

Algebra 1A and 1B address the need for an expanded, two-year treatment of traditional high school Algebra I curriculum. Focusing on review of pre-algebra skills and introductory algebra content, Algebra 1A allows students to deepen their understanding of real numbers in their various forms and then extend their knowledge to linear equations in one and two variables. Course topics include integers; the language of algebra; fractions and decimals; exponents; solving equations with four basic operations; solving equations with roots, powers, or multiple steps; functions; and linear equations.

Algebra 1A features ample opportunity for students to hone their computational skills by working through practice problem sets before moving on to formal assessment.

When used together, Algebra 1A and Algebra 1B meet California's Algebra I Mathematics Content Standards.

Length: Two semesters

## UNIT 1: INTRODUCTION TO PROBLEM SOLVING

### LESSON 1: BUILDING BASIC WORD PROBLEMS

#### Study: Building Basic Word Problems

Learn how to convert number sentences into addition or subtraction word problems. Practice this skill using sample problems.

Duration: 0 hrs 25 mins

#### Checkpoint: Practice Problems

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

#### Quiz: Building Basic Word Problems

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 20 points

### LESSON 2: A FOUR-STEP APPROACH

#### Study: A Four-Step Approach

Learn the four steps for solving word problems. Apply the four steps to sample problems.

Duration: 0 hrs 25 mins

#### Checkpoint: Practice Problems

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

#### Quiz: A Four-Step Approach

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 20 points

### LESSON 3: TOO MUCH OR TOO LITTLE INFORMATION

#### Study: Too Much or Too Little Information

Learn about determining if there is enough information to solve a given problem, identifying missing information, and separating relevant from irrelevant information. Practice these skills using sample problems.

Duration: 0 hrs 25 mins

#### Checkpoint: Practice Problems

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

**Quiz: Too Much or Too Little Information**

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 12 points

**LESSON 4: DRAW A DIAGRAM****Study: Draw a Diagram**

Learn what information to include in a diagram of a problem. Practice this skill using sample problems.

Duration: 0 hrs 25 mins

**Checkup: Practice Problems**

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

**Quiz: Draw a Diagram**

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 12 points

**LESSON 5: USE A MODEL OR ACT IT OUT****Study: Use a Model or Act it Out**

Use sample problems to learn when and how to act out a problem or make a model.

Duration: 0 hrs 25 mins

**Checkup: Practice Problems**

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

**Quiz: Use a Model or Act it Out**

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 12 points

**LESSON 6: MAKE A LIST****Study: Make a List**

Learn the steps for making a list in order to solve a word problem. Explore strategies for checking your answers. Practice these skills using sample problems.

Duration: 0 hrs 25 mins

**Checkup: Practice Problems**

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

**Quiz: Make a List**

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 12 points

**LESSON 7: BUILD A CHART AND FIND A PATTERN****Study: Build a Chart and Find a Pattern**

Learn about collecting data in charts, identifying patterns in order to solve word problems, and completing charts in order to answer questions. Practice these skills using sample problems.

Duration: 0 hrs 25 mins

**Checkup: Practice Problems**

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

**Quiz: Build a Chart and Find a Pattern**

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 12 points

**LESSON 8: GUESS AND CHECK**

**Study: Guess and Check**

Review the four problem solving steps. Learn how to make logical guesses to solve a problem. Solve word problems using this strategy.

Duration: 0 hrs 25 mins

**Checkup: Practice Problems**

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

**Quiz: Guess and Check**

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 12 points

**LESSON 9: WORK BACKWARD****Study: Work Backward**

Learn about starting with a solution and working backward to solve a word problem. Learn how to check your answers by working forward. Practice these skills using sample problems.

Duration: 0 hrs 25 mins

**Checkup: Practice Problems**

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

**Quiz: Work Backward**

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 12 points

**LESSON 10: INTRODUCTION TO PROBLEM SOLVING WRAP-UP****Review: Introduction to Problem Solving**

Check your understanding of the topics in this unit.

Duration: 0 hrs 30 mins Scoring: 0 points

**Discuss: Introduction to Problem Solving**

Take part in a three- to five-question discussion about applying methods learned in this unit.

Duration: 0 hrs 20 mins Scoring: 30 points

**Test (CS): Introduction to Problem Solving**

Take a computer-scored test to assess what you have learned in this unit.

Duration: 0 hrs 50 mins Scoring: 50 points

**Test (TS): Introduction to Problem Solving**

Take a teacher-scored test to assess what you have learned in this unit.

Duration: 0 hrs 30 mins Scoring: 50 points

**UNIT 2: THE LANGUAGE OF ALGEBRA****LESSON 1: WHAT IS A VARIABLE?****Study: What is a Variable?**

Learn the definition and explore examples of variables.

Duration: 0 hrs 30 mins

**Checkup: Practice Problems**

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

**Quiz: What is a Variable?**

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 16 points

## LESSON 2: FINDING AND NAMING VARIABLES

### Study: Finding and Naming Variables

Select relevant variables and name them.

Duration: 0 hrs 30 mins

### Checkpoint: Practice Problems

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

### Quiz: Finding and Naming Variables

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 16 points

## LESSON 3: MEASUREMENT AND UNIT S

### Study: Measurement and Units

Explore the ideas of precision and accuracy in measurement. Solve problems involving a single unit conversion and those requiring multiple conversions.

Duration: 0 hrs 45 mins Scoring: 0 points

### Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

### Quiz: Measurement and Units

Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 25 mins Scoring: 20 points

### Journal: Measurement and Units

Construct arguments and critique the reasoning of others as you write about topics in algebra.

Duration: 0 hrs 45 mins Scoring: 20 points

## LESSON 4: GRAPHS, TABLES, AND EQUATIONS

### Study: Graphs, Tables, and Equations

Find the value of a variable using graphs, tables, and equations. Learn to organize information and find patterns. Explore examples and advantages of each problem-solving method.

Duration: 0 hrs 30 mins

### Checkpoint: Practice Problems

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

### Quiz: Graphs, Tables, and Equations

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 16 points

## LESSON 5: SOLVING PROBLEMS WITH TABLES AND GRAPHS

### Study: Solving Problems with Tables and Graphs

Set up tables and graphs and use them to organize information. Determine when to use tables and graphs to solve problems.

Duration: 0 hrs 30 mins

### Checkpoint: Practice Problems

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

### Quiz: Solving Problems with Tables and Graphs

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 16 points

## LESSON 6: VARIABLE EXPRESSIONS

### Study: Variable Expressions

Define and form variable expressions by performing operations.

Duration: 0 hrs 30 mins

### Checkup: Practice Problems

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

### Quiz: Variable Expressions

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 18 points

## LESSON 7: SIMPLIFYING AND EVALUATING EXPRESSIONS

### Study: Simplifying and Evaluating Expressions

Simplify variable expressions by evaluating their numerical parts. Evaluate variable expressions by substituting values for  $x$ .

Duration: 0 hrs 40 mins

### Checkup: Practice Problems

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

### Quiz: Simplifying and Evaluating Expressions

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

## LESSON 8: MATHEMATICAL SENTENCES

### Study: Mathematical Sentences

Learn about the types and parts of mathematical sentences. Learn about translating word problems into mathematical sentences.

Duration: 0 hrs 30 mins

### Checkup: Practice Problems

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

### Quiz: Mathematical Sentences

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 20 points

## LESSON 9: SOLVING MATHEMATICAL SENTENCES

### Study: Solving Mathematical Sentences

Solve equations using the "guess-and-check" method. Define a solution set and compare solution sets of equations and inequalities.

Duration: 0 hrs 40 mins

### Checkup: Practice Problems

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

### Quiz: Solving Mathematical Sentences

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

## LESSON 10: SOME GUIDELINES FOR PROBLEM SOLVING

### Study: Some Guidelines for Problem Solving

Use problem-solving tips to solve a problem. Develop a general strategy for solving problems.

Duration: 0 hrs 40 mins

### Quiz: Some Guidelines for Problem Solving

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

## LESSON 11: THE LANGUAGE OF ALGEBRA WRAP-UP

### Review: The Language of Algebra

Check your understanding of the topics in this unit.

Duration: 0 hrs 30 mins Scoring: 0 points

### Discuss: Using $X$ to Mark the Spot

Take part in a three- to five-question discussion about applying methods learned in this unit.

Duration: 0 hrs 20 mins Scoring: 30 points

### Test (CS): The Language of Algebra

Take a computer-scored test to assess what you have learned in this unit.

Duration: 0 hrs 50 mins Scoring: 50 points

### Test (TS): The Language of Algebra

Take a teacher-scored test to assess what you have learned in this unit.

Duration: 0 hrs 30 mins Scoring: 50 points

## UNIT 3: SOLVING EQUATIONS WITH FOUR BASIC OPERATIONS

### LESSON 1: SOLVING EQUATIONS GRAPHICALLY

#### Study: Solving Equations Graphically

Discover problem-solving strategies including isolating a variable and using tiles to represent values in word problems.

Duration: 0 hrs 30 mins

#### Checkup: Practice Problems

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

#### Quiz: Solving Equations Graphically

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 18 points

### LESSON 2: SOLVING EQUATIONS WITH LARGER NUMBERS

#### Study: Solving Equations with Larger Numbers

Translate English into number sentences and represent equations with a balanced scale.

Duration: 0 hrs 30 mins

#### Checkup: Practice Problems

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

#### Quiz: Solving Equations with Larger Numbers

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 18 points

### LESSON 3: SOLVING $x + a = b$

#### Study: Solving $x + a = b$

Practice solving equations in the form  $x + a = b$  by isolating the variable  $x$  on one side of the equation. Learn how to solve this type of equation when the value of  $a$  is positive or negative.

Duration: 0 hrs 30 mins

#### Checkup: Practice Problems

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

### Quiz: Solving $x + a = b$

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 20 points

## LESSON 4: SOLVING WITH A NUMBER LINE

### Study: Solving with a Number Line

Plot points on a number line, moving to the left or right to solve equations.

Duration: 0 hrs 30 mins

### Checkup: Practice Problems

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

## LESSON 5: SOLVING INEQUALITIES

### Study: Solving Inequalities

Develop strategies to solve various forms of inequalities and display their solution set on a number line.

Duration: 0 hrs 30 mins

### Checkup: Practice Problems

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

### Quiz: Solving Inequalities

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 16 points

## LESSON 6: SOLVING $AX = B$

### Study: Solving $ax = b$

Learn about setting up a table; writing an equation to express a pattern; isolating a variable; dividing by coefficient of a variable; and using a number line to solve equations in standard form.

Duration: 0 hrs 30 mins

### Checkup: Practice Problems

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

### Quiz: Solving $ax = b$

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 20 points

## LESSON 7: SOLVING $x/a = b$

### Study: Solving $x/a = b$

Learn about solving division problems using multiplication.

Duration: 0 hrs 30 mins

### Checkup: Practice Problems

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

### Quiz: Solving $x/a = b$

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 20 points

## LESSON 8: INEQUALITIES

### Study: Inequalities

Learn about solving inequalities by dividing by the coefficient of a variable. Learn about multiplying and dividing inequalities by negative numbers.

Duration: 0 hrs 30 mins

### Checkpoint: Practice Problems

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

### Quiz: Inequalities

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 20 points

## LESSON 9: VARIATIONS OF EQUATIONS AND INEQUALITIES

### Study: Variations of Equations and Inequalities

Explore problems that take different forms, rearranging equations into  $x + a = b$  form (standard form) and solving inequalities in nonstandard form.

Duration: 0 hrs 30 mins

### Checkpoint: Practice Problems

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

### Quiz: Variations of Equations and Inequalities

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 10 points

## LESSON 10: SOLVING MULTISTEP LINEAR EQUATIONS

### Study: Solving Multistep Linear Equations

Solve multistep equations, including equations that have no solutions, one solution, or an infinite number of solutions. Write and solve equations that model real-world situations.

Duration: 0 hrs 45 mins Scoring: 0 points

### Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

### Quiz: Solving Multistep Linear Equations

Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 25 mins Scoring: 20 points

### Practice: Modeling: Multistep Linear Equations

Model and solve a real-world problem.

Duration: 0 hrs 45 mins Scoring: 20 points

## LESSON 11: LITERAL EQUATIONS

### Study: Literal Equations

Learn how to solve literal equations, including formulas, for a particular variable.

Duration: 0 hrs 45 mins Scoring: 0 points

### Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

### Quiz: Literal Equations

Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 25 mins Scoring: 20 points

## LESSON 12: SOLVING EQUATIONS WITH FOUR BASIC OPERATIONS WRAP-UP

### Review: Solving Equations with Four Basic Operations

Check your understanding of the topics in this unit.

Duration: 0 hrs 30 mins Scoring: 0 points



### **Discuss: Math — The Ultimate Balancing Act**

Take part in a three- to five-question discussion about applying methods learned in this unit.

Duration: 0 hrs 20 mins Scoring: 30 points

### **Test (CS): Solving Equations with Four Basic Operations**

Take a computer-scored test to assess what you have learned in this unit.

Duration: 0 hrs 50 mins Scoring: 50 points

### **Test (TS): Solving Equations with Four Basic Operations**

Take a teacher-scored test to assess what you have learned in this unit.

Duration: 0 hrs 30 mins Scoring: 50 points

## **UNIT 4: FUNCTIONS**

### **LESSON 1: DOMAIN AND RANGE**

#### **Study: Domain and Range**

Understand the meanings of the domain and range of a function. Use function notation and evaluate a function for a given value in its domain.

Duration: 0 hrs 45 mins Scoring: 0 points

#### **Checkup: Practice Problems**

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

#### **Quiz: Domain and Range**

Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 25 mins Scoring: 20 points

#### **Journal: Domain and Range**

Construct arguments and critique the reasoning of others as you write about topics in algebra.

Duration: 0 hrs 45 mins Scoring: 20 points

### **LESSON 2: IDENTIFYING FUNCTIONS**

#### **Study: Identifying Functions**

Determine whether relations represented by graphs or tables of values are functions. Identify the domain and range of a function from an input-output table.

Duration: 0 hrs 45 mins Scoring: 0 points

#### **Checkup: Practice Problems**

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

#### **Quiz: Identifying Functions**

Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 25 mins Scoring: 20 points

### **LESSON 3: GRAPHS OF FUNCTIONS**

#### **Study: Graphs of Functions**

Determine the domain and range of a function from its graph. Identify sections where a graph is increasing, decreasing, or remaining constant.

Duration: 0 hrs 45 mins Scoring: 0 points

#### **Checkup: Practice Problems**

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

#### **Quiz: Graphs of Functions**

Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 25 mins Scoring: 20 points

### **Practice: Modeling: Graphs of Functions**

Model and solve a real-world problem.

Duration: 0 hrs 45 mins Scoring: 20 points

## **LESSON 4: ADDING AND SUBTRACTING FUNCTIONS**

### **Study: Adding and Subtracting Functions**

Learn how to add and subtract functions.

Duration: 0 hrs 45 mins Scoring: 0 points

### **Checkup: Practice Problems**

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

### **Quiz: Adding and Subtracting Functions**

Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 25 mins Scoring: 20 points

## **LESSON 5: FUNCTIONS WRAP-UP**

### **Review: Functions Practice Problems**

Check your understanding of the topics in this unit.

Duration: 0 hrs 30 mins Scoring: 0 points

### **Discuss: Relating to Functions**

Join a three- to five-question discussion to practice methods learned in this unit.

Duration: 0 hrs 40 mins Scoring: 20 points

### **Test (CS): Functions**

Take a computer-scored test to check what you have learned in this unit.

Duration: 0 hrs 50 mins Scoring: 50 points

### **Test (TS): Functions**

Take a teacher-scored test to check what you have learned in this unit.

Duration: 0 hrs 50 mins Scoring: 50 points

## **UNIT 5: SEMESTER 1 EXAM**

### **LESSON 1: SEMESTER 1 REVIEW AND EXAM**

#### **Review: Semester 1 Review**

Prepare for the semester exam by reviewing key concepts covered in Semester 1.

Duration: 1 hr

#### **Exam: Semester 1 Exam**

Exam covering the entire semester

Duration: 0 hrs 50 mins Scoring: 200 points

## **UNIT 6: USING LOGIC TO SOLVE PROBLEMS**

### **LESSON 1: BUILDING EQUATIONS**

#### **Study: Building Equations**

Learn about setting up an equation using information in a word problem and about choosing the correct operation(s).

Practice these skills using sample problems.

Duration: 0 hrs 25 mins

#### **Checkup: Practice Problems**

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

#### **Quiz: Building Equations**

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 12 points

## LESSON 2: DEDUCTIVE REASONING

### Study: Deductive Reasoning

Learn the definition of deductive reasoning. Practice making conclusions and deducing which statements in a problem are true. Practice these skills using sample problems.

Duration: 0 hrs 25 mins

### Checkup: Practice Problems

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

### Quiz: Deductive Reasoning

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 12 points

## LESSON 3: INDUCTIVE REASONING

### Study: Inductive Reasoning

Explore inductive reasoning and using induction to continue a pattern. Practice these skills using sample problems.

Duration: 0 hrs 25 mins

### Checkup: Practice Problems

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

### Quiz: Inductive Reasoning

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 12 points

## LESSON 4: LOGIC PUZZLES

### Study: Logic Puzzles

Learn about organizing logic data in a grid and about direct and indirect information. Practice these skills using sample logic problems.

Duration: 0 hrs 25 mins

### Checkup: Practice Problems

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

### Quiz: Logic Puzzles

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 12 points

## LESSON 5: PROBLEM SOLVING

### Study: Problem Solving

Learn strategies for solving a variety of application problems related to topics in this unit.

Duration: 0 hrs 25 mins

### Checkup: Practice Problems

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins Scoring: 0 points

## LESSON 6: USING LOGIC TO SOLVE PROBLEMS WRAP-UP

### Review: Using Logic to Solve Problems

Review unit material in preparation for upcoming assessments.

Duration: 0 hrs 30 mins

### Test (CS): Using Logic to Solve Problems

Take a computer-scored test to assess what you have learned in this unit.

Duration: 0 hrs 50 mins Scoring: 50 points

### Test (TS): Using Logic to Solve Problems

Take a teacher-scored test to assess what you have learned in this unit.

Duration: 0 hrs 30 mins Scoring: 50 points

## UNIT 7: LINEAR EQUATIONS

### LESSON 1: SLOPE

#### Study: Slope

Learn how to find the slope of a line, define rise and run, and measure rates of change.

Duration: 0 hrs 45 mins Scoring: 0 points

#### Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

#### Quiz: Slope

Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 25 mins Scoring: 20 points

#### Journal: Slope

Construct arguments and critique the reasoning of others as you write about topics in algebra.

Duration: 0 hrs 45 mins Scoring: 20 points

### LESSON 2: SLOPE-INTERCEPT EQUATION OF A LINE

#### Study: Slope-Intercept Equation of a Line

Learn to use the slope and  $y$ -intercept of a line to write its slope-intercept equation. Understand the meaning of the slope and  $y$ -intercept in slope-intercept equations that model real-world situations.

Duration: 0 hrs 45 mins Scoring: 0 points

#### Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

#### Quiz: Slope-Intercept Equation of a Line

Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 25 mins Scoring: 20 points

#### Practice: Modeling: Slope-Intercept Equation of a Line

Model and solve a real-world problem.

Duration: 0 hrs 45 mins Scoring: 20 points

### LESSON 3: POINT-SLOPE EQUATION OF A LINE

#### Study: Point-Slope Equation of a Line

Write point-slope equations for lines given a point and the slope or two points. Rewrite point-slope equations in slope-intercept form.

Duration: 0 hrs 45 mins Scoring: 0 points

#### Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

#### Quiz: Point-Slope Equation of a Line

Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 25 mins Scoring: 20 points

## LESSON 4: PARALLEL AND PERPENDICULAR LINES

### Study: Parallel and Perpendicular Lines

Learn about parallel and perpendicular lines and the relationships between their slopes. Write equations for lines perpendicular and parallel to given lines.

Duration: 0 hrs 45 mins Scoring: 0 points

### Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

### Quiz: Parallel and Perpendicular Lines

Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 25 mins Scoring: 20 points

## LESSON 5: LINEAR INEQUALITIES

### Study: Linear Inequalities

Learn how to graph the half-planes that represent solutions for linear inequalities.

Duration: 0 hrs 45 mins Scoring: 0 points

### Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

### Quiz: Linear Inequalities

Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 25 mins Scoring: 20 points

## LESSON 6: LINEAR EQUATIONS WRAP-UP

### Review: Linear Equations Practice Problems

Check your understanding of the topics in this unit.

Duration: 0 hrs 30 mins Scoring: 0 points

### Discuss: A Slippery Slope

Join a three- to five-question discussion to practice methods learned in this unit.

Duration: 0 hrs 40 mins Scoring: 20 points

### Test (CS): Linear Equations

Take a computer-scored test to check what you have learned in this unit.

Duration: 0 hrs 50 mins Scoring: 50 points

### Test (TS): Linear Equations

Take a teacher-scored test to check what you have learned in this unit.

Duration: 0 hrs 50 mins Scoring: 50 points

## UNIT 8: SYSTEMS OF LINEAR EQUATIONS

### LESSON 1: TWO-VARIABLE SYSTEMS: GRAPHING

#### Study: Two-Variable Systems: Graphing

Use graphing to solve two-variable systems of linear equations. Explore what it means for a linear system to have no solution, one solution, or an infinite number of solutions.

Duration: 0 hrs 45 mins Scoring: 0 points

#### Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

#### Quiz: Two-Variable Systems: Graphing

Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 25 mins Scoring: 20 points

## LESSON 2: TWO-VARIABLE SYSTEMS: SUBSTITUTION

### Study: Two-Variable Systems: Substitution

Use substitution to solve two-variable systems of linear equations.

Duration: 0 hrs 45 mins Scoring: 0 points

### Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

### Quiz: Two-Variable Systems: Substitution

Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 25 mins Scoring: 20 points

## LESSON 3: TWO-VARIABLE SYSTEMS: ELIMINATION

### Study: Two-Variable Systems: Elimination

Use elimination to solve two-variable systems of linear equations.

Duration: 0 hrs 45 mins Scoring: 0 points

### Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

### Quiz: Two-Variable Systems: Elimination

Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 25 mins Scoring: 20 points

### Journal: Two-Variable Systems: Elimination

Construct arguments and critique the reasoning of others as you write about topics in algebra.

Duration: 0 hrs 45 mins Scoring: 20 points

## LESSON 4: TWO-VARIABLE SYSTEMS OF INEQUALITIES

### Study: Two-Variable Systems of Inequalities

Use graphing to solve two-variable systems of linear inequalities. Use what you know about solving systems of inequalities to solve a real-world problem where there are constraints (limitations) that restrict your options.

Duration: 0 hrs 45 mins Scoring: 0 points

### Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

### Quiz: Two-Variable Systems of Inequalities

Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 25 mins Scoring: 20 points

### Practice: Modeling: Two-Variable Systems of Inequalities

Model and solve a real-world problem.

Duration: 0 hrs 45 mins Scoring: 20 points

## LESSON 5: SYSTEMS OF LINEAR EQUATIONS WRAP-UP

### Review: Systems of Linear Equations Practice Problems

Check your understanding of the topics in this unit.

Duration: 0 hrs 30 mins Scoring: 0 points

### Discuss: What's the Solution?

Join a three- to five-question discussion to practice methods learned in this unit.

Duration: 0 hrs 40 mins Scoring: 20 points

### Test (CS): Systems of Linear Equations

Take a computer-scored test to check what you have learned in this unit.

Duration: 0 hrs 50 mins Scoring: 50 points

### **Test (TS): Systems of Linear Equations**

Take a teacher-scored test to check what you have learned in this unit.

Duration: 0 hrs 50 mins Scoring: 50 points

## **UNIT 9: EXPONENTS AND EXPONENTIAL FUNCTIONS**

### **LESSON 1: DEFINITIONS AND EXAMPLES OF EXPONENTS**

#### **Study: Definitions and Examples of Exponents**

Learn the definitions of base exponent power and exponential expression. Learn to use a table to illustrate real-world applications of exponents.

Duration: 0 hrs 40 mins

#### **Checkpoint: Practice Problems**

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

#### **Quiz: Definitions and Examples of Exponents**

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 20 points

### **LESSON 2: EXPONENTS AND THE ORDER OF OPERATIONS**

#### **Study: Exponents and the Order of Operations**

Learn about evaluating expressions with exponents using the order of operations.

Duration: 0 hrs 40 mins

#### **Checkpoint: Practice Problems**

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

#### **Quiz: Exponents and the Order of Operations**

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 20 points

### **LESSON 3: LAWS OF EXPONENTS**

#### **Study: Laws of Exponents**

Learn about the multiplication law of exponents with positive and negative exponents; the rule for negative exponents; the division law of exponents; raising products and fractions to a power; and the power rule of exponents.

Duration: 0 hrs 40 mins

#### **Checkpoint: Practice Problems**

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

#### **Quiz: The Multiplication Law of Exponents**

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 20 points

### **LESSON 4: SQUARE ROOTS**

#### **Study: Square Roots**

Learn about fractional exponents; principal square roots; square roots of positive numbers; perfect squares; and negative square roots vs. square roots of negative numbers.

Duration: 0 hrs 40 mins

#### **Checkpoint: Practice Problems**

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

### **Quiz: Square Roots**

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 20 points

## **LESSON 5: RADICAL NOTATION**

### **Study: Radical Notation**

Learn about radical signs and radicands. Explore laws of exponents that apply to radicals.

Duration: 0 hrs 40 mins

### **Checkpoint: Practice Problems**

Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 20 mins

### **Quiz: Radical Notation**

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 20 points

## **LESSON 6: EXPONENTIAL FUNCTIONS**

### **Study: Exponential Functions**

Define an exponential function and explore applications of exponential functions, such as exponential growth and decay. Interpret the parts of an exponential expression that represents a real-world context.

Duration: 0 hrs 45 mins Scoring: 0 points

### **Checkpoint: Practice Problems**

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

### **Quiz: Exponential Functions**

Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 25 mins Scoring: 20 points

### **Practice: Modeling: Exponential Functions**

Model and solve a real-world problem.

Duration: 0 hrs 45 mins Scoring: 20 points

## **LESSON 7: GRAPHS OF EXPONENTIAL FUNCTIONS**

### **Study: Graphs of Exponential Functions**

Learn about graphs of exponential functions with different bases. Identify the domain, range and  $y$ -intercept of an exponential function from its equation and from its graph. Use graphs to evaluate exponential functions for given  $x$ -values.

Duration: 0 hrs 45 mins Scoring: 0 points

### **Checkpoint: Practice Problems**

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

### **Quiz: Graphs of Exponential Functions**

Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 25 mins Scoring: 20 points

### **Journal: Graphs of Exponential Functions**

Construct arguments and critique the reasoning of others as you write about topics in algebra.

Duration: 0 hrs 45 mins Scoring: 20 points

## **LESSON 8: EXPONENTS AND EXPONENTIAL FUNCTIONS WRAP-UP**

### **Review: Exponents and Exponential Functions Practice Problems**

Check your understanding of the topics in this unit.

Duration: 0 hrs 30 mins Scoring: 0 points



**Discuss: Exponential Potential**

Join a three- to five-question discussion to practice methods learned in this unit.

Duration: 0 hrs 40 mins Scoring: 20 points

**Test (CS): Exponents and Exponential Functions**

Take a computer-scored test to check what you have learned in this unit.

Duration: 0 hrs 50 mins Scoring: 50 points

**Test (TS): Exponents and Exponential Functions**

Take a teacher-scored test to check what you have learned in this unit.

Duration: 0 hrs 50 mins Scoring: 50 points

**UNIT 10: UNDOING FUNCTIONS AND MOVING THEM AROUND****LESSON 1: PARENT FUNCTIONS****Study: Parent Functions**

Learn about the properties and graphs of linear parent functions and exponential parent functions.

Duration: 0 hrs 45 mins Scoring: 0 points

**Checkpoint: Practice Problems**

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

**Quiz: Parent Functions**

Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 25 mins Scoring: 20 points

**LESSON 2: SHIFTING FUNCTIONS****Study: Shifting Functions**

Learn about shifting graphs of functions up/down and left/right by changing the coordinates of each ordered pair. Learn about changing the equation of a function to shift its graph vertically or horizontally and about combining vertical and horizontal shifts.

Duration: 0 hrs 45 mins Scoring: 0 points

**Checkpoint: Practice Problems**

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

**Quiz: Shifting Functions**

Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 25 mins Scoring: 20 points

**LESSON 3: STRETCHING AND COMPRESSING FUNCTIONS****Study: Stretching and Compressing Functions**

Learn about stretching or compressing a function's graph by multiplying by a constant, flipping the graph by multiplying by a negative constant, and combining stretches with shifts.

Duration: 0 hrs 45 mins Scoring: 0 points

**Checkpoint: Practice Problems**

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

**Quiz: Stretching and Compressing Functions**

Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 25 mins Scoring: 20 points

**LESSON 4: T TRANSFORMATIONS OF PARENT FUNCTIONS****Study: Transformations of Parent Functions**

Learn how to perform vertical and horizontal shifts, stretches, and compressions, and any combination of these

transformations, on parent functions.

Duration: 0 hrs 45 mins Scoring: 0 points

### **Checkpoint: Practice Problems**

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

### **Quiz: Transformations of Parent Functions**

Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 25 mins Scoring: 20 points

## **LESSON 5: UNDOING FUNCTIONS AND MOVING THEM AROUND WRAP-UP**

### **Review: Undoing Functions and Moving Them Around Practice Problems**

Check your understanding of the topics in this unit.

Duration: 0 hrs 30 mins Scoring: 0 points

### **Discuss: Transformation Station**

Join a three- to five-question discussion to practice methods learned in this unit.

Duration: 0 hrs 40 mins Scoring: 20 points

### **Test (CS): Undoing Functions and Moving Them Around**

Take a computer-scored test to check what you have learned in this unit.

Duration: 0 hrs 50 mins Scoring: 50 points

### **Test (TS): Undoing Functions and Moving Them Around**

Take a teacher-scored test to check what you have learned in this unit.

Duration: 0 hrs 50 mins Scoring: 50 points

## **UNIT 11: SEQUENCES AND FUNCTIONS**

### **LESSON 1: ARITHMETIC SEQUENCES**

#### **Study: Arithmetic Sequences**

Learn about arithmetic sequences, explicit and recursive formulas, and finding the next term in a sequence.

Duration: 0 hrs 45 mins Scoring: 0 points

#### **Checkpoint: Practice Problems**

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

#### **Quiz: Arithmetic Sequences**

Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 25 mins Scoring: 20 points

#### **Journal: Arithmetic Sequences**

Construct arguments and critique the reasoning of others as you write about topics in algebra.

Duration: 0 hrs 45 mins Scoring: 20 points

### **LESSON 2: GEOMETRIC SEQUENCES**

#### **Study: Geometric Sequences**

Explore geometric sequences as sets of numbers in which the ratio between any two consecutive numbers is a constant. Compare how the recursive formula and the explicit formula allow you to find the value of any term in a geometric sequence.

Duration: 0 hrs 45 mins Scoring: 0 points

#### **Checkpoint: Practice Problems**

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

#### **Quiz: Geometric Sequences**

Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 25 mins Scoring: 20 points

### **Practice: Modeling: Geometric Sequences**

Model and solve a real-world problem.

Duration: 0 hrs 45 mins Scoring: 20 points

## **LESSON 3: UNDERSTANDING NUMBER SEQUENCES**

### **Study: Understanding Number Sequences**

Learn about applications and models of arithmetic, geometric, and special sequences.

Duration: 0 hrs 45 mins Scoring: 0 points

### **Checkpoint: Practice Problems**

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

### **Quiz: Understanding Number Sequences**

Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 25 mins Scoring: 20 points

## **LESSON 4: EXPONENTIAL AND LINEAR GROWTH**

### **Study: Exponential and Linear Growth**

Learn about the connections between linear and exponential functions and arithmetic and geometric sequences.

Duration: 0 hrs 45 mins Scoring: 0 points

### **Checkpoint: Practice Problems**

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

### **Quiz: Exponential and Linear Growth**

Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 25 mins Scoring: 20 points

## **LESSON 5: SEQUENCES AND FUNCTIONS WRAP-UP**

### **Review: Sequences and Functions Practice Problems**

Check your understanding of the topics in this unit.

Duration: 0 hrs 30 mins Scoring: 0 points

### **Discuss: What's the Difference?**

Join a three- to five-question discussion to practice methods learned in this unit.

Duration: 0 hrs 40 mins Scoring: 20 points

### **Test (CS): Sequences and Functions**

Take a computer-scored test to check what you have learned in this unit.

Duration: 0 hrs 50 mins Scoring: 50 points

### **Test (TS): Sequences and Functions**

Take a teacher-scored test to check what you have learned in this unit.

Duration: 0 hrs 50 mins Scoring: 50 points

## **UNIT 12: SEMESTER 2 EXAM**

### **LESSON 1: SEMESTER 2 REVIEW AND EXAM**

#### **Review: Semester 2 Review**

Prepare for the semester exam by reviewing key concepts covered in Semester 2.

Duration: 1 hr

#### **Exam: Semester 2 Exam**

Exam covering the entire semester

