface area of a cylinder: Exact answers in terms of π
 geom092 Word problem involving the rate of filling or emptying a cylinder

B.44 Math Placement

Basic Mathematic Skills

arith630 Addition with carry to the hundreds place
 arith004 Multiplication with carry
 arith615 Introduction to multiplication of large numbers
 arith005 Division with carry
 arith102 Estimating a difference of whole numbers
 arith016 Square root of a perfect square
 arith666 Introduction to simplifying a fraction
 arith618 Addition or subtraction of fractions with the same denominator
 arith664 Introduction to addition or subtraction of fractions with different denominators
 arith086 Product of a fraction and a whole number: Problem type 1
 arith022 Fraction division
 arith015 Writing an improper fraction as a mixed number
 arith619 Writing a mixed number as an improper fraction
 arith221 Rounding decimals
 arith608 Ordering decimals
 arith700 Converting a fraction to a terminating decimal
 arith627 Word problem with one decimal operation: Problem type 2
 arith017 Multiplication of a decimal by a whole number
 arith081 Division of a decimal by a whole number
 arith002 Converting a fraction to a percentage: Denominator of 20, 25, or 50
 arith030 Finding a percentage of a whole number without a calculator: Basic
 arith074 Finding the sale price without a calculator given the original price and percent discount
 arith064 Solving a word problem on proportions using a unit rate
 arith108 Integer addition: Problem type 2
 arith231 Integer multiplication and division
 geom810 Perimeter of a polygon
 geom019 Area of a square or a rectangle
 geom311 Volume of a rectangular prism

Beginning Algebra

arith105 Signed fraction multiplication: Advanced
 alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction

alge004 Evaluating a quadratic expression: Integers
 alge606 Distributive property: Whole number coefficients
 alge607 Combining like terms: Integer coefficients
 alge010 Additive property of equality with integers
 alge006 Solving a two-step equation with integers
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge019 Solving a linear inequality: Problem type 1
 alge017 Graphing a linear inequality on the number line
 alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
 alge014 Solving a word problem with two unknowns using a linear equation
 alge272 Solving a proportion of the form $x/a = b/c$
 arith610 Word problem on proportions: Problem type 1
 geom001 Finding an angle measure of a triangle given two angles
 geom811 Area of a circle
 geom217 Finding the side length of a rectangle given its perimeter or area
 stat803 Finding the value for a new score that will yield a given mean
 alge064 Reading a point in the coordinate plane
 alge067 Plotting a point in the coordinate plane
 alge066 Finding a solution to a linear equation in two variables
 alge194 Graphing a line given its equation in slope-intercept form
 alge197 Graphing a line given its x- and y-intercepts
 alge263 Interpreting the graphs of two functions
 arith047 Evaluating expressions with exponents: Problem type 1
 alge024 Introduction to the product rule of exponents
 alge026 Quotient of expressions involving exponents
 alge030 Product rule with positive exponents: Multivariate
 alge033 Multiplying binomials with leading coefficients of 1
 alge032 Squaring a binomial: Univariate
 alge039 Factoring a quadratic with leading coefficient 1
 alge290 Factoring a difference of squares in one variable: Basic

Intermediate Algebra

alge721 Solving a linear equation with several occurrences of the variable: Problem type 5
 alge196 Graphing a line through a given point with a given slope
 alge631 Finding the slope of a line given its equation
 alge071 Writing the equation of a line given the slope and a point on the line
 alge021 Solving a linear inequality: Problem type 3
 alge166 Graphing a compound inequality on the number line
 alge720 Graphing a linear inequality in the plane: Slope-intercept form
 alge076 Solving a system of linear equations using elimination with multiplication and addition
 geom143 Finding the perimeter or area of a rectangle given one of these values
 arith042 Evaluating an expression with a negative exponent: Positive fraction base
 alge717 Power rule: Positive exponents
 alge025 Power of a power rule with negative exponents
 alge060 Solving a rational equation that simplifies to linear: Denominator x
 alge205 Solving a rational equation that simplifies to linear: Denominator $x+a$
 alge056 Adding rational expressions with common denominators and binomial numerators
 alge053 Multiplying rational expressions involving multivariate monomials
 alge054 Dividing rational expressions involving multivariate monomials
 alge058 Complex fraction involving multivariate monomials
 alge710 Simplifying a ratio of polynomials: Problem type 1
 alge160 Algebraic symbol manipulation
 geom044 Pythagorean Theorem
 arith093 Simplifying the square root of a whole number less than 100
 arith032 Square root addition or subtraction
 alge080 Simplifying a radical expression with an even exponent

alge089 Solving a radical equation that simplifies to a linear equation: One radical, basic
 arith094 Cube root of an integer
 alge250 Rational exponents: Non-unit fraction exponent with a whole number base
 alge040 Factoring a quadratic with leading coefficient greater than 1
 alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1
 alge094 Completing the square

College Algebra with Trigonometry

fun010 Vertical line test
 alge715 Domain of a rational function: Excluded values
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 alge702 Classifying the graph of a function
 alge185 Writing an equation for a function after a vertical translation
 alge716 Introduction to the composition of two functions
 alge036 Polynomial long division: Problem type 1
 alge620 Multiplying rational expressions involving quadratics with leading coefficients of 1
 alge622 Adding rational expressions with different denominators: $x+a$, $x+b$
 alge062 Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators
 alge640 Simplifying a product of radical expressions: Multivariate
 alge086 Rationalizing the denominator of a radical expression
 alge249 Rational exponents: Powers of powers with negative exponents
 alge095 Applying the quadratic formula: Exact answers
 alge718 Finding the x-intercept(s) of a parabola
 alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
 alge232 Evaluating a logarithmic expression
 alge108 Converting between logarithmic and exponential equations
 pcalc708 Basic properties of logarithms
 alge177 Finding a final amount in a word problem on exponential growth or decay
 alge132 Distance between two points in the plane: Exact answers
 pcalc605 Graphing a circle given its equation in standard form
 pcalc002 Converting between degree and radian measure: Problem type 1
 pcalc006 Sketching an angle in standard position
 pcalc603 Common angles and trigonometric functions
 pcalc607 Using a trigonometric ratio to find a side length in a right triangle
 pcalc606 Using the Pythagorean Theorem to find a trigonometric ratio
 pcalc608 Using a trigonometric ratio to find an angle measure in a right triangle
 pcalc604 Inverse sine and inverse cosine

B.45 Tallahassee Community College Math Placement

Whole Numbers

arith001 Addition without carry
 arith050 Addition with carry
 arith630 Addition with carry to the hundreds place
 arith012 Addition of large numbers
 arith007 Subtraction without borrowing
 arith006 Subtraction with borrowing
 arith682 Subtraction with multiple regrouping steps
 arith637 Subtraction and regrouping with zeros
 arith008 One-digit multiplication
 arith679 Multiplication by 10, 100, and 1000
 arith003 Multiplication without carry

arith004 Multiplication with carry
arith615 Introduction to multiplication of large numbers
arith632 Multiplication with trailing zeros: Problem type 1
arith638 Multiplication with trailing zeros: Problem type 2
arith014 Multiplication of large numbers
arith075 Division facts
arith052 Division without carry
arith005 Division with carry
arith680 Division with trailing zeros: Problem type 1
arith649 Division with trailing zeros: Problem type 2
arith616 Quotient and remainder: Problem type 1
arith617 Quotient and remainder: Problem type 2
arith631 Quotient and remainder: Problem type 3
arith650 Division involving quotients with intermediate zeros
arith645 Introduction to parentheses
arith681 Introduction to order of operations
arith048 Order of operations with whole numbers
arith051 Order of operations with whole numbers and grouping symbols
arith651 Introduction to inequalities
arith077 Ordering large numbers
arith078 Rounding to tens or hundreds
arith061 Rounding to thousands, ten thousands, or hundred thousands
arith056 Factors
arith034 Prime numbers
arith035 Prime factorization
arith033 Greatest common factor of 2 numbers
arith070 Least common multiple of 2 numbers

Integers

alge286 Plotting integers on a number line
mstat038 Reading the temperature from a thermometer
arith200 Integer addition: Problem type 1
arith108 Integer addition: Problem type 2
arith688 Integer subtraction: Problem type 1
arith689 Integer subtraction: Problem type 2
arith690 Integer subtraction: Problem type 3
arith231 Integer multiplication and division
arith233 Introduction to exponents
arith016 Square root of a perfect square
arith118 Order of operations with integers
arith071 Absolute value of a number
arith104 Operations with absolute value: Problem type 2

Decimals

arith110 Decimal place value: Tenths and hundredths
arith220 Decimal place value: Hundreds to ten thousandths
arith221 Rounding decimals
arith129 Introduction to ordering decimals
arith608 Ordering decimals
arith624 Addition of aligned decimals
arith625 Subtraction of aligned decimals
arith082 Multiplication of a decimal by a power of ten
arith017 Multiplication of a decimal by a whole number
arith055 Decimal multiplication: Problem type 1
arith083 Division of a decimal by a power of ten
arith081 Division of a decimal by a whole number

arith019 Division of a decimal by a 2-digit decimal
 arith117 Signed decimal addition and subtraction
 arith234 Signed decimal addition and subtraction with 3 numbers
 arith670 Converting a decimal to a fraction: Basic
 arith087 Converting a decimal to a proper fraction in simplest form: Advanced
 arith671 Converting a fraction with a denominator of 10, 100, or 1000 to a decimal
 arith222 Converting a fraction to a terminating decimal
 arith089 Converting a fraction to a repeating decimal
 arith223 Converting a mixed number to a decimal

Fractions

arith212 Equivalent fractions
 arith067 Simplifying a fraction
 arith687 Fractional position on a number line
 arith605 Plotting rational numbers on a number line
 arith044 Ordering fractions with the same denominator
 arith092 Using a common denominator to order fractions
 arith618 Addition or subtraction of fractions with the same denominator
 arith664 Introduction to addition or subtraction of fractions with different denominators
 arith230 Addition or subtraction of fractions with different denominators
 arith100 Fractional part of a circle
 arith079 Product of a unit fraction and a whole number
 arith086 Product of a fraction and a whole number: Problem type 1
 arith119 Introduction to fraction multiplication
 arith053 Fraction multiplication
 arith088 The reciprocal of a number
 arith022 Fraction division
 arith116 Signed fraction addition or subtraction: Basic
 arith106 Signed fraction addition or subtraction: Advanced
 arith105 Signed fraction multiplication: Advanced
 arith662 Writing a mixed number and an improper fraction for a shaded region
 arith015 Writing an improper fraction as a mixed number
 arith619 Writing a mixed number as an improper fraction
 arith215 Addition or subtraction of mixed numbers with the same denominator
 arith084 Addition of mixed numbers with the same denominator and carry
 arith216 Subtraction of mixed numbers with the same denominator and borrowing
 arith085 Addition or subtraction of mixed numbers with different denominators
 arith020 Mixed number multiplication: Problem type 1
 arith068 Mixed number division

Equations I

alge001 Identifying numbers as integers or non-integers
 alge002 Identifying numbers as rational or irrational
 alge187 Properties of addition
 alge188 Properties of real numbers
 alge731 Evaluating an algebraic expression: Whole numbers with two operations
 alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge606 Distributive property: Whole number coefficients
 alge604 Distributive property: Integer coefficients
 alge607 Combining like terms: Integer coefficients
 alge009 Additive property of equality with whole numbers
 alge010 Additive property of equality with integers
 alge266 Additive property of equality with a negative coefficient
 alge800 Additive property of equality with decimals
 alge801 Additive property of equality with fractions and mixed numbers
 alge008 Multiplicative property of equality with whole numbers

alge012 Multiplicative property of equality with signed fractions
alge006 Solving a two-step equation with integers

Equations II

alge208 Solving a two-step equation with signed fractions
alge200 Solving an equation to find the value of an expression
alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
alge272 Solving a proportion of the form $x/a = b/c$
alge271 Solving a proportion of the form $a/(x+b) = c/x$
alge810 Introduction to algebraic symbol manipulation
alge160 Algebraic symbol manipulation
alge016 Translating a sentence into a one-step equation
alge602 Writing a one-step variable expression for a real-world situation
alge802 Solving a fraction word problem using a linear equation of the form $Ax = B$
alge014 Solving a word problem with two unknowns using a linear equation
alge219 Solving a decimal word problem using a linear equation with the variable on both sides
alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
alge704 Solving a fraction word problem using a linear equation with the variable on both sides
arith064 Solving a word problem on proportions using a unit rate
alge218 Solving a word problem involving rates and time conversion
arith610 Word problem on proportions: Problem type 1
arith611 Word problem on proportions: Problem type 2

Graphing and Inequalities

alge064 Reading a point in the coordinate plane
alge067 Plotting a point in the coordinate plane
alge197 Graphing a line given its x- and y-intercepts
alge194 Graphing a line given its equation in slope-intercept form
alge195 Graphing a line given its equation in standard form
alge198 Graphing a vertical or horizontal line
alge196 Graphing a line through a given point with a given slope
alge282 Function tables with two-step rules
alge066 Finding a solution to a linear equation in two variables
alge216 Determining whether given points lie on one, both, or neither of 2 lines given equations
alge069 Finding the y-intercept of a line given its equation
alge210 Finding x- and y-intercepts of a line given the equation: Advanced
alge684 Finding slope given the graph of a line on a grid
alge685 Finding slope given two points on the line
alge631 Finding the slope of a line given its equation
alge015 Translating a sentence by using an inequality symbol
alge017 Graphing a linear inequality on the number line
alge019 Solving a linear inequality: Problem type 1
alge020 Solving a linear inequality: Problem type 2
alge021 Solving a linear inequality: Problem type 3

Exponents and Polynomials

arith047 Evaluating expressions with exponents: Problem type 1
 arith049 Evaluating expressions with exponents: Problem type 2
 arith600 Order of operations with integers and exponents
 arith029 Ordering numbers with positive exponents
 arith683 Power of 10: Positive exponent
 arith036 Scientific notation with positive exponent
 arith684 Power of 10: Negative exponent
 arith037 Scientific notation with negative exponent
 arith042 Evaluating an expression with a negative exponent: Positive fraction base
 arith043 Evaluating an expression with a negative exponent: Negative integer base
 arith024 Ordering numbers with negative exponents
 alge024 Introduction to the product rule of exponents
 alge030 Product rule with positive exponents: Multivariate
 alge026 Quotient of expressions involving exponents
 alge027 Power rules with positive exponents
 alge028 Product rule with negative exponents
 alge025 Power of a power rule with negative exponents
 alge004 Evaluating a quadratic expression: Integers
 alge663 Combining like terms: Advanced
 alge029 Simplifying a sum or difference of three univariate polynomials
 alge033 Multiplying binomials with leading coefficients of 1
 alge032 Squaring a binomial: Univariate
 alge180 Multiplication involving binomials and trinomials in two variables
 alge031 Degree of a multivariate polynomial
 arith602 Estimating a square root
 arith601 Square root of a rational perfect square
 arith093 Simplifying the square root of a whole number less than 100
 alge264 Square root of a perfect square monomial
 alge080 Simplifying a radical expression with an even exponent
 alge275 Simplifying a radical expression with two variables
 arith032 Square root addition or subtraction
 alge084 Simplifying a sum or difference of radical expressions: Multivariate
 arith039 Square root multiplication: Advanced
 alge640 Simplifying a product of radical expressions: Multivariate
 alge276 Simplifying a product involving square roots using the distributive property: Advanced

Factoring

alge039 Factoring a quadratic with leading coefficient 1
 alge040 Factoring a quadratic with leading coefficient greater than 1
 alge043 Factoring a perfect square trinomial
 alge265 Factoring a quadratic in two variables with leading coefficient greater than 1
 alge041 Factoring a product of a quadratic trinomial and a monomial
 alge624 Factoring a difference of squares
 alge042 Factoring with repeated use of the difference of squares formula
 alge037 Greatest common factor of two multivariate monomials
 alge038 Factoring a polynomial by grouping: Problem type 1
 alge181 Factoring a polynomial by grouping: Problem type 2
 alge710 Simplifying a ratio of polynomials: Problem type 1
 alge034 Simplifying a ratio of multivariate polynomials
 alge681 Solving an equation written in factored form
 alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1

B.46 Tarrant Placement Test

Module 1

arith048 Order of operations with whole numbers
arith051 Order of operations with whole numbers and grouping symbols
arith220 Decimal place value: Hundreds to ten thousandths
arith221 Rounding decimals
arith082 Multiplication of a decimal by a power of ten
arith017 Multiplication of a decimal by a whole number
arith055 Decimal multiplication: Problem type 1
arith083 Division of a decimal by a power of ten
arith081 Division of a decimal by a whole number
arith019 Division of a decimal by a 2-digit decimal
arith626 Word problem with one decimal operation: Problem type 1
arith627 Word problem with one decimal operation: Problem type 2
arith224 Word problem with decimal addition and multiplication
arith227 Word problem with decimal subtraction and division
arith200 Integer addition: Problem type 1
arith108 Integer addition: Problem type 2
arith107 Integer subtraction
arith231 Integer multiplication and division
arith234 Signed decimal addition and subtraction with 3 numbers
arith071 Absolute value of a number
alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
alge009 Additive property of equality with whole numbers
alge010 Additive property of equality with integers
alge266 Additive property of equality with a negative coefficient
alge800 Additive property of equality with decimals
alge008 Multiplicative property of equality with whole numbers
alge006 Solving a two-step equation with integers

Module 2

arith056 Factors
arith033 Greatest common factor of 2 numbers
arith070 Least common multiple of 2 numbers
arith212 Equivalent fractions
arith067 Simplifying a fraction
arith618 Addition or subtraction of fractions with the same denominator
arith230 Addition or subtraction of fractions with different denominators
arith088 The reciprocal of a number
arith079 Product of a unit fraction and a whole number
arith009 Unit fraction multiplication
arith086 Product of a fraction and a whole number: Problem type 1
arith053 Fraction multiplication
arith022 Fraction division
arith015 Writing an improper fraction as a mixed number
arith619 Writing a mixed number as an improper fraction
arith106 Signed fraction addition or subtraction: Advanced
arith105 Signed fraction multiplication: Advanced
alge012 Multiplicative property of equality with signed fractions
alge802 Solving a fraction word problem using a linear equation of the form $Ax = B$

Module 3

arith064 Solving a word problem on proportions using a unit rate
arith222 Converting a fraction to a terminating decimal
arith226 Converting between percentages and decimals
arith090 Converting a percentage to a fraction in simplest form
arith002 Converting a fraction to a percentage: Denominator of 20, 25, or 50
arith030 Finding a percentage of a whole number without a calculator: Basic

arith069 Writing a ratio as a percentage without a calculator
 arith074 Finding the sale price without a calculator given the original price and percent discount
 arith031 Finding the original price given the sale price and percent discount
 arith225 Finding the percentage increase or decrease: Advanced
 geom300 Perimeter of a square or a rectangle
 geom339 Perimeter of a polygon
 geom019 Area of a square or a rectangle
 geom340 Area of a piecewise rectangular figure
 mstat028 Mean and median of a data set
 mstat024 Interpreting a bar graph
 geom001 Finding an angle measure of a triangle given two angles
 alge064 Reading a point in the coordinate plane
 alge067 Plotting a point in the coordinate plane
 alge197 Graphing a line given its x- and y-intercepts
 alge194 Graphing a line given its equation in slope-intercept form
 alge198 Graphing a vertical or horizontal line
 alge066 Finding a solution to a linear equation in two variables
 mstat007 Interpreting a line graph
 alge272 Solving a proportion of the form $x/a = b/c$
 alge218 Solving a word problem involving rates and time conversion
 arith610 Word problem on proportions: Problem type 1
 geom044 Pythagorean Theorem

Module 4

arith233 Introduction to exponents
 arith047 Evaluating expressions with exponents: Problem type 1
 arith600 Order of operations with integers and exponents
 alge004 Evaluating a quadratic expression: Integers
 alge606 Distributive property: Whole number coefficients
 alge604 Distributive property: Integer coefficients
 alge607 Combining like terms: Integer coefficients
 alge602 Writing a one-step variable expression for a real-world situation
 alge016 Translating a sentence into a one-step equation
 alge024 Introduction to the product rule of exponents
 alge026 Quotient of expressions involving exponents
 arith042 Evaluating an expression with a negative exponent: Positive fraction base
 arith043 Evaluating an expression with a negative exponent: Negative integer base
 alge027 Power rules with positive exponents
 alge025 Power of a power rule with negative exponents
 alge030 Product rule with positive exponents: Multivariate
 alge028 Product rule with negative exponents
 alge663 Combining like terms: Advanced
 alge029 Simplifying a sum or difference of three univariate polynomials
 alge033 Multiplying binomials with leading coefficients of 1
 alge032 Squaring a binomial: Univariate

Module 5

alge039 Factoring a quadratic with leading coefficient 1
 alge040 Factoring a quadratic with leading coefficient greater than 1
 alge043 Factoring a perfect square trinomial
 alge041 Factoring a product of a quadratic trinomial and a monomial
 alge624 Factoring a difference of squares
 alge037 Greatest common factor of two multivariate monomials
 alge681 Solving an equation written in factored form
 alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge048 Finding the roots of a quadratic equation with leading coefficient greater than 1

alge211 Solving a quadratic equation needing simplification
 alge094 Completing the square
 alge095 Applying the quadratic formula: Exact answers
 alge214 Discriminant of a quadratic equation
 alge252 Graphing a parabola of the form $y = ax^2$
 alge253 Graphing a parabola of the form $y = (x-h)^2 + k$

Module 6

alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
 alge053 Multiplying rational expressions involving multivariate monomials
 alge620 Multiplying rational expressions involving quadratics with leading coefficients of 1
 alge054 Dividing rational expressions involving multivariate monomials
 alge058 Complex fraction involving multivariate monomials
 alge056 Adding rational expressions with common denominators and binomial numerators
 alge057 Adding rational expressions with different denominators: ax, bx
 alge055 Least common multiple of two monomials
 alge226 Adding rational expressions with multivariate monomial denominators: Advanced
 alge622 Adding rational expressions with different denominators: $x+a, x+b$
 alge710 Simplifying a ratio of polynomials: Problem type 1
 alge034 Simplifying a ratio of multivariate polynomials
 alge271 Solving a proportion of the form $a/(x+b) = c/x$
 alge060 Solving a rational equation that simplifies to linear: Denominator x
 alge205 Solving a rational equation that simplifies to linear: Denominator $x+a$
 alge206 Solving a rational equation that simplifies to linear: Unlike binomial denominators
 alge212 Solving a rational equation that simplifies to quadratic: Binomial denominators, constant numerators
 alge062 Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators

Module 7

alge208 Solving a two-step equation with signed fractions
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge020 Solving a linear inequality: Problem type 2
 alge021 Solving a linear inequality: Problem type 3
 alge207 Solving a linear inequality: Problem type 4
 alge017 Graphing a linear inequality on the number line
 alge166 Graphing a compound inequality on the number line
 alge160 Algebraic symbol manipulation
 alge014 Solving a word problem with two unknowns using a linear equation
 alge270 Solving an absolute value equation of the form $a-x = b$ or $-x+a = b$
 fun001 Table for a linear function
 alge195 Graphing a line given its equation in standard form
 alge196 Graphing a line through a given point with a given slope
 alge018 Graphing a linear inequality in the plane: Standard form
 alge225 Graphing a linear inequality in the plane: Vertical or horizontal line
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 alge216 Determining whether given points lie on one, both, or neither of 2 lines given equations
 alge069 Finding the y-intercept of a line given its equation
 alge210 Finding x- and y-intercepts of a line given the equation: Advanced
 alge631 Finding the slope of a line given its equation
 alge637 Determining the slope of a line given its graph
 alge071 Writing the equation of a line given the slope and a point on the line

alge072 Writing the equation of the line through two given points
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 alge076 Solving a system of linear equations using elimination with multiplication and addition
 alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations

Module 8

arith602 Estimating a square root
 arith601 Square root of a rational perfect square
 alge264 Square root of a perfect square monomial
 arith093 Simplifying the square root of a whole number less than 100
 alge080 Simplifying a radical expression with an even exponent
 alge275 Simplifying a radical expression with two variables
 arith032 Square root addition or subtraction
 alge084 Simplifying a sum or difference of radical expressions: Multivariate
 arith039 Square root multiplication: Advanced
 alge640 Simplifying a product of radical expressions: Multivariate
 alge276 Simplifying a product involving square roots using the distributive property: Advanced
 alge086 Rationalizing the denominator of a radical expression
 alge088 Rationalizing the denominator of a radical expression using conjugates
 alge089 Solving a radical equation that simplifies to a linear equation: One radical, basic
 alge090 Solving a radical equation that simplifies to a linear equation: Two radicals
 alge091 Solving a radical equation that simplifies to a quadratic equation: One radical
 alge812 Converting between radical form and exponent form

B.47 Math Prep. for College Physics

Arithmetic

arith048 Order of operations with whole numbers
 arith051 Order of operations with whole numbers and grouping symbols
 arith108 Integer addition: Problem type 2
 arith107 Integer subtraction
 arith231 Integer multiplication and division
 arith071 Absolute value of a number
 arith104 Operations with absolute value: Problem type 2
 arith212 Equivalent fractions
 arith067 Simplifying a fraction
 arith618 Addition or subtraction of fractions with the same denominator
 arith230 Addition or subtraction of fractions with different denominators
 arith116 Signed fraction addition or subtraction: Basic
 arith106 Signed fraction addition or subtraction: Advanced
 arith086 Product of a fraction and a whole number: Problem type 1
 arith119 Introduction to fraction multiplication
 arith053 Fraction multiplication
 arith105 Signed fraction multiplication: Advanced
 arith022 Fraction division
 arith015 Writing an improper fraction as a mixed number
 arith619 Writing a mixed number as an improper fraction
 arith220 Decimal place value: Hundreds to ten thousandths
 arith078 Rounding to tens or hundreds
 arith061 Rounding to thousands, ten thousands, or hundred thousands
 arith221 Rounding decimals
 arith082 Multiplication of a decimal by a power of ten

arith083 Division of a decimal by a power of ten
 arith222 Converting a fraction to a terminating decimal
 arith089 Converting a fraction to a repeating decimal
 arith223 Converting a mixed number to a decimal
 arith087 Converting a decimal to a proper fraction in simplest form: Advanced
 arith226 Converting between percentages and decimals
 arith002 Converting a fraction to a percentage: Denominator of 20, 25, or 50
 arith686 Writing a ratio as a percentage
 arith030 Finding a percentage of a whole number without a calculator: Basic
 arith225 Finding the percentage increase or decrease: Advanced
 mstat001 Mean of a data set
 arith101 Estimating a sum of whole numbers
 arith102 Estimating a difference of whole numbers
 arith604 Estimating a product or quotient of whole numbers
 unit003 Metric distance conversion with decimal values
 unit004 Metric conversion with decimal values: Two-step problem
 unit010 Metric area unit conversion with decimal values
 unit034 Converting between metric and U.S. Customary unit systems
 unit035 Converting between compound units: Basic
 unit036 Converting between compound units: Advanced
 mstat005 Constructing a bar graph for non-numerical data
 mstat004 Constructing a histogram for numerical data

Linear Equations and Applications

alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge606 Distributive property: Whole number coefficients
 alge604 Distributive property: Integer coefficients
 alge607 Combining like terms: Integer coefficients
 alge016 Translating a sentence into a one-step equation
 alge602 Writing a one-step variable expression for a real-world situation
 alge009 Additive property of equality with whole numbers
 alge010 Additive property of equality with integers
 alge266 Additive property of equality with a negative coefficient
 alge008 Multiplicative property of equality with whole numbers
 alge012 Multiplicative property of equality with signed fractions
 alge006 Solving a two-step equation with integers
 alge208 Solving a two-step equation with signed fractions
 alge200 Solving an equation to find the value of an expression
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
 alge179 Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
 alge103 Solving an absolute value equation of the form $-ax+b = c$
 alge167 Solving an absolute value equation of the form $-ax+b = -cx+d$
 arith228 Word problem on unit rates associated with ratios of whole numbers: Decimal answers
 alge218 Solving a word problem involving rates and time conversion
 alge272 Solving a proportion of the form $x/a = b/c$
 arith610 Word problem on proportions: Problem type 1
 alge014 Solving a word problem with two unknowns using a linear equation
 alge219 Solving a decimal word problem using a linear equation with the variable on both sides
 alge175 Word problem on direct variation
 alge176 Word problem on inverse variation

Lines and Systems of Linear Equations

alge064 Reading a point in the coordinate plane
 alge067 Plotting a point in the coordinate plane
 alge197 Graphing a line given its x - and y -intercepts
 alge198 Graphing a vertical or horizontal line
 alge194 Graphing a line given its equation in slope-intercept form
 alge195 Graphing a line given its equation in standard form
 alge196 Graphing a line through a given point with a given slope
 alge018 Graphing a linear inequality in the plane: Standard form
 alge225 Graphing a linear inequality in the plane: Vertical or horizontal line
 mstat007 Interpreting a line graph
 alge734 Understanding distance and speed graphs
 alge066 Finding a solution to a linear equation in two variables
 alge069 Finding the y -intercept of a line given its equation
 alge210 Finding x - and y -intercepts of a line given the equation: Advanced
 alge637 Determining the slope of a line given its graph
 alge631 Finding the slope of a line given its equation
 alge073 Writing the equations of vertical and horizontal lines through a given point
 alge070 Writing an equation of a line given the y -intercept and another point
 alge071 Writing the equation of a line given the slope and a point on the line
 alge072 Writing the equation of the line through two given points
 alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
 alge806 Application problem with a linear function: Finding a coordinate given two points
 alge216 Determining whether given points lie on one, both, or neither of 2 lines given equations
 alge725 Graphically solving a system of linear equations
 alge076 Solving a system of linear equations using elimination with multiplication and addition
 alge224 Solving a distance, rate, time problem using a system of linear equations
 alge192 Solving a percent mixture problem using a system of linear equations
 alge079 Graphing a system of two linear inequalities: Basic

Exponents and Radicals

arith047 Evaluating expressions with exponents: Problem type 1
 arith049 Evaluating expressions with exponents: Problem type 2
 arith042 Evaluating an expression with a negative exponent: Positive fraction base
 arith029 Ordering numbers with positive exponents
 arith024 Ordering numbers with negative exponents
 alge024 Introduction to the product rule of exponents
 alge030 Product rule with positive exponents: Multivariate
 alge026 Quotient of expressions involving exponents
 alge028 Product rule with negative exponents
 alge027 Power rules with positive exponents
 alge025 Power of a power rule with negative exponents
 alge037 Greatest common factor of two multivariate monomials
 alge004 Evaluating a quadratic expression: Integers
 arith683 Power of 10: Positive exponent
 arith036 Scientific notation with positive exponent
 arith684 Power of 10: Negative exponent
 arith037 Scientific notation with negative exponent
 scinot002 Multiplying and dividing numbers written in scientific notation
 scinot003 Finding powers of numbers written in scientific notation
 scinot004 Order of magnitude estimation
 alge663 Combining like terms: Advanced
 alge029 Simplifying a sum or difference of three univariate polynomials
 alge033 Multiplying binomials with leading coefficients of 1
 alge032 Squaring a binomial: Univariate
 alge180 Multiplication involving binomials and trinomials in two variables
 alge705 Factoring a quadratic with leading coefficient 1

alge624 Factoring a difference of squares
 alge038 Factoring a polynomial by grouping: Problem type 1
 arith016 Square root of a perfect square
 arith093 Simplifying the square root of a whole number less than 100
 alge080 Simplifying a radical expression with an even exponent
 alge084 Simplifying a sum or difference of radical expressions: Multivariate
 arith039 Square root multiplication: Advanced
 alge640 Simplifying a product of radical expressions: Multivariate
 alge082 Simplifying a product of radical expressions: Multivariate, fractional expressions
 alge276 Simplifying a product involving square roots using the distributive property: Advanced
 alge086 Rationalizing the denominator of a radical expression
 alge089 Solving a radical equation that simplifies to a linear equation: One radical, basic
 alge090 Solving a radical equation that simplifies to a linear equation: Two radicals
 alge250 Rational exponents: Non-unit fraction exponent with a whole number base
 alge251 Rational exponents: Negative exponents and fractional bases

Quadratic, Rational and Exponential Expressions

alge045 Finding the roots of a quadratic equation with leading coefficient 1
 alge095 Applying the quadratic formula: Exact answers
 alge214 Discriminant of a quadratic equation
 alge524 Solving a word problem using a quadratic equation with irrational roots
 alge092 Solving a quadratic equation using the square root property: Exact answers, basic
 alge093 Solving an equation using the odd-root property: Problem type 1
 alge049 Restriction on a variable in a denominator: Linear
 alge710 Simplifying a ratio of polynomials: Problem type 1
 alge058 Complex fraction involving multivariate monomials
 alge162 Complex fraction that contains a complex fraction
 alge053 Multiplying rational expressions involving multivariate monomials
 alge054 Dividing rational expressions involving multivariate monomials
 alge055 Least common multiple of two monomials
 alge056 Adding rational expressions with common denominators and binomial numerators
 alge057 Adding rational expressions with different denominators: ax, bx
 alge226 Adding rational expressions with multivariate monomial denominators: Advanced
 alge622 Adding rational expressions with different denominators: $x+a, x+b$
 alge060 Solving a rational equation that simplifies to linear: Denominator x
 alge205 Solving a rational equation that simplifies to linear: Denominator $x+a$
 alge206 Solving a rational equation that simplifies to linear: Unlike binomial denominators
 alge062 Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators
 alge160 Algebraic symbol manipulation
 alge252 Graphing a parabola of the form $y = ax^2$
 alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
 pcalc070 Graphing an ellipse centered at the origin: $Ax^2 + By^2 = C$
 pcalc075 Graphing a hyperbola centered at the origin: $Ax^2 - By^2 - C = 0$
 alge177 Finding a final amount in a word problem on exponential growth or decay
 alge178 Finding the time to reach a limit in a word problem on exponential growth or decay
 pcalc103 Graphing an exponential function and its asymptote: $f(x) = a(e)^{x-b} + c$
 alge108 Converting between logarithmic and exponential equations
 alge232 Evaluating a logarithmic expression
 pcalc708 Basic properties of logarithms
 pcalc104 Graphing a logarithmic function: Advanced

Geometry

geom339 Perimeter of a polygon
 geom300 Perimeter of a square or a rectangle
 geom019 Area of a square or a rectangle
 geom340 Area of a piecewise rectangular figure

geom217 Finding the side length of a rectangle given its perimeter or area
 geom143 Finding the perimeter or area of a rectangle given one of these values
 geom801 Area of a triangle
 geom022 Area of a parallelogram
 geom016 Circumference of a circle
 geom838 Circumference ratios
 geom301 Perimeter involving rectangles and circles
 geom802 Circumference and area of a circle
 geom302 Area involving rectangles and circles
 geom805 Arc length and area of a sector of a circle
 geom031 Surface area of a cube or a rectangular prism
 geom034 Surface area of a cylinder: Exact answers in terms of pi
 geom842 Surface area of a sphere
 geom311 Volume of a rectangular prism
 geom035 Volume of a cylinder
 geom841 Volume of a sphere
 geom092 Word problem involving the rate of filling or emptying a cylinder
 geom133 Ratio of volumes
 geom846 Computing ratios of side lengths, surface areas, and volumes for similar solids
 geom303 Acute, obtuse, and right angles
 geom151 Measuring an angle with the protractor
 geom152 Drawing an angle with the protractor
 geom039 Finding supplementary and complementary angles
 geom500 Solving equations involving vertical angles and linear pairs
 geom306 Acute, obtuse, and right triangles
 geom001 Finding an angle measure of a triangle given two angles
 geom908 Finding an angle measure for a triangle with an extended side
 geom044 Pythagorean Theorem
 geom038 Similar right triangles
 geom337 Indirect measurement
 alge132 Distance between two points in the plane: Exact answers
 alge191 Midpoint of a line segment in the plane

Trigonometry and Vectors

pcalc600 Sine, cosine, and tangent ratios: Variables for side lengths
 pcalc607 Using a trigonometric ratio to find a side length in a right triangle
 pcalc610 Using trigonometry to find a length in a word problem with one right triangle
 pcalc608 Using a trigonometric ratio to find an angle measure in a right triangle
 pcalc611 Using trigonometry to find angles of elevation or depression in a word problem
 pcalc606 Using the Pythagorean Theorem to find a trigonometric ratio
 pcalc002 Converting between degree and radian measure: Problem type 1
 pcalc006 Sketching an angle in standard position
 pcalc603 Common angles and trigonometric functions
 pcalc107 Sketching the graph of $y=a*\sin(x+c)$ or $y=a*\cos(x+c)$
 pcalc106 Sketching the graph of $y=a*\sin(bx)$ or $y=a*\cos(bx)$
 pcalc014 Sketching the graph of $y=a*\sin(bx+c)$ or $y=a*\cos(bx+c)$
 pcalc739 Multiplication of a vector by a scalar: Geometric approach
 geom857 Vector addition: Geometric approach
 vector007 Vector subtraction: Geometric approach
 pcalc061 Scalar multiplication of a vector: Algebraic approach
 pcalc062 Addition and subtraction of vectors: Algebraic approach
 vector008 Linear combination of vectors: Component form
 pcalc063 Translation of a vector
 pcalc060 Magnitude of a vector given in component form
 vector002 Finding the magnitude and direction of a vector given its graph
 vector009 Dot product of vectors given in component form
 pcalc730 Finding the angle between two vectors given in component form
 vector010 Using the dot product to find perpendicular vectors
 vector005 Finding the components of a vector given its graph

vector006 Finding the component of a vector along another vector
vector011 Finding magnitudes of forces related to a sum of three vectors
vector012 Finding magnitudes of forces related to an object suspended by cables

B.48 Essential Math Skills for Business

Integers

arith078 Rounding to tens or hundreds
arith061 Rounding to thousands, ten thousands, or hundred thousands
arith101 Estimating a sum of whole numbers
arith102 Estimating a difference of whole numbers
arith604 Estimating a product or quotient of whole numbers
arith645 Introduction to parentheses
arith048 Order of operations with whole numbers
arith051 Order of operations with whole numbers and grouping symbols
alge285 Evaluating an algebraic expression: Whole numbers with two operations
arith657 Understanding the distributive property
alge286 Plotting integers on a number line
arith200 Integer addition: Problem type 1
arith108 Integer addition: Problem type 2
arith107 Integer subtraction
arith231 Integer multiplication and division
arith056 Factors
arith033 Greatest common factor of 2 numbers
arith070 Least common multiple of 2 numbers

Rational Numbers

arith623 Introduction to fractions
arith665 Understanding equivalent fractions
arith212 Equivalent fractions
arith067 Simplifying a fraction
arith618 Addition or subtraction of fractions with the same denominator
arith230 Addition or subtraction of fractions with different denominators
arith106 Signed fraction addition or subtraction: Advanced
arith088 The reciprocal of a number
arith079 Product of a unit fraction and a whole number
arith009 Unit fraction multiplication
arith086 Product of a fraction and a whole number: Problem type 1
arith053 Fraction multiplication
arith095 Multi-step word problem involving fractions and multiplication
arith022 Fraction division
arith105 Signed fraction multiplication: Advanced
arith662 Writing a mixed number and an improper fraction for a shaded region
arith015 Writing an improper fraction as a mixed number
arith619 Writing a mixed number as an improper fraction
arith667 Plotting fractions on a number line
arith605 Plotting rational numbers on a number line
arith220 Decimal place value: Hundreds to ten thousandths
arith221 Rounding decimals
arith671 Converting a fraction with a denominator of 10, 100, or 1000 to a decimal
arith087 Converting a decimal to a proper fraction in simplest form: Advanced
arith222 Converting a fraction to a terminating decimal
arith089 Converting a fraction to a repeating decimal

arith624 Addition of aligned decimals
 arith625 Subtraction of aligned decimals
 arith626 Word problem with one decimal operation: Problem type 1
 arith627 Word problem with one decimal operation: Problem type 2
 arith234 Signed decimal addition and subtraction with 3 numbers
 arith082 Multiplication of a decimal by a power of ten
 arith017 Multiplication of a decimal by a whole number
 arith055 Decimal multiplication: Problem type 1
 arith045 Word problem with powers of ten
 arith224 Word problem with decimal addition and multiplication
 arith083 Division of a decimal by a power of ten
 arith081 Division of a decimal by a whole number
 arith019 Division of a decimal by a 2-digit decimal
 arith227 Word problem with decimal subtraction and division

Percentages and Proportions

arith674 Finding the percentage of a grid that is shaded
 arith226 Converting between percentages and decimals
 arith090 Converting a percentage to a fraction in simplest form
 arith002 Converting a fraction to a percentage: Denominator of 20, 25, or 50
 arith030 Finding a percentage of a whole number without a calculator: Basic
 arith069 Writing a ratio as a percentage without a calculator
 arith074 Finding the sale price without a calculator given the original price and percent discount
 arith031 Finding the original price given the sale price and percent discount
 arith225 Finding the percentage increase or decrease: Advanced
 arith663 Writing ratios for real-world situations
 arith228 Word problem on unit rates associated with ratios of whole numbers: Decimal answers
 alge218 Solving a word problem involving rates and time conversion
 alge272 Solving a proportion of the form $x/a = b/c$
 alge271 Solving a proportion of the form $a/(x+b) = c/x$
 arith064 Solving a word problem on proportions using a unit rate
 arith610 Word problem on proportions: Problem type 1
 arith611 Word problem on proportions: Problem type 2
 unit001 Metric distance conversion with whole number values
 unit002 Metric mass or capacity conversion with whole number values
 unit003 Metric distance conversion with decimal values
 unit004 Metric conversion with decimal values: Two-step problem
 unit010 Metric area unit conversion with decimal values

Basic Algebraic Operations

alge005 Evaluating a linear expression: Integer multiplication with addition or subtraction
 alge004 Evaluating a quadratic expression: Integers
 alge606 Distributive property: Whole number coefficients
 alge604 Distributive property: Integer coefficients
 alge607 Combining like terms: Integer coefficients
 alge663 Combining like terms: Advanced
 alge602 Writing a one-step variable expression for a real-world situation
 arith233 Introduction to exponents
 arith683 Power of 10: Positive exponent
 arith684 Power of 10: Negative exponent
 arith047 Evaluating expressions with exponents: Problem type 1
 arith049 Evaluating expressions with exponents: Problem type 2
 arith600 Order of operations with integers and exponents
 alge024 Introduction to the product rule of exponents
 alge026 Quotient of expressions involving exponents
 arith042 Evaluating an expression with a negative exponent: Positive fraction base

arith043 Evaluating an expression with a negative exponent: Negative integer base
alge027 Power rules with positive exponents
alge025 Power of a power rule with negative exponents
arith029 Ordering numbers with positive exponents
arith036 Scientific notation with positive exponent
arith037 Scientific notation with negative exponent
alge029 Simplifying a sum or difference of three univariate polynomials
alge037 Greatest common factor of two multivariate monomials
alge030 Product rule with positive exponents: Multivariate
alge033 Multiplying binomials with leading coefficients of 1
alge032 Squaring a binomial: Univariate
alge180 Multiplication involving binomials and trinomials in two variables
alge053 Multiplying rational expressions involving multivariate monomials
alge054 Dividing rational expressions involving multivariate monomials
alge058 Complex fraction involving multivariate monomials
arith016 Square root of a perfect square
arith601 Square root of a rational perfect square
arith602 Estimating a square root
arith093 Simplifying the square root of a whole number less than 100
arith094 Cube root of an integer
alge812 Converting between radical form and exponent form
alge250 Rational exponents: Non-unit fraction exponent with a whole number base
alge108 Converting between logarithmic and exponential equations
alge232 Evaluating a logarithmic expression
pcalc708 Basic properties of logarithms

Linear Equations

alge009 Additive property of equality with whole numbers
alge800 Additive property of equality with decimals
alge801 Additive property of equality with fractions and mixed numbers
alge010 Additive property of equality with integers
alge266 Additive property of equality with a negative coefficient
alge008 Multiplicative property of equality with whole numbers
alge012 Multiplicative property of equality with signed fractions
alge006 Solving a two-step equation with integers
alge208 Solving a two-step equation with signed fractions
alge200 Solving an equation to find the value of an expression
alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
alge061 Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
alge209 Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
alge016 Translating a sentence into a one-step equation
alge802 Solving a fraction word problem using a linear equation of the form $Ax = B$
alge014 Solving a word problem with two unknowns using a linear equation
alge219 Solving a decimal word problem using a linear equation with the variable on both sides
alge173 Solving a decimal word problem using a linear equation of the form $Ax + B = C$
alge704 Solving a fraction word problem using a linear equation with the variable on both sides
alge076 Solving a system of linear equations using elimination with multiplication and addition
alge078 Solving a word problem involving a sum and another basic relationship using a system of linear equations
alge184 Solving a value mixture problem using a system of linear equations
alge224 Solving a distance, rate, time problem using a system of linear equations
alge192 Solving a percent mixture problem using a system of linear equations
alge172 Solving a tax rate or interest rate problem using a system of linear equations

Functions and Graphs

fun001 Table for a linear function
 fun002 Graphing integer functions
 fun016 Domain and range from ordered pairs
 fun010 Vertical line test
 alge064 Reading a point in the coordinate plane
 alge067 Plotting a point in the coordinate plane
 alge197 Graphing a line given its x- and y-intercepts
 alge194 Graphing a line given its equation in slope-intercept form
 alge195 Graphing a line given its equation in standard form
 alge196 Graphing a line through a given point with a given slope
 alge198 Graphing a vertical or horizontal line
 alge701 Writing an equation and drawing its graph to model a real-world situation: Advanced
 alge725 Graphically solving a system of linear equations
 alge066 Finding a solution to a linear equation in two variables
 alge216 Determining whether given points lie on one, both, or neither of 2 lines given equations
 alge069 Finding the y-intercept of a line given its equation
 alge210 Finding x- and y-intercepts of a line given the equation: Advanced
 alge631 Finding the slope of a line given its equation
 alge637 Determining the slope of a line given its graph
 alge070 Writing an equation of a line given the y-intercept and another point
 alge071 Writing the equation of a line given the slope and a point on the line
 alge072 Writing the equation of the line through two given points
 alge073 Writing the equations of vertical and horizontal lines through a given point
 alge805 Application problem with a linear function: Finding a coordinate given the slope and a point
 alge806 Application problem with a linear function: Finding a coordinate given two points
 geom807 Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 geom808 Writing equations of lines parallel and perpendicular to a given line through a point
 alge263 Interpreting the graphs of two functions
 alge277 Finding the x-intercept(s) and the vertex of a parabola
 alge252 Graphing a parabola of the form $y = ax^2$
 alge253 Graphing a parabola of the form $y = (x-h)^2 + k$
 alge254 Graphing a parabola of the form $y = ax^2 + bx + c$
 alge262 Graphing a cubic function of the form $y = ax^3$

Financial Mathematics

bmath061 Financial ratio analysis
 bmath021 Single trade discounts and net price
 bmath025 Markup based on cost or selling price
 bmath001 Markup based on cost: Finding the selling price
 bmath027 Markup based on cost: Finding the cost
 bmath107 Markup based on selling price: Finding the selling price
 bmath108 Markup based on selling price: Finding the cost
 bmath029 Markdown
 bmath033 Gross pay with commission and salary
 bmath037 Simple interest and maturity value
 bmath039 Solving for principal, rate, or time in simple interest problems
 bmath109 Computing compound interest with the simple interest formula
 bmath042 Compound interest for daily compounding
 bmath041 Compound interest for annual, semiannual, and quarterly compounding
 bmath043 Present value tables
 bmath044 Ordinary annuity
 bmath046 Present value of an ordinary annuity
 bmath047 Sinking funds

Basic Statistics

mstat007 Interpreting a line graph
 stat904 Interpreting pie charts

stat901 Computations from pie charts
 stat844 Double bar charts
 stat702 Histograms for grouped data
 stat703 Frequency polygons for grouped data
 stat717 Interpreting relative frequency histograms
 stat718 Cumulative distributions and ogives
 stat164 Comparing means without calculation
 stat165 Comparing standard deviations without calculation
 stat706 Mean, median, and mode: Computations
 stat902 Rejecting unreasonable claims based on average statistics
 stat007 Weighted mean: Tabular data
 stat719 Estimating the mean of grouped data
 stat009 Percentiles
 stat021 Population standard deviation
 stat011 Sample standard deviation
 stat729 Estimating the standard deviation of grouped data
 stat798 Mean, median, and mode: Comparisons
 stat905 Making reasonable inferences based on proportion statistics
 stat119 Venn diagrams: Two events
 stat101 Venn diagrams: Word problems
 stat106 Outcomes and event probability
 stat226 Die rolling
 stat114 Probability of intersection or union: Word problems
 stat115 Independent events: Basic
 stat120 Probability of union: Basic
 stat104 Mutually exclusive events: Two events
 stat850 Probability of independent events
 stat020 Calculating relative frequencies in a contingency table
 stat116 Conditional probability: Basic
 stat851 Probability of dependent events
 stat109 Intersection and conditional probability
 stat756 Tree diagrams for conditional probabilities

B.49 Business Math

Mathematic Foundations

bmath094 Whole number place value
 bmath122 Rounding whole numbers
 bmath105 Adding whole numbers
 bmath121 Subtracting whole numbers
 bmath106 Multiplying whole numbers
 bmath002 Dividing whole numbers
 bmath003 Types of fractions and conversion procedures
 bmath004 Reducing fractions to lowest terms
 bmath005 Raising fractions to higher terms
 bmath130 Adding and subtracting fractions with the same denominator
 bmath006 Adding fractions with different denominators
 bmath007 Subtracting fractions with different denominators
 bmath008 Multiplying fractions
 bmath009 Dividing fractions
 bmath131 Adding mixed numbers
 bmath132 Subtracting mixed numbers
 bmath133 Multiplying mixed numbers
 bmath134 Dividing mixed numbers
 bmath123 Decimal place value
 bmath010 Rounding decimals
 bmath012 Adding decimals

bmath124 Subtracting decimals
 bmath125 Multiplying decimals
 bmath013 Dividing decimals
 bmath011 Conversion from fraction to decimal
 bmath126 Conversion from decimal to fraction
 bmath016 Solving equations, basic
 bmath141 Solving equations, advanced
 bmath091 Mean and median
 bmath092 Frequency and weighted mean
 bmath142 Bar graphs
 bmath143 Interpreting line graphs
 bmath144 Interpreting circle graphs

Percents and Their Applications

bmath018 Converting decimals to percentages
 bmath116 Converting percentages to decimals
 bmath117 Converting percentages to fractions
 bmath113 Converting fractions to percentages
 bmath019 Portion formula: Solving for portion
 bmath114 Portion formula: Solving for rate
 bmath115 Portion formula: Solving for base
 bmath020 Calculating percent decreases and increases
 bmath021 Single trade discounts and net price
 bmath022 Chain discounts: Net price equivalent rate
 bmath023 Chain discounts: Single equivalent discount rate
 bmath024 Cash discount: Basic calculation
 bmath096 Cash discount: Ordinary and receipt of goods dating methods
 bmath112 Cash discount: EOM dating method
 bmath097 Invoices, trade discounts, and cash discounts
 bmath025 Markup based on cost or selling price
 bmath001 Markup based on cost: Finding the selling price
 bmath027 Markup based on cost: Finding the cost
 bmath107 Markup based on selling price: Finding the selling price
 bmath108 Markup based on selling price: Finding the cost
 bmath029 Markdown
 bmath030 Hourly gross pay with overtime
 bmath031 Gross pay with straight commission and draw
 bmath032 Gross pay with variable commission scale
 bmath033 Gross pay with commission and salary
 bmath034 FICA with no ceiling
 bmath119 FICA with ceiling
 bmath035 Calculating federal income tax withholding
 bmath036 Employer tax responsibilities
 bmath120 FICA, federal tax withholding, and net pay
 bmath075 Sales taxes
 bmath129 Actual sales before taxes
 bmath076 Excise taxes
 bmath077 Property tax

Interest

bmath037 Simple interest and maturity value
 bmath038 Exact and ordinary methods for simple interest and maturity value
 bmath039 Solving for principal, rate, or time in simple interest problems
 bmath101 The U. S. Rule: Making partial note payments before due date
 bmath040 Structuring of promissory notes: Effective interest rate and simple discount note
 bmath110 Discounting an interest-bearing note before maturity

bmath109 Computing compound interest with the simple interest formula
bmath042 Compound interest for daily compounding
bmath041 Compound interest for annual, semiannual, and quarterly compounding
bmath102 Nominal interest rate versus annual percentage yield
bmath043 Present value tables
bmath044 Ordinary annuity
bmath045 Annuity due
bmath046 Present value of an ordinary annuity
bmath047 Sinking funds
bmath048 Amount financed, finance charge, and deferred payment
bmath049 Cost of installment buying: Computing the APR
bmath050 Cost of installment buying: Computing the monthly payment
bmath051 Paying off installment loans before due date
bmath052 Revolving charge credit cards

Personal Finance

bmath095 Checking accounts
bmath128 Bank statement and reconciliation process: Basic
bmath015 Bank statement and reconciliation process: Advanced
bmath053 Monthly mortgage payment tables
bmath054 Total cost of interest for a mortgage
bmath055 Amortization schedule: Interest, principal, and new mortgage balance
bmath078 Life insurance premiums
bmath079 Insurance nonforfeiture values
bmath080 Fire insurance premiums
bmath140 Canceling fire insurance
bmath081 Compulsory auto insurance
bmath082 Optional auto insurance
bmath083 Reading stock quotations
bmath085 Calculating return on stock investment
bmath139 Stock yield, earnings per share, and price-earnings ratio
bmath084 Stock dividends
bmath086 Reading bond quotations
bmath087 Calculating bond yields
bmath088 Net asset value of a mutual fund
bmath090 Investment in a mutual fund

Business Finance

bmath056 Balance sheet: Merchandising
bmath135 Balance sheet: Service
bmath057 Vertical analysis of a balance sheet
bmath058 Income statement: Merchandising
bmath136 Income statement: Service
bmath059 Vertical analysis of an income statement
bmath138 Horizontal analysis of financial statements
bmath060 Financial projections
bmath061 Financial ratio analysis
bmath062 Straight-line depreciation: Full year
bmath127 Straight-line depreciation: Partial year
bmath063 Units-of-production depreciation
bmath064 Sum-of-the-years'-digits depreciation
bmath065 Declining-balance depreciation
bmath066 Modified accelerated cost recovery system
bmath067 Inventory: Specific identification
bmath068 Inventory: Weighted-average cost method
bmath069 Inventory: FIFO

bmath070 Inventory: LIFO
 bmath071 Retail method of inventory
 bmath072 Gross profit method of inventory
 bmath073 Inventory turnover
 bmath074 Distribution of overhead

B.50 Business Statistics

Mathematical Readiness

arith048 Order of operations with whole numbers
 arith051 Order of operations with whole numbers and grouping symbols
 arith220 Decimal place value: Hundreds to ten thousandths
 arith221 Rounding decimals
 arith226 Converting between percentages and decimals
 arith030 Finding a percentage of a whole number without a calculator: Basic
 arith069 Writing a ratio as a percentage without a calculator
 arith090 Converting a percentage to a fraction in simplest form
 arith002 Converting a fraction to a percentage: Denominator of 20, 25, or 50
 stat022 Summation of indexed data
 alge006 Solving a two-step equation with integers
 alge011 Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 alge013 Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 alge256 Y-intercept of a line
 alge257 X- and y-intercepts of a line given the equation in standard form
 alge070 Writing an equation of a line given the y-intercept and another point
 alge197 Graphing a line given its x- and y-intercepts
 alge194 Graphing a line given its equation in slope-intercept form
 alge196 Graphing a line through a given point with a given slope

Descriptive Statistics

stat904 Interpreting pie charts
 stat901 Computations from pie charts
 stat844 Double bar charts
 stat702 Histograms for grouped data
 stat703 Frequency polygons for grouped data
 stat717 Interpreting relative frequency histograms
 stat718 Cumulative distributions and ogives
 stat164 Comparing means without calculation
 stat165 Comparing standard deviations without calculation
 stat023 Box-and-whisker plots
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