

California's Algebra I-A and I-B courses address the need for an expanded, two-year treatment of traditional high school Algebra I curriculum. Algebra I-B course topics include a review of introductory algebra; measurement; graphing data; linear equations; systems of linear equations; polynomials; factoring of polynomials; factoring of quadratic functions; and rational expressions.

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

To assist students for whom language presents a barrier to learning or who are not reading at grade level, Algebra I-B includes audio resources in both Spanish and English.

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

Length: Two Semesters

## UNIT 1: REVIEW OF ALGEBRA I-A

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### LESSON 1: INTEGERS AND OPERATIONS

#### **Study: Integers and Operations**

Review sets; subsets; elements; whole numbers; positive and negative integers; the number line; absolute value; arithmetic operations and their properties; and the order of operations.

*Duration: 0 hr 50 min*

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

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

*Duration: 0 hr 30 min*

#### **Quiz: Properties of Operations**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring:*

*28 points*

#### **Quiz: Order of Operations**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 18*

*points*

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## LESSON 2: FRACTIONS AND DECIMALS

### Study: Fractions and Decimals

Review fraction terminology (including *numerator* and *denominator*); performing operations with fractions; real (rational and irrational) numbers; equivalent fractions; prime numbers and factorization; least common multiples; reciprocals; and converting fractions to decimals and percentages.

*Duration: 0 hr 50 min*

### Checkup: Practice Problems

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

*Duration: 0 hr 30 min*

### Quiz: Like Denominators

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 16 points*

### Quiz: Equivalent Fractions

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 18 points*

### Quiz: Fractions, Decimals, and Percents

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 28 points*

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## LESSON 3: EXPONENTS

### Study: Exponents

Review exponents and their place in the order of operations; laws for evaluating exponential expressions; fractional and decimal exponents; radical notation and principal square roots; laws for simplifying radical expressions; and scientific notation.

*Duration: 0 hr 50 min*

### Checkup: Practice Problems

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

*Duration: 0 hr 30 min*

### Quiz: Exponential Expressions

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 30 points*

### Quiz: Operations with Radicals

Take a quiz to assess your understanding of the material.

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*Duration: 0 hr 25 min*  
*Scoring: 16 points*

### **Quiz: Scientific Notation**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 24 points*

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## **LESSON 4: VARIABLES AND PROBLEM SOLVING**

### **Study: Variables and Problem Solving**

Review variable expressions; mathematical sentences; equations and inequalities; solution sets; and steps to solving algebraic problems.

*Duration: 0 hr 50 min*

### **Checkup: Practice Problems**

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

*Duration: 0 hr 30 min*

### **Quiz: Variables and Problem Solving**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min*

*Scoring: 28 points*

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## **LESSON 5: SOLVING WITH ADDITION AND SUBTRACTION**

### **Study: Solving with Addition and Subtraction**

Review isolating variables, using a number line to solve equations and solution sets for inequalities.

*Duration: 0 hr 50 min*

### **Checkup: Practice Problems**

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

*Duration: 0 hr 30 min*

### **Practice: Number Line Tool**

Use algebra and a number line tool to solve equations.

*Duration: 0 hr 40 min Scoring: 25*

*points*

### **Quiz: Solving Equations with Addition and Subtraction**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 16 points*

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### Quiz: Solving Inequalities with Addition and Subtraction

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 16 points*

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## LESSON 6: SOLVING WITH MULTIPLICATION AND DIVISION

### Study: Solving with Multiplication and Division

Review solving equations involving multiplication and division, including by using a number line, and review solving inequalities with multiplication and division.

*Duration: 0 hr 50 min*

### Checkup: Practice Problems

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

*Duration: 0 hr 30 min*

### Practice: Number Line Tool

Use algebra and a number line tool to solve equations.

*Duration: 0 hr 40 min Scoring: 25 points*

### Quiz: Solving Equations with Multiplication

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 16 points*

### Quiz: Solving Equations with Division

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 16 points*

### Quiz: Solving Inequalities with Multiplication and Division

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 22 points*

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## LESSON 7: SOLVING WITH ROOTS AND POWERS

### Study: Solving with Roots and Powers

Review solving equations with square roots and absolute values. Review solving inequalities with square roots and absolute values, including by using a number line.

*Duration: 0 hr 50 min*

### Checkup: Practice Problems

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

*Duration: 0 hr 30 min*

**Quiz: Solving with Roots and Powers**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min*

*Scoring: 16 points*

**Quiz: Solving Inequalities with Roots and Powers**

Take a quiz to assess your understanding of the material.

*Duration:*

*0 hr 25 min Scoring: 16 points*

**Quiz: Finding Solution Sets with Inequalities**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr*

*25 min Scoring: 16 points*

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## LESSON 8: SOLVING MULTISTEP LINEAR EQUATIONS

**Study: Solving Multistep Linear Equations**

Review collecting like terms by using both addition/subtraction and multiplication/division and review identifying equations that are never or always true.

*Duration: 0 hr 50 min*

**Checkup: Practice Problems**

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

*Duration: 0 hr 30 min*

**Quiz: Basic Collecting of Like Terms**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min*

*Scoring: 16 points*

**Quiz: Advanced Collecting of Like Terms**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25*

*min Scoring: 16 points*

**Quiz: Finding Number of Solution Sets**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min*

*Scoring: 16 points*

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## LESSON 9: REVIEW OF ALGEBRA I-A WRAP-UP

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**Practice: Assignment**

Submit your work for a set of 20 practice problems.

*Duration: 1 hr Scoring: 100 points*

**Review: Review of Algebra I-A**

Prepare for the unit test by reviewing key concepts and skills.

*Duration: 0 hr 30 min*

**Discuss: When Does a Number Become Scientific?**

Take part in a discussion about applying methods learned in this unit.

*Duration: 0 hr 20 min Scoring: 30 points*

**Test (CS): Review of Algebra I-A**

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

*Duration: 0*

*hr 40 min Scoring: 105 points*

**Test (TS): Review of Algebra I-A**

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

*Duration: 0 hr*

*30 min Scoring: 50 points*

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**LESSON 10: DIAGNOSTIC****Diagnostic: Review of Algebra I-A**

Take a diagnostic unit test that will generate a study plan based on your responses.

*Duration: 0 hr 40 min Scoring: 35 points*

**UNIT 2: MEASUREMENT**

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**LESSON 1: METRIC AND CUSTOMARY UNITS****Study: Metric and Customary Units**

Explore the history of measurement in the forms of the metric system and the British/U.S. System of Units. Create derived units from more basic components, such as kilometers per hour.

*Duration: 0*

*hr 50 min*

**Study: Flash Cards**

Explore number systems, including the history of the Roman, Babylonian, Egyptian, and Chinese number systems.

*Duration: 0 hr 10 min*

**Checkup: Practice Problems**

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

*Duration: 0 hr 30 min*

**Quiz: Customary Units**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 16*

*points*

**Quiz: Metric System**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 16 points*

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**LESSON 2: CONVERTING UNITS****Study: Converting Units**

Learn about converting between units from different systems, multiplication by one unit, and canceling.

*Duration: 0 hr 50 min*

**Checkup: Practice Problems**

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

*Duration: 0 hr 30 min*

**Practice: Converting Units**

Investigate converting units.

*Duration: 0 hr 40 min Scoring: 25 points*

**Quiz: Canceling Units**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 30*

*points*

**Quiz: Converting Units**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 30*

*points*

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**LESSON 3: ESTIMATION AND SCALE****Study: Estimation and Scale**

Learn about scale of numbers, order of magnitude, powers of 10, estimating large numbers, and Fermi problems.

*Duration: 0 hr 50 min*

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**Checkup: Practice Problems**

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

*Duration: 0 hr 30 min*

**Practice: Estimation and Scale**

Investigate estimation and scale.

*Duration: 0 hr 40 min Scoring: 25 points*

**Quiz: Estimation and Scale**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 30 points*

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**LESSON 4: PRECISION IN MEASUREMENT****Study: Precision in Measurement**

Learn about precision, accuracy, significant figures, multiplication, and addition.

*Duration: 0 hr 50 min*

**Checkup: Practice Problems**

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

*Duration: 0 hr 30 min*

**Quiz: Precision and Accuracy**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 30 points*

**Quiz: Significant Figures**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 30 points*

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**LESSON 5: APPLICATIONS OF MEASUREMENT****Study: Applications of Measurement**

Learn about applications of units, unit conversions, estimation and scale, order of magnitude, precision, accuracy, and significant figures.

*Duration: 0 hr 50 min*

**Checkup: Practice Problems**

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

*Duration: 0 hr 30 min*

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### Quiz: Applications of Measurement

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min*

*Scoring: 30 points*

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## LESSON 6: MEASUREMENT WRAP-UP

### Practice: Assignment

Submit your work for a set of 20 practice problems.

*Duration: 1 hr Scoring: 100 points*

### Review: Measurement

Prepare for the unit test by reviewing key concepts and skills.

*Duration: 0 hr 30 min*

### Discuss: To Convert or Not to Convert

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

*Duration: 0 hr 20 min Scoring: 30 points*

### Test (CS): Measurement

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

*Duration: 0 hr 40*

*min Scoring: 75 points*

### Test (TS): Measurement

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

*Duration: 0 hr 30 min*

*Scoring: 50 points*

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## LESSON 7: DIAGNOSTIC

### Diagnostic: Measurement

Take a diagnostic unit test that will generate a study plan based on your responses.

*Duration:*

*0 hr 40 min Scoring: 25 points*

## UNIT 3: GRAPHING DATA

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### LESSON 1: THE CARTESIAN COORDINATE SYSTEM

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### **Study: The Cartesian Coordinate System**

Identify and define parts of the Cartesian coordinate system, such as the axes, the origin, and the four quadrants.

*Duration: 0 hr 50 min*

### **Checkup: Practice Problems**

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

*Duration: 0 hr 30 min*

### **Quiz: The Cartesian Coordinate System**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25*

*min Scoring: 28 points*

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## **LESSON 2: GEOMETRY WITH COORDINATES**

### **Study: Geometry with Coordinates**

Learn about using geometry with the coordinate system to find lengths of line segments; distances between points; perimeters; and even areas in the  $xy$ -plane.

*Duration: 0 hr 50 min*

### **Practice: Graphing Tool**

Use a graphing tool to draw line segments and investigate distance.

*Duration: 0 hr 40 min*

*Scoring: 25 points*

### **Quiz: Geometry with Coordinates**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min*

*Scoring: 20 points*

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## **LESSON 3: THE DISTANCE FORMULA**

### **Study: The Distance Formula**

Learn about deriving the distance formula for the  $xy$ -plane.

*Duration: 0 hr 10 min*

### **Checkup: Practice Problems**

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

*Duration: 0 hr 30 min*

### **Quiz: The Distance Formula**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring:*

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## LESSON 4: DATA ANALYSIS

### Study: Data Analysis

Learn about using the Cartesian coordinate system to find patterns in data; plotting points on a graph; dependent and independent variables; converting table data to ordered pairs; and using the best-fit line to estimate the value of data points.

*Duration: 0 hr 50 min*

### Checkup: Practice Problems

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

*Duration: 0 hr 30 min*

### Practice: Graphing Tool

Use a graphing tool to find best-fit lines and use them to make predictions.

*Duration: 0 hr 40*

*min Scoring: 25 points*

### Quiz: Data Analysis

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 18 points*

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## LESSON 5: GRAPHING DATA WRAP-UP

### Practice: Assignment

Submit your work for a set of 20 practice problems.

*Duration: 1 hr Scoring: 100 points*

### Review: Graphing Data

Prepare for the unit test by reviewing key concepts and skills.

*Duration: 0 hr 30 min*

### Discuss: You Are Here

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

*Duration: 0 hr 20 min Scoring: 30 points*

### Test (CS): Graphing Data

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

*Duration: 0 hr 40*

*min Scoring: 45 points*

### Test (TS): Graphing Data

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

*Duration: 0 hr 30 min*

*Scoring: 50 points*

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## LESSON 6: DIAGNOSTIC

### **Diagnostic: Graphing Data**

Take a diagnostic unit test that will generate a study plan based on your responses.

*Duration: 0 hr 40 min Scoring: 15 points*

## UNIT 4: LINEAR EQUATIONS

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### LESSON 1: PATTERNS AND LINES

#### **Study: Patterns and Lines**

Explore a variety of functional relationships involving direct variation. Get an introduction to lines by examining the connection between the pattern of points on the graph of a line and the line's equation. Find the equation of a line based on the coordinates of its points and graph a linear equation from a chart of its solutions.

*Duration:*

*0 hr 50 min*

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

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

*Duration: 0 hr 30 min*

#### **Quiz: Finding Equations of Lines as Solutions**

Take a quiz to assess your understanding of the material.

*Duration: 0*

*hr 25 min Scoring: 30 points*

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### LESSON 2: SLOPE

#### **Study: Slope**

Learn about slope formula, the definition of rise and run, and measuring rate of change.

*Duration: 0 hr 50*

*min*

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

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

*Duration: 0 hr 30 min*

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**Practice: Graphing Tool**

Use a graphing tool to investigate slope.

*Duration: 0 hr 40 min Scoring: 25 points*

**Quiz: Finding Slopes of Lines**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring:  
30 points*

**Quiz: Positive, Negative, and Undefined Slopes**

Take a quiz to assess your understanding of the material.

*Duration: 0  
hr 25 min Scoring: 24 points*

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**LESSON 3: PARALLEL AND PERPENDICULAR LINES****Study: Parallel and Perpendicular Lines**

Learn about parallel and perpendicular lines and the relationships between their slopes.

*Duration: 0 hr 50 min*

**Checkup: Practice Problems**

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

*Duration: 0 hr 30 min*

**Quiz: Slopes of Parallel and Perpendicular Lines**

Take a quiz to assess your understanding of the material.

*Duration:  
0 hr 25 min Scoring: 30 points*

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**LESSON 4: SLOPE-INTERCEPT EQUATION OF A LINE****Study: Slope-Intercept Equation of a Line**

Learn about using slope and y-intercept to find the slope-intercept equation of a line.

*Duration: 0 hr 50 min*

**Checkup: Practice Problems**

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

*Duration: 0 hr 30 min*

**Practice: Graphing Tool**

Use a graphing tool to graph lines from your equations.

*Duration: 0 hr 40 min Scoring: 25*

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points

### **Quiz: Finding Slope-Intercept Equations of Lines**

Take a quiz to assess your understanding of the material.

*Duration:*

*0 hr 25 min Scoring: 22 points*

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## **LESSON 5: POINT-SLOPE EQUATION OF A LINE**

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

Learn about using slope and a point to find the y-intercept of a line; deriving and using the point-slope equation; and the standard form of an equation. Complete an application problem involving a mass on a spring.

*Duration: 0 hr 50 min*

### **Checkup: Practice Problems**

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

*Duration: 0 hr 30 min*

### **Quiz: Finding the Point-Slope Equation**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min*

*Scoring: 30 points*

### **Quiz: Finding the Equations of Lines**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min*

*Scoring: 22 points*

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## **LESSON 6: LINEAR INEQUALITIES**

### **Study: Linear Inequalities**

Learn about finding and graphing solution sets for linear inequalities.

*Duration: 0 hr 50 min*

### **Checkup: Practice Problems**

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

*Duration: 0 hr 30 min*

### **Quiz: Graphs of Inequalities**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring:*

*18 points*

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### **Study: Solving the Lighting Problem**

Learn about applying linear inequalities in order to solve the real-world problem comparing energy usage of incandescent and fluorescent lightbulbs.

*Duration: 0 hr 50 min*

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## **LESSON 7: LINEAR EQUATIONS WRAP-UP**

### **Practice: Assignment**

Submit your work for a set of 20 practice problems.

*Duration: 1 hr Scoring: 100 points*

### **Review: Linear Equations**

Prepare for the unit test by reviewing key concepts and skills.

*Duration: 0 hr 30 min*

### **Discuss: A Slippery Slope**

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

*Duration: 0 hr 20 min Scoring: 30 points*

### **Test (CS): Linear Equations**

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

*Duration: 0 hr 40*

*min Scoring: 57 points*

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

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

*Duration: 0 hr 30*

*min Scoring: 50 points*

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## **LESSON 8: DIAGNOSTIC**

### **Diagnostic: Linear Equations**

Take a diagnostic unit test that will generate a study plan based on your responses.

*Duration: 0 hr 40 min Scoring: 19 points*

## **UNIT 5: SYSTEMS OF LINEAR EQUATIONS**

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

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

Learn about graphing systems of two linear equations and investigating when and why systems of linear equations have no solutions, exactly one solution, or infinitely many solutions.

*Duration: 0 hr 50 min*

### **Checkup: Practice Problems**

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

*Duration: 0 hr 30 min*

### **Practice: Graphing Tool**

Use a graphing tool to investigate two-variable systems.

*Duration: 0 hr 40 min Scoring: 25 points*

### **Quiz: Solving with Graphing**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 30 points*

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## **LESSON 2: TWO-VARIABLE SYSTEMS: SUBSTITUTION**

### **Study: Two-Variable Systems: Substitution**

Learn about replacing a variable with an equal value or expression in order to transform a two-variable equation into a one-variable equation. Learn about using the substitution method to solve systems of linear equations and about applying this method to the real-world problem of a rabbit catching a turtle.

*Duration: 0 hr 50 min*

### **Checkup: Practice Problems**

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

*Duration: 0 hr 30 min*

### **Quiz: Solving with Substitution**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 30 points*

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## **LESSON 3: TWO-VARIABLE SYSTEMS: ELIMINATION**

### **Study: Two-Variable Systems: Elimination**

Strategize methods for eliminating a variable term when solving a system of linear equations. Practice adding or subtracting the same value from both sides of an equation in order to eliminate strategic terms. Change equations from nonstandard form to standard form so that they are easier to work with and adapt to the

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elimination method.

*Duration: 0 hr 50 min*

**Checkup: Practice Problems**

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

*Duration: 0 hr 30 min*

**Quiz: Solving with Elimination Standard Form**

Take a quiz to assess your understanding of the material.

*Duration: 0*

*hr 25 min Scoring: 30 points*

**Quiz: Solving with Elimination Nonstandard Form**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 26 points*

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## LESSON 4: TWO-VARIABLE SYSTEMS OF INEQUALITIES

**Study: Two-Variable Systems of Inequalities**

Learn about graphing and finding solution sets for systems of inequalities, including those with no solution and those with more than two inequalities.

*Duration: 0 hr 50 min*

**Checkup: Practice Problems**

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

*Duration: 0 hr 30 min*

**Practice: Graphing Tool**

Use a graphing tool to investigate two-variable systems of inequalities.

*Duration: 0 hr 40 min*

*Scoring: 25 points*

**Quiz: Solving Systems of Inequalities**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min*

*Scoring: 22 points*

**Quiz: Solving Systems with More Than Two Inequalities**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 22 points*

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

**Practice: Assignment**

Submit your work for a set of 20 practice problems.

*Duration: 1 hr Scoring: 100 points*

**Review: Systems of Linear Equations**

Prepare for the unit test by reviewing key concepts and skills.

*Duration: 0 hr 30 min*

**Discuss: What's the Solution?**

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

*Duration: 0 hr 20 min Scoring: 30 points*

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

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

*Duration: 0 hr 40 min Scoring: 75 points*

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

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

*Duration: 0 hr 30 min Scoring: 50 points*

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**LESSON 6: DIAGNOSTIC****Diagnostic: Systems of Linear Equations**

Take a diagnostic unit test that will generate a study plan based on your responses.

*Duration: 0 hr 40 min Scoring: 25 points*

**UNIT 6: ALGEBRA 1B SEMESTER 1 WRAP-UP**

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**LESSON 1: ALGEBRA 1B SEMESTER 1****Review: Algebra 1B Semester 1**

*Duration: 1 hr*

**Exam: Algebra 1B Semester 1**

*Duration: 0 hr 50 min Scoring: 200 points*

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## UNIT 7: POLYNOMIALS

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### LESSON 1: WHAT IS A MONOMIAL?

#### **Study: What Is a Monomial?**

Explore the world of monomials.

*Duration: 0 hr 50 min*

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

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

*Duration: 0 hr 30 min*

#### **Practice: Algebra Tiles Tool**

Use an algebra tiles tool to investigate monomials.

*Duration: 0 hr 40 min Scoring: 25 points*

#### **Quiz: What Is a Monomial?**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 20 points*

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### LESSON 2: WHAT IS A POLYNOMIAL?

#### **Study: What Is a Polynomial?**

Learn the definitions of polynomials, constants, terms, coefficients, binomials, trinomials, and degrees. Learn about finding degrees of polynomials.

*Duration: 0 hr 50 min*

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

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

*Duration: 0 hr 30 min*

#### **Quiz: Degrees of Polynomials**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 30 points*

#### **Quiz: Degrees of Polynomials (Advanced)**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 30 points*

## LESSON 3: ADDING AND SUBTRACTING POLYNOMIALS

### Study: Adding and Subtracting Polynomials

Learn about using tiles to represent, add, and subtract polynomials and about adding and subtracting polynomials by collecting like terms. Apply these methods to the real-world problem of purchasing streetlamps.

*Duration: 0 hr 50 min*

### Checkup: Practice Problems

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

*Duration: 0 hr 30 min*

### Quiz: Polynomial Addition with Tiles

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min*

*Scoring: 30 points*

### Quiz: Polynomial Addition

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 28*

*points*

### Quiz: Polynomial Subtraction

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring:*

*16 points*

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## LESSON 4: MULTIPLYING BINOMIALS

### Study: Multiplying Binomials

Learn about using tiles to multiply linear binomials; using the distributive property to simplify and find the product of two binomials; and the FOIL (first, outer, inner, last) method of finding products.

*Duration: 0 hr 50*

*min*

### Checkup: Practice Problems

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

*Duration: 0 hr 30 min*

### Quiz: Finding Products of Binomials

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min*

*Scoring: 28 points*

### Quiz: Finding the Product of Two Binomials

Take a quiz to assess your understanding of the material.

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*Duration: 0 hr  
25 min Scoring: 30 points*

### **Quiz: The FOIL Method**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 16  
points*

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## **LESSON 5: MULTIPLYING POLYNOMIALS**

### **Study: Multiplying Polynomials**

Learn about using a table to multiply polynomials; using the distributive property; and multiplying polynomials by arranging them vertically.

*Duration: 0 hr 50 min*

### **Checkup: Practice Problems**

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

*Duration: 0 hr 30 min*

### **Quiz: Polynomial Multiplication**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min*

*Scoring: 22 points*

### **Quiz: Polynomial Multiplication (Advanced)**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr*

*25 min Scoring: 28 points*

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## **LESSON 6: DIVIDING POLYNOMIALS**

### **Study: Dividing Polynomials**

Learn about using long division to find the quotient of two polynomials; dividing polynomials with missing terms; and dividing polynomials with remainders.

*Duration: 0 hr 50 min*

### **Checkup: Practice Problems**

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

*Duration: 0 hr 30 min*

### **Practice: Algebra Tiles Tool**

Use an algebra tiles tool to investigate dividing polynomials.

*Duration: 0 hr 40 min Scoring:*

*25 points*

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### Quiz: Polynomial Long Division

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min*

*Scoring: 30 points*

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## LESSON 7: GRAPHING POLYNOMIALS

### Study: Graphing Polynomials

Learn about graphs as pictures of solution sets. Use a table to find and graph solutions to polynomial equations. Explore why these graphs are always continuous curves. Graph higher-degree polynomial equations by plotting their corresponding points and identifying their parts such as extreme values (maximum and minimum) and roots.

*Duration: 0 hr 50 min*

### Checkup: Practice Problems

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

*Duration: 0 hr 30 min*

### Quiz: Finding Extreme Values

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring:*

*24 points*

### Quiz: Finding Roots of Graphs

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring:*

*22 points*

### Study: The Stereo Problem

Apply the method of graphing polynomials in order to solve the real-world problem of finding the relationship between the price of stereos and sales figures.

*Duration: 0 hr 50 min*

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## LESSON 8: POLYNOMIALS WRAP-UP

### Practice: Assignment

Submit your work for a set of 20 practice problems.

*Duration: 1 hr Scoring: 100 points*

### Review: Polynomials

Prepare for the unit test by reviewing key concepts and skills.

*Duration: 0 hr 30 min*

### Discuss: Thinking Positive in the Real World

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

*Duration: 0 hr 20 min Scoring: 30 points*

### **Test (CS): Polynomials**

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

*Duration: 0 hr 40 min*

*Scoring: 75 points*

### **Test (TS): Polynomials**

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

*Duration: 0 hr 30 min*

*Scoring: 50 points*

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## **LESSON 9: DIAGNOSTIC**

### **Diagnostic: Polynomials**

Take a diagnostic unit test that will generate a study plan based on your responses.

*Duration:*

*0 hr 40 min Scoring: 25 points*

## **UNIT 8: FACTORING OF POLYNOMIALS**

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### **LESSON 1: WHY FACTOR?**

#### **Study: Why Factor?**

Learn about composite numbers, reducible polynomials, and the zero product rule.

*Duration: 0 hr*

*50 min*

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

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

*Duration: 0 hr 30 min*

#### **Quiz: Factoring Polynomials**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring:*

*30 points*

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### **LESSON 2: FACTORING WITH TILES**

**Study: Factoring with Tiles**

Review using tiles to multiply polynomials and to find factors of polynomials.

*Duration: 0 hr*

*50 min*

**Checkup: Practice Problems**

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

*Duration: 0 hr 30 min*

**Practice: Algebra Tiles Tool**

Use an algebra tiles tool to investigate perfect-square polynomials.

*Duration: 0 hr 40 min*

*Scoring: 25 points*

**Quiz: Factoring Polynomials with Tiles**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25*

*min Scoring: 24 points*

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**LESSON 3: FACTORING AND GRAPHING****Study: Factoring and Graphing**

Learn about the connection between roots and linear factors; using roots on graphs of polynomials to find linear factors; and polynomials with no linear factors or repeated linear factors.

*Duration: 0 hr 50 min*

**Checkup: Practice Problems**

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

*Duration: 0 hr 30 min*

**Practice: Factoring and Graphing**

Investigate factoring and graphing.

*Duration: 0 hr 40 min Scoring: 25 points*

**Quiz: Factoring by Graphing**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring:*

*28 points*

**Quiz: Factoring by Graphing (Advanced)**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25*

*min Scoring: 22 points*

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**LESSON 4: GROUPING**

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**Study: Grouping**

Learn about polynomials with terms that have a common factor; applying the distributive property in reverse to factor out common factors; and finding the greatest common factor.

*Duration: 0 hr 50 min*

**Checkup: Practice Problems**

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

*Duration: 0 hr 30 min*

**Quiz: Factoring by Grouping**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring:*

*30 points*

**Quiz: Finding GCFs of Polynomials**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min*

*Scoring: 16 points*

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**LESSON 5: FACTORING OF POLYNOMIALS WRAP-UP****Practice: Assignment**

Submit your work for a set of 20 practice problems.

*Duration: 1 hr Scoring: 100 points*

**Review: Factoring of Polynomials**

Take part in interactive games to review unit material in preparation for upcoming assessments.

*Duration: 0 hr 30 min*

**Discuss: Factoring of Polynomials**

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

*Duration: 0 hr 20 min Scoring: 30 points*

**Test (CS): Factoring of Polynomials**

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

*Duration: 0 hr 40 min Scoring: 99 points*

**Test (TS): Factoring of Polynomials**

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

*Duration:*

*0 hr 30 min Scoring: 50 points*

## LESSON 6: DIAGNOSTIC

### Diagnostic: Factoring of Polynomials

Take a diagnostic unit test that will generate a study plan based on your responses.

*Duration: 0 hr 40 min Scoring: 33 points*

## UNIT 9: FACTORING OF QUADRATIC FUNCTIONS

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### LESSON 1: FACTORING $X^2 + BX + C$

#### Study: Factoring $x^2 + bx + c$

Learn about factoring quadratic trinomials with leading coefficients of 1; the rules for finding the constant term and coefficient of the x-term; using a table to factor trinomials; and diagramming signs while factoring trinomials.

*Duration: 0 hr 50 min*

#### Checkup: Practice Problems

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

*Duration: 0 hr 30 min*

#### Practice: Graphing Tool

Use a graphing tool to investigate quadratic functions with no leading coefficient.

*Duration: 0 hr*

*40 min Scoring: 25 points*

#### Quiz: Binomial Factors of Trinomials

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min*

*Scoring: 30 points*

#### Quiz: Factoring Trinomials

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 30*

*points*

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### LESSON 2: FACTORING $AX^2 + BX + C$

#### Study: Factoring $ax^2 + bx + c$

Learn about factoring trinomials with leading coefficients other than 1; factoring out a leading coefficient of -1; how values of factors relate to values of a trinomial; finding factor pairs of leading coefficients and constant terms; and finding signs in factors of trinomials with a leading coefficient different from 1.

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*Duration: 0 hr 50 min*

**Checkup: Practice Problems**

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

*Duration: 0 hr 30 min*

**Practice: Factoring  $ax^2 + bx + c$**

Investigate quadratic functions with a leading coefficient.

*Duration: 0 hr 40 min*

*Scoring: 25 points*

**Quiz: Factoring Trinomials (Basic)**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min*

*Scoring: 30 points*

**Quiz: Factoring Trinomials (Advanced)**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min*

*Scoring: 30 points*

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**LESSON 3: SPECIAL CASES**

**Study: Special Cases**

Learn about recognizing and factoring a difference of squares; perfect-square trinomials; and sums and differences of two cubes.

*Duration: 0 hr 50 min*

**Checkup: Practice Problems**

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

*Duration: 0 hr 30 min*

**Quiz: Factoring a Difference of Squares**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25*

*min Scoring: 30 points*

**Quiz: Factoring Perfect Square Trinomials**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25*

*min Scoring: 20 points*

**Quiz: Sum or Difference of Two Cubes**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min*

*Scoring: 30 points*

## LESSON 4: SOLVING QUADRATIC EQUATIONS

### Study: Solving Quadratic Equations

Learn about solving quadratic equations using factoring and the zero product rule; manipulating a quadratic equation into standard form; and solving quadratic equations with perfect-square trinomials.

*Duration: 0 hr 50 min*

### Checkup: Practice Problems

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

*Duration: 0 hr 30 min*

### Quiz: Factoring with the Zero Product Rule

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25*

*min Scoring: 28 points*

### Quiz: Converting Quadratics to Standard Form

Take a quiz to assess your understanding of the material.

*Duration: 0*

*hr 25 min Scoring: 28 points*

### Quiz: Quadratics with Perfect Square Trinomials

Take a quiz to assess your understanding of the material.

*Duration: 0*

*hr 25 min Scoring: 16 points*

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## LESSON 5: COMPLETING THE SQUARE

### Study: Completing the Square

Learn about solving quadratic equations without perfect-square trinomials; completing the square using tiles; and completing the square when the coefficients are more complicated.

*Duration: 0 hr 50 min*

### Checkup: Practice Problems

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

*Duration: 0 hr 30 min*

### Quiz: Completing the Square

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring:*

*24 points*

### Quiz: Completing the Square (Advanced)

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25*

## LESSON 6: THE QUADRATIC FORMULA

### Study: The Quadratic Formula

Learn about types of equations that can be solved using the quadratic formula; complex numbers; discriminants; and finding roots (including complex roots) using the quadratic formula.

*Duration: 0 hr 50 min*

### Checkup: Practice Problems

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

*Duration: 0 hr 30 min*

### Quiz: Complex Numbers and Discriminants

Take a quiz to assess your understanding of the material.

*Duration: 0 hr*

*25 min Scoring: 30 points*

### Quiz: The Quadratic Formula

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring:*

*30 points*

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## LESSON 7: FACTORING OF QUADRATIC FUNCTIONS WRAP-UP

### Practice: Assignment

Submit your work for a set of 20 practice problems.

*Duration: 1 hr Scoring: 100 points*

### Review: Factoring of Quadratic Functions

Prepare for the unit test by reviewing key concepts and skills.

*Duration: 0 hr*

*30 min*

### Discuss: Factoring of Quadratic Functions

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

*Duration: 0 hr 20 min Scoring: 30 points*

### Test (CS): Factoring of Quadratic Functions

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

*Duration: 0 hr 40 min Scoring: 99 points*

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## Test (TS): Factoring of Quadratic Functions

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

*Duration: 0 hr 30 min Scoring: 50 points*

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## LESSON 8: DIAGNOSTIC

### Diagnostic: Factoring of Quadratic Functions

Take a diagnostic unit test that will generate a study plan based on your responses.

*Duration: 0 hr 40 min Scoring: 33 points*

## UNIT 10: RATIONAL EXPRESSIONS

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### LESSON 1: PROPORTIONS

#### Study: Proportions

Learn the definition of a rational expression and learn about using proportional reasoning to solve problems. Explore real-world examples of proportional reasoning.

*Duration: 0 hr 50 min*

#### Checkup: Practice Problems

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

*Duration: 0 hr 30 min*

#### Practice: Proportions

Investigate proportions.

*Duration: 0 hr 40 min Scoring: 25 points*

#### Quiz: Proportions

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 16 points*

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### LESSON 2: RATIONAL EXPRESSIONS

#### Study: Rational Expressions

Learn about finding the value of a rational expression and about undefined rational expressions.

*Duration: 0 hr 50 min*

#### Checkup: Practice Problems

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

*Duration: 0 hr 30 min*

### **Practice: Rational Expressions**

Investigate rational expressions.

*Duration: 0 hr 40 min Scoring: 25 points*

### **Quiz: Rational Expressions**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 16 points*

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## **LESSON 3: SIMPLIFYING RATIONAL EXPRESSIONS**

### **Study: Simplifying Rational Expressions**

Practice finding and dividing out common factors in numerators and denominators of rational expressions. Explore the crucial difference between common factors and terms.

*Duration: 0 hr 50 min*

### **Checkup: Practice Problems**

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

*Duration: 0 hr 30 min*

### **Quiz: Simplifying Rational Expressions**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 16 points*

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## **LESSON 4: MULTIPLYING AND DIVIDING RATIONAL EXPRESSIONS**

### **Study: Multiplying and Dividing Rational Expressions**

Review multiplying and dividing numerical fractions multiplying rational expressions dividing rational expressions and simplifying the results.

*Duration: 0 hr 50 min*

### **Checkup: Practice Problems**

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

*Duration: 0 hr 30 min*

### **Quiz: Multiplying Rational Expressions**

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 18 points*

### Quiz: Dividing Rational Expressions

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min*

*Scoring: 18 points*

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## LESSON 5: ADDING AND SUBTRACTING RATIONAL EXPRESSIONS

### Study: Adding and Subtracting Rational Expressions

Review adding and subtracting numerical fractions; adding and subtracting rational expressions with like denominators; finding least common denominators; multiples of rational expressions; and adding and subtracting rational expressions with unlike denominators.

*Duration: 0 hr 50 min*

### Checkup: Practice Problems

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

*Duration: 0 hr 30 min*

### Quiz: Adding and Subtracting Rational Expressions

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring: 22 points*

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## LESSON 6: ADVANCED PROPORTIONS

### Study: Advanced Proportions

Learn how to solve more advanced proportions and explore real-world scenarios that require advanced proportional reasoning.

*Duration: 0 hr 50 min*

### Checkup: Practice Problems

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

*Duration: 0 hr 30 min*

### Quiz: Advanced Proportions

Take a quiz to assess your understanding of the material.

*Duration: 0 hr 25 min Scoring:  
20 points*

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## LESSON 7: RATIONAL EXPRESSIONS WRAP-UP

### Practice: Assignment

Submit your work for a set of 20 practice problems.

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*Duration: 1 hr Scoring: 100 points*

### **Review: Rational Expressions**

Prepare for the unit test by reviewing key concepts and skills.

*Duration: 0 hr 30 min*

### **Discuss: Undefined and Infinite Numbers**

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

*Duration: 0 hr 20 min Scoring: 30 points*

### **Test (CS): Rational Expressions**

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

*Duration: 0*

*hr 40 min Scoring: 102 points*

### **Test (TS): Rational Expressions**

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

*Duration: 0 hr*

*30 min Scoring: 50 points*

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## **LESSON 8: DIAGNOSTIC**

### **Diagnostic: Rational Expressions**

Take a diagnostic unit test that will generate a study plan based on your responses.

*Duration: 0 hr 40 min Scoring: 33 points*

## **UNIT 11: ALGEBRA 1B SEMESTER 2 WRAP-UP**

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## **LESSON 1: ALGEBRA 1B SEMESTER 2**

### **Review: Algebra 1B Semester 2**

*Duration: 1 hr*

### **Exam: Algebra 1B Semester 2**

*Duration: 0 hr 50 min Scoring: 200 points*