

Algebra 2 introduces students to advanced functions, with a focus on developing a strong conceptual grasp of the expressions that define them. Students learn through discovery and application, developing the skills they need to break down complex challenges and demonstrate their knowledge in new situations.

Course topics include quadratic equations; polynomial functions; rational expressions and equations; radical expressions and equations; exponential and logarithmic functions; trigonometric identities and functions; modeling with functions; probability and inferential statistics; probability distributions; and sample distributions and confidence intervals.

This course supports all students as they develop computational fluency and deepen conceptual understanding. Students begin each lesson by discovering new concepts through guided instruction, and then confirm their understanding in an interactive, feedback-rich environment. Modeling activities equip students with tools for analyzing a variety of real-world scenarios and mathematical ideas. Journaling activities allow students to reason abstractly and quantitatively, construct arguments, critique reasoning, and communicate precisely. Performance tasks prepare students to synthesize their knowledge in novel, real-world scenarios and require that they make sense of multifaceted problems and persevere in solving them.

This course is built to state standards.

Length: Two Semesters

UNIT 1: EXPRESSIONS, EQUATIONS AND INEQUALITIES

LESSON 1: ALGEBRAIC EXPRESSIONS

Study: Algebraic Expressions

Identify the parts of numerical and algebraic expressions including terms, factors, and coefficients. Interpret complicated expressions by viewing one or more of their parts as a single entity.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Algebraic Expressions

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 2: SOLVING LINEAR EQUATIONS

Study: Solving Linear Equations

In this lesson, you will solve linear equations in various forms by applying the properties of equality and using inverse operations.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Solving Linear Equations

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: SOLVING ABSOLUTE VALUE EQUATIONS

Study: Solving Absolute Value Equations

In this lesson, you will solve one-variable absolute value equations in various forms by applying the properties of equality and using inverse operations.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Solving Absolute Value Equations

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 4: SOLVING INEQUALITIES

Study: Solving Inequalities

In this lesson you will solve one-variable linear and absolute value inequalities in various forms by using inverse operations, writing compound inequalities, and graphing.

Duration: 0 hrs 35 mins

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins

Quiz: Solving Inequalities

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

Duration: 0 hrs 20 mins Scoring: 20 points

Practice: Modeling: Solving Inequalities

Use a number line to represent the possible answers that exist for a given problem.

Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 5: LITERAL EQUATIONS AND FORMULAS

Study: Literal Equations and Formulas

In this lesson you will rewrite literal equations and formulas in various forms to solve for a quantity of interest and use them to solve real-world problems.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Literal Equations and Formulas

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 6: EXPRESSIONS, EQUATIONS, AND INEQUALITIES WRAP-UP

Review: Expressions, Equations, and Inequalities

Check your understanding of the unit.

Duration: 0 hrs 25 mins Scoring: 0 points

Test (CS): Expressions, Equations, and Inequalities

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

Duration: 0 hrs 40 mins Scoring: 50 points

UNIT 2: FUNCTIONS AND RELATIONS

LESSON 1: FUNCTIONS

Study: Functions

Learn the definition of a function, and understand and identify the domain and range. Explore absolute value and square root functions.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Functions

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 2: GRAPHING FUNCTIONS

Study: Graphing Functions

Become familiar with graphs of the linear, quadratic, reciprocal, square root, cube root, and absolute value parent functions. Explore piecewise functions, including step functions, and their applications.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Graphing Functions

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: TRANSFORMING FUNCTIONS

Study: Transforming Functions

Learn about transformations of parent functions, including vertical and horizontal compressions and stretches and vertical and horizontal shifts. Understand how constants in the equation of a function are connected to these transformations.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Transforming Functions

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 4: COMBINING FUNCTIONS

Study: Combining Functions

Add, subtract, multiply, and divide functions. Apply function operations in real-world settings.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Combining Functions

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 5: INVERSE FUNCTIONS

Study: Inverse Functions

Find inverses of functions. Understand the relationship between the domain and range of a function and its inverse. Understand one-to-one functions, and how to use the horizontal line test to see whether a function has an inverse function.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Inverse Functions

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 6: FUNCTIONS AND RELATIONS WRAP-UP

Review: Functions and Relations

Check your understanding of the unit.

Duration: 0 hrs 25 mins Scoring: 0 points

Test (CS): Functions and Relations

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

Duration: 0 hrs 40 mins Scoring: 50 points

UNIT 3: QUADRATIC FUNCTIONS

LESSON 1: FACTORING $x^2 + bx + c$

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

Learn about factoring quadratic trinomials with leading coefficients of 1; 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 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Binomial Factors of Trinomials

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

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Factoring Trinomials

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

Duration: 0 hrs 20 mins Scoring: 20 points

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 leading coefficients other than 1.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Factoring Trinomials (Basic)

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

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Factoring Trinomials (Advanced)

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: SPECIAL CASES

Study: Special Cases

Identify and factor differences of squares and perfect-square trinomials.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Factoring a Difference of Squares

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

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Factoring Perfect Square Trinomials

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

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Sum or Difference of Two Cubes

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

Duration: 0 hrs 20 mins Scoring: 20 points

Journal: Breakdown Ahead

Explain your understanding of factoring to help a peer solve a problem.

Duration: 0 hrs 30 mins Scoring: 20 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 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Factoring with the Zero Product Rule

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

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Converting Quadratics to Standard Form

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

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Quadratics with Perfect Square Trinomials

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 5: COMPLETING THE SQUARE

Study: Completing the Square

Learn the "completing the square" method of solving quadratic equations. Practice adding a strategic number to both sides of an equation to make one side a perfect-square trinomial. Then solve the equation by taking the square root of both sides and simplifying. Use algebra tiles to determine the number needed to complete the square.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Completing the Square

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

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Completing the Square (Advanced)

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 6: THE QUADRATIC FORMULA

Study: The Quadratic Formula

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

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Complex Numbers and Discriminants

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

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: The Quadratic Formula

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 7: GRAPHS OF QUADRATIC FUNCTIONS

Study: Graphs of Quadratic Functions

Relate factors of a quadratic function to the graph of a parabola and its corresponding x -intercepts. Locate the vertex of a quadratic function graphically and algebraically. Use the discriminant of the quadratic formula to identify the number and types of solutions to a given quadratic equation, as well as to visualize its corresponding graph.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Graphs of Quadratic Functions

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

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Working with the Discriminant

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

Duration: 0 hrs 20 mins Scoring: 20 points

Practice: Modeling: Pumpkin Launch

Model a graph with real world data.

Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 8: IMAGINARY NUMBERS

Study: Imaginary Numbers

Learn about imaginary and complex numbers, perform basic arithmetic operations on complex numbers, and solve equations with imaginary and complex numbers.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Imaginary Numbers

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

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Operations on Complex Numbers

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

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Quadratics With Complex Solutions

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 9: QUADRATIC FUNCTIONS WRAP-UP

Review: Quadratic Functions

Check your understanding of the unit.

Duration: 0 hrs 25 mins Scoring: 0 points

Test (CS): Quadratic Functions

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

Duration: 0 hrs 40 mins Scoring: 50 points

UNIT 4: SYSTEMS OF EQUATIONS AND INEQUALITIES

LESSON 1: LINEAR SYSTEMS OF EQUATIONS

Study: Linear Systems of Equations

Find the point of intersection of linear systems using algebra, graphing, and matrices.

Duration: 0 hrs 35 mins

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins

Quiz: Linear Systems of Equations

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 2: NONLINEAR SYSTEMS OF EQUATIONS

Study: Nonlinear Systems of Equations

Learn about solution sets for nonlinear systems of equations, solving nonlinear systems of equations using the substitution method, choosing which variable to isolate, substituting a squared variable, and determining the number of solutions. Explore a human-cannonball case study.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Nonlinear Systems of Equations

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: LINEAR SYSTEMS OF INEQUALITIES

Study: Linear 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 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Linear Systems of Inequalities

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

Duration: 0 hrs 20 mins Scoring: 20 points

Practice: Modeling: Two-Variable Systems of Inequalities

Model and solve a real-world problem.

Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 4: SYSTEMS OF EQUATIONS AND INEQUALITIES WRAP-UP

Review: Systems of Equations and Inequalities

Check your understanding of the unit.

Duration: 0 hrs 25 mins Scoring: 0 points

Test (CS): Systems of Equations and Inequalities

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

Duration: 0 hrs 40 mins Scoring: 50 points

UNIT 5: POLYNOMIAL FUNCTIONS

LESSON 1: POLYNOMIAL BASICS

Study: Polynomial Basics

Learn that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Polynomial Basics

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

Duration: 0 hrs 20 mins Scoring: 20 points

Practice: Modeling: Multiplying Polynomials

Use tiles to model the multiplication of binomials and solve a real-world problem.

Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 2: POLYNOMIAL FUNCTIONS

Study: Polynomial Functions

Learn to identify, classify, evaluate, and graph polynomial functions and expressions. Practice writing polynomials in descending order, as well as using the degree of a given polynomial function to predict the general shape of its graph.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Polynomial Functions

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: SYNTHETIC DIVISION

Study: Synthetic Division

Learn two methods for dividing polynomials — long division and synthetic division. Use synthetic division to expedite the process of finding factors and roots of polynomial expressions.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Synthetic Division

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 4: FACTORING POLYNOMIALS COMPLETELY

Study: Factoring Polynomials Completely

Learn about the remainder-factor theorem, rational-roots theorem, complex-conjugate theorem, and conjugate-radical theorem. Learn to use synthetic division to factor higher-order polynomials.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Remainder and Factor Theorems

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

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Factoring Polynomials Completely

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 5: SOLVING POLYNOMIAL EQUATIONS

Study: Solving Polynomial Equations

Find all solutions to polynomial equations.

Duration: 0 hrs 35 mins

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins

Quiz: Solving Polynomial Equations

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 6: GRAPHING POLYNOMIAL FUNCTIONS

Study: Graphing Polynomial Functions

Learn to graph polynomial functions, identify zeros and write a polynomial function from its zeros.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Graphing Polynomial Functions

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

Duration: 0 hrs 20 mins Scoring: 20 points

Journal: Designing a Mountain Landscape

Discuss with a peer the process for using binomials to design a curved mountain landscape.

Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 7: POLYNOMIAL IDENTITIES

Study: Polynomial Identities

Prove polynomial identities and use them to describe numerical relationships.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Polynomial Identities

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 8: BINOMIAL THEOREM

Study: Binomial Theorem

Learn and apply the binomial theorem.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Binomial Theorem

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 9: TRANSFORMATIONS OF POLYNOMIAL FUNCTIONS

Study: Transformations of Polynomial Functions

Transform polynomial functions.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Transformations of Polynomial Functions

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 10: POLYNOMIAL FUNCTIONS WRAP-UP

Review: Polynomial Functions

Check your understanding of the unit.

Duration: 0 hrs 25 mins Scoring: 0 points

Test (CS): Polynomial Functions

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

Duration: 0 hrs 40 mins Scoring: 50 points

UNIT 6: SEMESTER 1 EXAM

LESSON 1: SEMESTER 1 EXAM

Review: Semester 1 Exam

Get ready for the semester exam by reviewing important ideas and skills.

Duration: 0 hrs 20 mins Scoring: 0 points

Exam: Semester 1 Exam

Take a computer-scored exam to demonstrate your mastery of concepts and skills covered in Semester 1.

Duration: 0 hrs 50 mins Scoring: 200 points

UNIT 7: RATIONAL EXPRESSIONS AND FUNCTIONS

LESSON 1: PROPORTIONS

Study: Proportions

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

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Proportions

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 2: RATIONAL EXPRESSIONS**Study: Rational Expressions**

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

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Rational Expressions

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

Duration: 0 hrs 20 mins Scoring: 20 points

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 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Simplifying Rational Expressions

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

Duration: 0 hrs 20 mins Scoring: 20 points

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 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Multiplying Rational Expressions

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

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Dividing Rational Expressions

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

Duration: 0 hrs 20 mins Scoring: 20 points

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, finding multiples of rational expressions, and adding and subtracting rational expressions with unlike denominators.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Adding and Subtracting Rational Expressions

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 6: INVERSE VARIATION

Study: Inverse Variation

Review direct variation and how increasing input leads to proportionally increasing output. Review inverse variation and how increasing input leads to proportionally decreasing output. Review finding the constant of variation.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Inverse Variation

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 7: WRITING RATIONAL FUNCTIONS

Study: Writing Rational Functions

Learn the definition of a rational function and how to find the domain of a given function. Explore the horizontal and vertical asymptotes of rational functions.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Writing Rational Functions

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 8: SOLVING RATIONAL EQUATIONS

Study: Solving Rational Equations

Learn how to identify domain restrictions, determine the least common denominator, and identify extraneous solutions to rational equations.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Solving Rational Equations

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 9: VERTICAL ASYMPTOTES

Study: Vertical Asymptotes

Learn about graphs of rational functions, about finding vertical asymptotes, and about graphing rational functions with more than one vertical asymptote.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Finding Vertical Asymptotes

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

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: More Than One Vertical Asymptote

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 10: GRAPHING RATIONAL FUNCTIONS

Study: Graphing Rational Functions

Learn about graphing rational functions with variables in the numerator, constructing a sign chart, and picking test numbers. Learn about rational functions with a singular point.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Graphing Rational Functions

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 11: RATIONAL EXPRESSIONS AND FUNCTIONS WRAP-UP

Review: Rational Expressions and Functions

Check your understanding of the unit.

Duration: 0 hrs 25 mins Scoring: 0 points

Test (CS): Rational Expressions and Functions

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

Duration: 0 hrs 40 mins Scoring: 50 points

UNIT 8: RADICAL EXPRESSIONS AND FUNCTIONS

LESSON 1: BASICS OF RADICALS

Study: Basics of Radicals

Learn the definition of radical expression. Explore simplifying the product and quotient of radicals and simplifying individual radicals.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Simplifying Products of Radicals

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

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Simplifying Quotients of Radicals

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 2: MULTIPLYING AND DIVIDING RADICALS

Study: Multiplying and Dividing Radicals

Learn about multiplying and dividing radical expressions that include variables and about using the FOIL (first inner outer last) method to simplify radical expressions.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Multiplying Radicals

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

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Dividing Radicals

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: ADDING AND SUBTRACTING RADICALS**Study: Adding and Subtracting Radicals**

Learn about adding and subtracting radical expressions by combining like terms and about simplifying terms to get the same radicand.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Adding and Subtracting Radicals

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 4: RATIONALIZING DENOMINATORS**Study: Rationalizing Denominators**

Learn about rationalizing a denominator in order to simplify a fraction with a radical expression in the denominator. Learn about multiplying by the conjugate of a denominator.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Rationalizing Denominators

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 5: SOLVING RADICAL EQUATIONS**Study: Solving Radical Equations**

Learn how to solve equations with radical expressions by isolating the radical and squaring both sides.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Solving Radical Functions

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 6: APPLICATIONS OF RADICAL EQUATIONS**Study: Applications of Radical Equations**

Explore case studies in order to practice methods of solving radical equations in applied settings.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Applications of Radical Equations

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

Duration: 0 hrs 20 mins Scoring: 20 points

Practice: Modeling: Pendulums and Bridges

Create an equation to model pendulums and bridges.

Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 7: RATIONAL EXPONENTS

Study: Rational Exponents

Learn about fractional exponents and n th roots, odd and even indices of radicals, the method of notation for writing an n th root, the use of fractional exponents, and exponential expressions with decimal powers.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Fractional Exponents — Part 1

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

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Fractional Exponents — Part 2

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 8: REVIEW OF COMPLEX NUMBERS

Study: Review of Complex Numbers

Learn about square roots of negative numbers; imaginary units; parts of a complex number; adding and subtracting complex numbers by collecting like terms and simplifying; multiplying two complex numbers using the FOIL method; and dividing complex numbers using complex conjugates.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Adding and Subtracting Complex Numbers

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

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Multiplying and Dividing Complex Numbers

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 9: PERFORMANCE TASK: THE SKID DISTANCE PROBLEM

Study: The Skid Distance Problem

Learn how the length of skid marks left by a vehicle is an application of square root functions. Use the skid distance equation to solve for drag factor of various road surfaces, as well as skid mark lengths and original speed of a variety of vehicles.

Duration: 0 hrs 35 mins Scoring: 0 points

Project: Solving the Skid-Distance Problem

Assume the role of investigator and take on a skid distance problem.

Duration: 2 hrs Scoring: 120 points

LESSON 10: RADICAL EXPRESSIONS AND FUNCTIONS WRAP-UP

Review: Radical Expressions and Functions

Check your understanding of the unit.

Duration: 0 hrs 25 mins Scoring: 0 points

Test (CS): Radical Expressions and Functions

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

Duration: 0 hrs 40 mins Scoring: 50 points

UNIT 9: EXPONENTIAL AND LOGARITHMIC FUNCTIONS

LESSON 1: GEOMETRIC SEQUENCES

Study: Geometric Sequences

Learn about geometric sequences and series.

Duration: 0 hrs 35 mins

Checkup: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins

Quiz: Geometric Sequences

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 2: EXPONENTIAL FUNCTIONS

Study: Exponential Functions

Define the standard form of an exponential function and explore a variety of its applications, such as exponential growth and decay (in the forms of doubling time and half-life), as well as compound interest. Compare compound interest to continuously compounded interest using the irrational number e .

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Evaluating Exponential Functions

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

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Calculating Exponential Growth

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: EXAMPLES AND APPLICATIONS OF EXPONENTIAL FUNCTIONS

Study: Examples and Applications of Exponential Functions

Explore case studies in exponential growth and decay and logarithmic growth.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

LESSON 4: GRAPHS OF EXPONENTIAL FUNCTIONS

Study: Graphs of Exponential Functions

Learn about the shape of graphs of exponential functions with various bases and about finding the domain and range of exponential functions.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

Complete a set of practice problems to 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 20 mins Scoring: 20 points

LESSON 5: LOGARITHMIC FUNCTIONS

Study: Logarithmic Functions

Learn about undoing exponential functions, graphing the inverse of an exponential or logarithmic function, and using the common and natural logarithm.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Logarithmic Functions

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 6: GRAPHS OF LOGARITHMIC FUNCTIONS

Study: Graphs of Logarithmic Functions

Learn about the shape of graphs of logarithmic functions with various bases and about the domain and range of logarithmic functions.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Graphs of Logarithmic Functions

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 7: PROPERTIES OF EXPONENTS AND LOGARITHMS

Study: Properties of Exponents and Logarithms

Learn about product, quotient, and power laws of exponents; rewriting the log of a product as the sum of two logs; rewriting the log of a quotient as the difference of two logs; simplifying the log of a power; and using the change-of-base formula to rewrite logarithms.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Equivalent Exponential Expressions

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

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Equivalent Logarithmic Expressions

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

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Evaluating Logarithms

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 8: SOLVING EXPONENTIAL EQUATIONS

Study: Solving Exponential Equations

Learn about using ordinary algebra and the properties of logarithms to solve exponential equations. Answer questions inspired by the classic chessboard problem.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Solving Exponential Equations

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 9: SOLVING LOGARITHMIC EQUATIONS**Study: Solving Logarithmic Equations**

Learn about using ordinary algebra and the definition of a logarithm to solve logarithmic equations. Answer questions about energy in earthquakes.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Solving Logarithmic Equations

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 10: APPLICATIONS OF LOGARITHMS**Study: Applications of Logarithms**

Solve application problems involving exponential and logarithmic expressions.

Duration: 0 hrs 35 mins

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins

Quiz: Applications of Logarithms

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 11: COMPARING AND ANALYZING FUNCTION TYPES**Study: Comparing and Analyzing Function Types**

Apply transformations to a variety of function families.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Comparing and Analyzing Function Types

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 12: EXPONENTIAL AND LOGARITHMIC FUNCTIONS WRAP-UP**Review: Exponential and Logarithmic Functions**

Check your understanding of the unit.

Duration: 0 hrs 25 mins

Test (CS): Exponential and Logarithmic Functions

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

Duration: 0 hrs 40 mins Scoring: 50 points

UNIT 10: STATISTICAL ANALYSIS

LESSON 1: USING DATA TO MAKE INFERENCES

Study: Using Data to Make Inferences

This lesson introduces the process for making inferences based on statistics. Students will learn how to use data to estimate population means and proportions, and understand the differences among sample surveys, experiments, and observational studies. Students will also evaluate reports based on data.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Using Data to Make Inferences

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 2: USING PROBABILITY TO MAKE DECISIONS

Study: Using Probability to Make Decisions

This lesson introduces basic probability concepts. Students will use probability to analyze strategies and to make fair decisions.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Using Probability to Make Decisions

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: SIMULATION AND MODELING WITH DATA

Study: Simulation and Modeling with Data

This lesson shows students how to model (simulate) events using probability. Students will use tools such as random numbers and coin tosses in designing a simulation, and calculate estimated probabilities using the simulation results.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Simulation and Modeling with Data

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 4: THE NORMAL DISTRIBUTION

Study: The Normal Distribution

Student will use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: The Normal Distribution

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

Duration: 0 hrs 20 mins Scoring: 20 points

Journal: Cell Phone Battery Life

Evaluate the design and results of an experiment with a peer.

Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 5: MARGIN OF ERROR AND CONFIDENCE INTERVALS

Study: Margin of Error and Confidence Intervals

Students will learn how to use sample data to calculate and interpret a margin of error and confidence interval for a population mean or proportion.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Margin of Error and Confidence Intervals

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 6: STATISTICAL ANALYSIS WRAP-UP

Review: Statistical Analysis

Check your understanding of the unit.

Duration: 0 hrs 25 mins Scoring: 0 points

Test (CS): Statistical Analysis

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

Duration: 0 hrs 40 mins Scoring: 50 points

UNIT 11: TRIGONOMETRY

LESSON 1: RIGHT TRIANGLE TRIGONOMETRY

Study: Right Triangle Trigonometry

This lesson will show you how to find trigonometric ratios (sine, cosine, and tangent) of angles in a right triangle and to use these to find the side lengths and angles. The lesson includes solving real-world problems using right triangle trigonometry.

Duration: 0 hrs 35 mins

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins

Quiz: Right Triangle Trigonometry

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 2: ANGLES AND RADIANS

Study: Angles and Radians

This lesson introduces students to radian measures of angles. They will identify various types of angles and convert their measures between degrees and radians. Students will also learn about negative and coterminal angles.

Duration: 0 hrs 35 mins

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins

Quiz: Angles and Radians

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

LESSON 3: TRIGONOMETRIC RATIOS AND THE UNIT CIRCLE

Study: Trigonometric Ratios and the Unit Circle

In this lesson, students find trigonometric ratios for angles of special right triangles in the unit circle. By placing right triangles in quadrant I of the unit circle and identifying their side lengths, students can define these trigonometric ratios as well as the terminal point of the angle. Students also identify terminal points and angles for the other quadrants using the quadrant I angles as reference angles.

Duration: 0 hrs 35 mins

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins

Quiz: Trigonometric Ratios and the Unit Circle

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 4: TRIGONOMETRIC RATIOS FOR ANY ANGLE

Study: Trigonometric Ratios for Any Angle

In this lesson, students will apply what they learned in the previous lessons to find trigonometric ratios for any angle. Students will find the exact value of sine, cosine, or tangent of an angle using a reference angle, and will use the Pythagorean identity to find the values of trigonometric ratios.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Trigonometric Ratios for Any Angle

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 5: GRAPHS OF TRIGONOMETRIC FUNCTIONS

Study: Graphs of Trigonometric Functions

Students will graph each of the six trigonometric functions and identify the key characteristics of each parent function. The reciprocal functions are introduced in this lesson.

Duration: 0 hrs 35 mins

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins

Quiz: Graphs of Trigonometric Functions

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 6: TRANSFORMATIONS OF SINUSOIDS

Study: Transformations of Sinusoids

This lesson covers transformations of the sine and cosine parent functions. Students will identify the effect of adding constants to the equations and graph the new functions. Students will also write and interpret real-world applications of sinusoids.

Duration: 0 hrs 35 mins

Checkpoint: Practice Problems

Complete a set of practice problems to check your understanding of the lesson.

Duration: 0 hrs 25 mins

Quiz: Transformations of Sinusoids

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

Duration: 0 hrs 20 mins Scoring: 20 points

Practice: Modeling: Riding the Circular Wave

Model real world data using a periodic function.

Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 7: TRIGONOMETRY WRAP-UP

Review: Trigonometry

Check your understanding of the unit.

Duration: 0 hrs 25 mins Scoring: 0 points

Test (CS): Trigonometry

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

Duration: 0 hrs 40 mins Scoring: 50 points

UNIT 12: SEMESTER 2 REVIEW AND EXAM

LESSON 1: SEMESTER 2 REVIEW AND EXAM

Review: Semester 2 Review

Get ready for the semester exam by reviewing important ideas and skills.

Duration: 0 hrs 20 mins Scoring: 0 points

Exam: Semester 2 Exam

Take a computer-scored exam to demonstrate your mastery of concepts and skills covered in Semester 2.

Duration: 0 hrs 50 mins Scoring: 200 points