

Liberal Arts Mathematics 1 addresses the need for an elective course that focuses on reinforcing, deepening, and extending a student's mathematical understanding. Liberal Arts Mathematics 1 starts with a review of problem-solving skills before moving on to a variety of key algebraic, geometric, and statistical concepts. Throughout the course, students hone their computational skills and extend their knowledge through problem solving and real-world applications.

Course topics include problem solving; real numbers and operations; functions and graphing; systems of linear equations; polynomials and factoring; geometric concepts such as coordinate geometry and properties of geometric shapes; and descriptive statistics.

Within each Liberal Arts Mathematics 1 lesson, students are supplied with a scaffolded note-taking guide, called a Study Sheet, and are given ample opportunity to practice computations in low-stakes Checkup activities before moving on to formal assessment. Additionally, students will have the opportunity to formulate and justify conclusions as they extend and apply concepts through printable exercises and "in-your-own-words" interactive activities.

This course is built to Florida's Next Generation Sunshine State Standards and Benchmarks.

Length: Two semesters

UNIT 1: SOLVING EQUATIONS AND INEQUALITIES

LESSON 1: SOLVING LINEAR EQUATIONS

Study: Solving Linear Equations

Review how to isolate the variable and solve simple equations with addition, subtraction, multiplication and division.

Duration: 0 hrs 45 mins Scoring: 0 points

Checkup: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Solving Linear Equations

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

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 2: SOLVING MULTISTEP LINEAR EQUATIONS

Study: Solving Multistep Linear Equations

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

Duration: 0 hrs 45 mins Scoring: 0 points

Checkup: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Solving Multistep Linear Equations

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

Duration: 0 hrs 25 mins Scoring: 20 points

Practice: Modeling: Multistep Linear Equations

Model and solve a real-world problem.

Duration: 0 hrs 45 mins Scoring: 20 points

LESSON 3: SOLVING LINEAR INEQUALITIES

Study: Solving Linear Inequalities

Solve multistep inequalities, including those that involve collecting like terms.

Duration: 0 hrs 45 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Solving Linear Inequalities

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

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 4: LITERAL EQUATIONS**Study: Literal Equations**

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

Duration: 0 hrs 45 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Literal Equations

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

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 5: SOLVING ABSOLUTE VALUE EQUATIONS AND INEQUALITIES**Study: Solving Absolute Value Equations and Inequalities**

Identify problems which require the use of absolute value. Transform absolute value problems into a simpler set of inequalities. Learn how to solve absolute value equations and inequalities.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Solving Absolute Value Equations and Inequalities

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 6: MEASUREMENT AND UNITS**Study: Measurement and Units**

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

Duration: 0 hrs 45 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Measurement and Units

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

Duration: 0 hrs 25 mins Scoring: 20 points

Journal: Measurement and Units

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

Duration: 0 hrs 45 mins Scoring: 20 points

LESSON 7: SOLVING EQUATIONS AND INEQUALITIES WRAP-UP**Review: Solving Equations and Inequalities Practice Problems**

Check your understanding of the topics in this unit.

Duration: 0 hrs 30 mins Scoring: 0 points

Test (CS): Solving Equations and Inequalities

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

Duration: 0 hrs 50 mins Scoring: 50 points

Test (TS): Solving Equations and Inequalities

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

Duration: 0 hrs 50 mins Scoring: 50 points

UNIT 2: FUNCTIONS

LESSON 1: DOMAIN AND RANGE

Study: Domain and Range

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

Duration: 0 hrs 45 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Domain and Range

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

Duration: 0 hrs 25 mins Scoring: 20 points

Journal: Domain and Range

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

Duration: 0 hrs 45 mins Scoring: 20 points

LESSON 2: IDENTIFYING FUNCTIONS

Study: Identifying Functions

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

Duration: 0 hrs 45 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Identifying Functions

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

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 3: GRAPHS OF FUNCTIONS

Study: Graphs of Functions

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

Duration: 0 hrs 45 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Graphs of Functions

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

Duration: 0 hrs 25 mins Scoring: 20 points

Practice: Modeling: Graphs of Functions

Model and solve a real-world problem.

Duration: 0 hrs 45 mins Scoring: 20 points

LESSON 4: FUNCTIONS WRAP-UP

Review: Functions Practice Problems

Check your understanding of the topics in this unit.

Duration: 0 hrs 30 mins Scoring: 0 points

Test (CS): Functions

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

Duration: 0 hrs 50 mins Scoring: 50 points

Test (TS): Functions

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

Duration: 0 hrs 50 mins Scoring: 50 points

UNIT 3: LINEAR EQUATIONS

LESSON 1: SLOPE

Study: Slope

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

Duration: 0 hrs 45 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Slope

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

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 2: SLOPE-INTERCEPT EQUATION OF A LINE

Study: Slope-Intercept Equation of a Line

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

Duration: 0 hrs 45 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Slope-Intercept Equation of a Line

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

Duration: 0 hrs 25 mins Scoring: 20 points

Practice: Modeling: Slope-Intercept Equation of a Line

Model and solve a real-world problem.

Duration: 0 hrs 45 mins Scoring: 20 points

LESSON 3: POINT-SLOPE EQUATION OF A LINE

Study: Point-Slope Equation of a Line

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

Duration: 0 hrs 45 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Point-Slope Equation of a Line

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

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 4: LINEAR INEQUALITIES

Study: Linear Inequalities

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

Duration: 0 hrs 45 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Linear Inequalities

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

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 5: TWO-VARIABLE SYSTEMS: GRAPHING

Study: Two-Variable Systems: Graphing

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

Duration: 0 hrs 45 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Two-Variable Systems: Graphing

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

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 6: TWO-VARIABLE SYSTEMS: SUBSTITUTION

Study: Two-Variable Systems: Substitution

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

Duration: 0 hrs 45 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Two-Variable Systems: Substitution

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

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 7: TWO-VARIABLE SYSTEMS: ELIMINATION

Study: Two-Variable Systems: Elimination

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

Duration: 0 hrs 45 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Two-Variable Systems: Elimination

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

Duration: 0 hrs 25 mins Scoring: 20 points

Journal: Two-Variable Systems: Elimination

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

LESSON 8: TWO-VARIABLE SYSTEMS OF INEQUALITIES

Study: Two-Variable Systems of Inequalities

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

Duration: 0 hrs 45 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Two-Variable Systems of Inequalities

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

Duration: 0 hrs 25 mins Scoring: 20 points

Practice: Modeling: Two-Variable Systems of Inequalities

Model and solve a real-world problem.

Duration: 0 hrs 45 mins Scoring: 20 points

LESSON 9: SYSTEMS OF LINEAR EQUATIONS WRAP-UP

Review: Systems of Linear Equations Practice Problems

Check your understanding of the topics in this unit.

Duration: 0 hrs 30 mins Scoring: 0 points

Test (CS): Systems of Linear Equations

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

Duration: 0 hrs 50 mins Scoring: 50 points

Test (TS): Systems of Linear Equations

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

Duration: 0 hrs 50 mins Scoring: 56 points

UNIT 4: EXPONENTS AND EXPONENTIAL FUNCTIONS

LESSON 1: EXPONENTS

Study: Exponents

Evaluate exponential expressions. Use properties to rewrite exponential expressions, including those with rational exponents, and to rewrite radicals using fractional exponents.

Duration: 0 hrs 45 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Exponents

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

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 2: EXPONENTIAL FUNCTIONS

Study: Exponential Functions

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

Duration: 0 hrs 45 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Exponential Functions

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

Duration: 0 hrs 25 mins Scoring: 20 points

Practice: Modeling: Exponential Functions

Model and solve a real-world problem.

Duration: 0 hrs 45 mins Scoring: 20 points

LESSON 3: GRAPHS OF EXPONENTIAL FUNCTIONS**Study: Graphs of Exponential Functions**

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

Duration: 0 hrs 45 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Graphs of Exponential Functions

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

Duration: 0 hrs 25 mins Scoring: 20 points

Journal: Graphs of Exponential Functions

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

Duration: 0 hrs 45 mins Scoring: 20 points

LESSON 4: EXPONENTIAL AND LINEAR GROWTH**Study: Exponential and Linear Growth**

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

Duration: 0 hrs 45 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Exponential and Linear Growth

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

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 5: 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 6: EXPONENTS AND EXPONENTIAL FUNCTIONS WRAP-UP**Review: Exponents and Exponential Functions Practice Problems**

Check your understanding of the topics in this unit.

Duration: 0 hrs 30 mins Scoring: 0 points

Discuss: Exponential Potential

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

Duration: 0 hrs 40 mins Scoring: 20 points

Test (CS): Exponents and Exponential Functions

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

Duration: 0 hrs 50 mins Scoring: 50 points

Test (TS): Exponents and Exponential Functions

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

Duration: 0 hrs 50 mins Scoring: 50 points

UNIT 5: POLYNOMIALS**LESSON 1: WHAT IS A POLYNOMIAL?****Study: What Is a Polynomial?**

Learn the definitions for monomials, polynomials, constants, terms, coefficients, binomials, trinomials, and degree. Learn how to find the degree of polynomials.

Duration: 0 hrs 45 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: What Is a Polynomial?

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

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 2: ADDING AND SUBTRACTING POLYNOMIALS**Study: Adding and Subtracting Polynomials**

Learn how to add and subtract polynomials by collecting like terms. Practice adding and subtracting polynomials both vertically and horizontally.

Duration: 0 hrs 45 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Adding and Subtracting Polynomials

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

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 3: MULTIPLYING BINOMIALS**Study: Multiplying Binomials**

Learn how to multiply binomials using the distributive property. Use the FOIL mnemonic to help you multiply binomials.

Duration: 0 hrs 45 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Multiplying Binomials

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

Duration: 0 hrs 25 mins Scoring: 20 points

Practice: Modeling: Multiplying Binomials

Model and solve a real-world problem.

Duration: 0 hrs 45 mins Scoring: 20 points

LESSON 4: MULTIPLYING POLYNOMIALS

Study: Multiplying Polynomials

Extend the use of the distributive property to multiply polynomials with more than two terms. Use a table to organize the multiplication of polynomials. Practice multiplying polynomials horizontally and vertically.

Duration: 0 hrs 45 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Multiplying Polynomials

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

Duration: 0 hrs 25 mins Scoring: 20 points

Journal: Multiplying Polynomials

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

Duration: 0 hrs 45 mins Scoring: 20 points

LESSON 5: POLYNOMIALS WRAP-UP

Review: Polynomials Practice Problems

Check your understanding of the topics in this unit.

Duration: 0 hrs 30 mins Scoring: 0 points

Test (CS): Polynomials

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

Duration: 0 hrs 40 mins Scoring: 50 points

Test (TS): Polynomials

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

Duration: 0 hrs 50 mins Scoring: 50 points

UNIT 6: QUADRATIC EQUATIONS AND FUNCTIONS

LESSON 1: SOLVING QUADRATIC EQUATIONS

Study: Solving Quadratic Equations

Learn to solve quadratics in the form $x^2 = b$ by taking square roots. Use the zero product property to solve quadratic equations by factoring. Learn about standard form and rewrite quadratic equations in that form.

Duration: 0 hrs 45 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Solving Quadratic Equations

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

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 2: COMPLETING THE SQUARE

Study: Completing the Square

Learn the definition for a special case of factoring called completing the square. Explore the steps to complete a square and practice solving quadratic equations by using this way of factoring.

Duration: 0 hrs 45 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Completing the Square

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

Duration: 0 hrs 25 mins Scoring: 20 points

Journal: Completing the Square

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

Duration: 0 hrs 45 mins Scoring: 20 points

LESSON 3: THE QUADRATIC FORMULA

Study: The Quadratic Formula

Learn the derivation of the quadratic formula and see how it can be used to solve quadratic equations. Understand that the discriminant can be used to determine whether a quadratic equation has 0, 1, or 2 real solutions.

Duration: 0 hrs 45 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: The Quadratic Formula

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

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 4: 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. Understand vertex form and use it to identify the vertex of a quadratic function.

Duration: 0 hrs 45 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Graphs of Quadratic Functions

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

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 5: NONLINEAR SYSTEMS OF EQUATIONS

Study: Nonlinear Systems of Equations

Learn about solution sets for nonlinear systems of equations. Practice solving nonlinear systems of equations by graphing and by using the substitution method. Explore a human-cannonball case study.

Duration: 0 hrs 45 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Nonlinear Systems of Equations

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

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 6: LINEAR, QUADRATIC, AND EXPONENTIAL FUNCTIONS

Study: Linear, Quadratic, and Exponential Functions

Identify and compare linear, quadratic, and exponential functions and write functions that model real-world situations.

Duration: 0 hrs 45 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Linear, Quadratic, and Exponential Functions

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

Duration: 0 hrs 25 mins Scoring: 20 points

Practice: Modeling: Linear, Quadratic, and Exponential Functions

Model and solve a real-world problem.

Duration: 0 hrs 45 mins Scoring: 20 points

LESSON 7: PERFORMANCE TASK: PRICING FOR PROFIT

Study: The Headphones Problem

Use what you have learned about graphing polynomials to solve a real-world business problem.

Duration: 0 hrs 45 mins Scoring: 0 points

Project: Your Dog-Walking Business

Use your knowledge, skills, and resources to make sense of and persevere in solving a real-world problem.

Duration: 2 hrs Scoring: 80 points

LESSON 8: QUADRATIC EQUATIONS AND FUNCTIONS WRAP-UP

Review: Quadratic Equations and Functions Practice Problems

Check your understanding of the topics in this unit.

Duration: 0 hrs 30 mins Scoring: 0 points

Test (CS): Quadratic Equations and Functions

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

Duration: 0 hrs 40 mins Scoring: 50 points

Test (TS): Quadratic Equations and Functions

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

Duration: 0 hrs 50 mins Scoring: 50 points

UNIT 7: NONLINEAR FUNCTIONS

LESSON 1: PARENT FUNCTIONS

Study: Parent Functions

Learn about the properties and graphs of linear parent functions, quadratic parent functions, absolute value parent functions, and step functions.

Duration: 0 hrs 45 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Parent Functions

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

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 2: 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: SOLVING RATIONAL FUNCTIONS

Study: Solving 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: Rational Functions

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 4: 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

Journal: Rural Wireless Internet

Formulate and evaluate an approach to increasing rural internet access, and discuss conclusions with a peer.

Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 5: 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

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 Rational Functions

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 6: SOLVING RADICAL FUNCTIONS**Study: Solving Radical Functions**

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 7: NONLINEAR FUNCTIONS WRAP-UP

Review: Nonlinear Functions

Check your understanding of the topics in this unit.

Duration: 0 hrs 30 mins Scoring: 0 points

Test (CS): Nonlinear Functions

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

Duration: 0 hrs 40 mins Scoring: 50 points

Test (TS): Nonlinear Functions

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

Duration: 0 hrs 50 mins Scoring: 50 points

UNIT 8: SEMESTER 1 EXAM**LESSON 1: SEMESTER 1 REVIEW AND EXAM****Review: Semester 1 Review**

Prepare for the final exam by reviewing key concepts and skills.

Duration: 0 hrs 30 mins Scoring: 0 points

Exam: Semester 1 Exam

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

Duration: 0 hrs 50 mins Scoring: 200 points

UNIT 9: DESCRIPTIVE STATISTICS**LESSON 1: MEASURES OF CENTER AND SPREAD****Study: Measures of Center and Spread**

Learn how to compute the mean and median of a data set and the effects of outliers on these measures of center. See how to use a calculator to find the standard deviation of a data set, and understand how the standard deviation and the range measure the spread of a data set.

Duration: 0 hrs 45 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Measures of Center and Spread

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 2: DOT PLOTS, BOX PLOTS, AND HISTOGRAMS**Study: Dot Plots, Box Plots, and Histograms**

Learn how to construct and interpret stem-and-leaf plots, histograms, and dot plots along with comparative stem-and-leaf and dot plots.

Duration: 0 hrs 45 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Dot Plots, Box Plots, and Histograms

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

Practice: Modeling: Dot Plots, Box Plots, and Histograms

Model and solve a real-world problem.

Duration: 0 hrs 45 mins Scoring: 20 points

LESSON 3: DESCRIBING DISTRIBUTIONS

Study: Describing Distributions

Learn how to describe distributions using measures of center, shape, and spread for single and comparative data sets.

Duration: 0 hrs 45 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Describing Distributions

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

Journal: Describing Distributions

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

Duration: 0 hrs 45 mins Scoring: 20 points

LESSON 4: DESCRIPTIVE STATISTICS WRAP-UP**Review: Descriptive Statistics Practice Problems**

Check your understanding of the topics in this unit.

Duration: 0 hrs 30 mins Scoring: 0 points

Discuss: Not All Plots Are Suspicious

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

Duration: 0 hrs 40 mins Scoring: 20 points

Test (CS): Descriptive Statistics

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

Duration: 0 hrs 40 mins Scoring: 50 points

Test (TS): Descriptive Statistics

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

Duration: 0 hrs 50 mins Scoring: 50 points

UNIT 10: FOUNDATIONS OF GEOMETRY**LESSON 1: INTRODUCTION TO PROOFS****Study: Introduction to Proofs**

Learn about postulates and axioms, givens, proof by contradiction (indirect proof), theorems and corollaries, and the axiomatic method.

Duration: 0 hrs 35 mins Scoring: 0 points

Quiz: Introduction to Proofs

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 2: BASIC POSTULATES IN GEOMETRY**Study: Basic Postulates in Geometry**

Learn about the relationship of rays, lines, and angles to direction; the definition of a line; notation for rays and lines; building and defining an angle (including its vertex and sides); conventions for naming angles; and straight and zero angles.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Basic Postulates in Geometry

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: PLANES AND THE SPACE OF GEOMETRY

Study: Planes and the Space of Geometry

Learn about dimensionality, collinear points, two-dimensional objects, the geometric plane, the flat plane, postulate coplanar objects, and three-dimensional objects (solids).

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Planes and the Space of Geometry

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

Duration: 0 hrs 20 mins Scoring: 20 points

Practice: Modeling: Logo Design

Use your knowledge of location, direction, and angles to model and solve a real-world problem.

Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 4: INTERSECTING LINES AND PROOFS

Study: Intersecting Lines and Proofs

Learn about intersections that form vertical angles; the vertical angle theorem; perpendicular lines, rays, and segments; distance and length; and perpendicular bisectors.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems and Proofs

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Intersecting Lines and Proofs

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 5: PARALLEL LINES AND PROOFS

Study: Parallel Lines and Proofs

Learn about skew lines, coplanar lines that do not intersect, parallel line notation, transversals and corresponding angles, alternate interior angles, consecutive interior angles, and parallel line theorems.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Parallel Lines and Proofs

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

Duration: 0 hrs 20 mins Scoring: 20 points

Journal: Consecutive Angle Theorem

Use what you know about lines and angles to critique the reasoning of others and prove a theorem.

Duration: 0 hrs 30 mins Scoring: 20 points

Study: Solving the Mirror Problem

Learn about applying theorems from this unit to the problem of measuring light reflected off a mirror. Learn about the law of reflection.

Duration: 0 hrs 35 mins Scoring: 0 points

LESSON 6: FOUNDATIONS OF GEOMETRY WRAP-UP

Checkpoint: Foundations of Geometry Practice Problems

Check your understanding of the topics in this unit.

Duration: 0 hrs 25 mins Scoring: 0 points

Review: Foundations of Geometry

Get ready for the unit test by reviewing important ideas and skills.

Duration: 0 hrs 30 mins Scoring: 0 points

Test (CS): Foundations of Geometry

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

Duration: 0 hrs 40 mins Scoring: 50 points

Test (TS): Foundations of Geometry

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

Duration: 0 hrs 30 mins Scoring: 50 points

UNIT 11: TRIANGLES

LESSON 1: WHAT IS A TRIANGLE?

Study: What Is a Triangle?

Learn about the definition and parts of a triangle; opposite and included figures; naming and sorting triangles; equilateral, isosceles, and scalene triangles; and the triangle inequality theorem.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: What Is a Triangle?

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 2: THE ANGLES OF A TRIANGLE

Study: The Angles of a Triangle

Explore the angle sum theorem and third angle theorem for triangles. Investigate the relationship between a given triangle's vertex and its exterior and remote interior angles.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: The Angles of a Triangle

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: CONGRUENCE

Study: Congruence

Learn about congruence, transformations of triangles, corresponding triangles, notation for writing congruence statements, and the CPCTC triangle congruence theorem.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Congruence

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 4: CONGRUENCE POSTULATES

Study: Congruence Postulates

Learn about postulates including the SSS, SAS, ASA, and AAS theorems.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Congruence Postulates

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 5: PROOFS OF CONGRUENCE**Study: Proofs of Congruence**

Learn about proving that parts of triangles are congruent by using Thales's method for measuring the distance from ship to shore.

Duration: 0 hrs 35 mins Scoring: 0 points

Quiz: Proofs of Congruence

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

Duration: 0 hrs 20 mins Scoring: 20 points

Journal: Proofs of Congruence

Use what you know about congruence of triangles to prove the Perpendicular Bisector Theorem.

Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 6: SIMILAR TRIANGLES**Study: Similar Triangles**

Learn about similarity versus congruence, testing for similarity among triangles, proportionality, the definition of similar triangles, and scale factor.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Similar Triangles

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 7: SIMILARITY THEOREMS AND PROPORTIONAL REASONING**Study: Similarity Theorems and Proportional Reasoning**

Learn about the ASA similarity postulate, the SSS similarity theorem, and the SAS similarity theorem.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Similarity Theorems

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

Duration: 0 hrs 20 mins Scoring: 20 points

Practice: Modeling: Similarity Theorems

Use your knowledge of similarity to model and solve a real-world problem.

Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 8: TRIANGLE THEOREMS**Study: Triangle Theorems**

Learn and prove the isosceles triangle theorem and its converse. Investigate two corollaries involving angle measures for equilateral triangles. Explore theorems for scalene triangles. Apply what you have learned to solve Thales's problem.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Triangle Theorems

Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 9: MEDIANS AND ALTITUDES

Study: Medians and Altitudes

Identify and explore medians and altitudes. Discover their relationship to centroids, orthocenters, incenters, and circumcenters.
Duration: 0 hrs 35 mins Scoring: 0 points

Quiz: Medians and Altitudes

Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 10: BISECTORS AND MIDSEGMENTS

Study: Bisectors and Midsegments

Identify and explore angle bisectors, perpendicular bisectors, and midpoint bisectors, and lines parallel to one side of a triangle to discover their relationships to circumcenters, incenters, and side lengths.
Duration: 0 hrs 35 mins Scoring: 0 points

Quiz: Bisectors and Midsegments

Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 11: PERFORMANCE TASK: THE PARALLAX PROBLEM

Study: The Parallax Problem

Learn to apply the concepts of congruence, similarity, ratio, and proportion to the solution of a real-world parallax problem.
Duration: 0 hrs 35 mins Scoring: 0 points

Project: Performance Task: The Parallax Problem

Apply the concepts of congruence, similarity, ratio, and proportion to solve a real-world problem.
Duration: 2 hrs Scoring: 120 points

LESSON 12: TRIANGLES WRAP-UP

Checkpoint: Triangles Practice Problems

Check your understanding of the topics in this unit.
Duration: 0 hrs 25 mins Scoring: 0 points

Review: Triangles

Get ready for the unit test by reviewing important ideas and skills.
Duration: 0 hrs 30 mins Scoring: 0 points

Test (CS): Triangles

Take a computer-scored test to check what you have learned in this unit.
Duration: 0 hrs 40 mins Scoring: 50 points

Test (TS): Triangles

Take a teacher-scored test to check what you have learned in this unit.
Duration: 0 hrs 30 mins Scoring: 50 points

UNIT 12: RIGHT TRIANGLES

LESSON 1: THE PYTHAGOREAN THEOREM

Study: The Pythagorean Theorem

Learn how the Pythagorean theorem applies only to right triangles and discover one proof of it. Learn about the converse of the Pythagorean theorem, Pythagorean triples, and applying the theorem to the problem of fitting a baseball bat into a rectangular trunk.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: The Pythagorean Theorem

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

Duration: 0 hrs 20 mins Scoring: 20 points

Journal: Proving the Pythagorean Theorem

Use what you know about congruence of triangles to prove the Pythagorean Theorem.

Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 2: CONGRUENT RIGHT TRIANGLES

Study: Congruent Right Triangles

Learn about the HL, LL, HA, LA, and perpendicular bisector theorems. Learn about the angle bisector theorem and its converse.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Congruent Right Triangle

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: SIMILAR RIGHT TRIANGLES

Study: Similar Right Triangles

Explore the properties of similar right triangles. Prove that if an altitude is drawn from the right-angle vertex of a right triangle to its hypotenuse, then three similar triangles are formed. Calculate the missing sides of similar right triangles by using proportions and apply concepts learned to a miniature-golf problem.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Similar Right Triangles

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

Duration: 0 hrs 20 mins Scoring: 20 points

Practice: Modeling: The Pool Table Problem

Use your knowledge of similar right triangles to model a pool table and hit your ball in the pocket.

Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 4: RIGHT TRIANGLES WRAP-UP

Checkpoint: Right Triangles Practice Problems

Check your understanding of the topics in this unit.

Duration: 0 hrs 25 mins Scoring: 0 points

Review: Right Triangles

Get ready for the unit test by reviewing important ideas and skills.

Duration: 0 hrs 30 mins Scoring: 0 points

Test (CS): Right Triangles

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

Duration: 0 hrs 40 mins Scoring: 50 points

Test (TS): Right Triangles

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

Duration: 0 hrs 30 mins Scoring: 50 points

UNIT 13: CIRCLES WITHOUT COORDINATES

LESSON 1: WHAT IS A CIRCLE?

Study: What Is a Circle?

Learn about the definition of a circle and about its center, radius, and circumference.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: What Is a Circle?

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 2: CHORDS

Study: Chords

Investigate the properties and definitions of chords and diameters. Discover that two chords are congruent if they are the same distance from the center of the circle. Prove that the radius bisects a chord if it is perpendicular to the chord.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Chords

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: ARCS

Study: Arcs

Learn the definitions of arc, endpoint, central angle, and intercept. Learn about minor and major arcs and semicircles, arc notation, the measure of minor and major arcs, and the arc congruence and congruent chord theorems.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Arc Types and Measure

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 4: CIRCLES, ANGLES, AND PROOFS

Study: Circles, Angles, and Proofs

Learn the definition of an inscribed angle. Experiment with inscribed angles and their intercepted arcs. Discover and prove that an inscribed angle is half the measure of its intercepted arc. Discover and prove the intersecting chord

theorem.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Circles, Angles, and Proofs

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 5: CIRCUMFERENCE AND ARC LENGTH

Study: Circumference and Arc Length

Learn about the irrational number pi and the formula for finding the circumference of a circle. Apply circumference to a real-world problem about how to build a bridge that's tall enough for boats to travel beneath it. Learn about the degree measure of an arc and arc length. Derive the formula for arc length.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Arc Length

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 6: CIRCLES AND TRIANGLES

Study: Circles and Triangles

Learn about inscribed objects; circumscribed objects; and the definitions of incenter and circumcenter.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Circles and Triangles

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

Duration: 0 hrs 20 mins Scoring: 20 points

Journal: Similar Circles

A peer uses dilation to prove that two circles are similar. Now you prove it using inscribed triangles.

Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 7: CIRCLES AND POLYGONS

Study: Circles and Polygons

Learn about the theorems of a quadrilateral inscribed in a circle and of a parallelogram inscribed in a circle.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Circles and Polygons

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 8: CIRCLES WITHOUT COORDINATES WRAP-UP

Checkpoint: Circles Without Coordinates Practice Problems

Check your understanding of the topics in this unit.

Duration: 0 hrs 25 mins Scoring: 0 points

Review: Circles Without Coordinates

Get ready for the unit test by reviewing important ideas and skills.

Duration: 0 hrs 30 mins Scoring: 0 points

Test (CS): Circles Without Coordinates

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

Duration: 0 hrs 40 mins Scoring: 50 points

Test (TS): Circles Without Coordinates

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

Duration: 0 hrs 30 mins Scoring: 50 points

UNIT 14: CONSTRUCTIONS AND TRANSFORMATIONS

LESSON 1: CONSTRUCTIONS

Study: Constructions

Learn about using a straightedge and a compass, common notions of Euclidean geometry, five postulates, constructing an equilateral triangle and a regular hexagon, bisecting an angle, and constructing a perpendicular bisector.

Duration: 0 hrs 35 mins Scoring: 0 points

Quiz: Constructions

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

Duration: 0 hrs 20 mins Scoring: 20 points

Practice: Modeling: Constructing a Square

Use your geometry skills to construct a square using only a straightedge and a compass.

Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 2: PAPER FOLDING

Study: Paper Folding

Learn about constructing geometric solids with folding paper, coinciding objects bisecting an angle, and constructing a parallel line segment.

Duration: 0 hrs 35 mins Scoring: 0 points

Quiz: Paper Folding

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: TRANSFORMATIONS

Study: Transformations

Learn about rigid motions, describe the image and preimage, predict the results of transformations, and use a series of transformations to move figures onto themselves.

Duration: 0 hrs 35 mins Scoring: 0 points

Quiz: Transformations

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

Duration: 0 hrs 20 mins Scoring: 20 points

Journal: Transformations

Critique a conjecture about a series of transformations.

Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 4: CONSTRUCTIONS AND TRANSFORMATIONS WRAP-UP

Checkup: Constructions and Transformations Practice Problems

Check your understanding of the topics in this unit.

Duration: 0 hrs 25 mins Scoring: 0 points

Review: Constructions and Transformations

Get ready for the unit test by reviewing important ideas and skills.

Duration: 0 hrs 30 mins Scoring: 0 points

Test (CS): Constructions and Transformations

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

Duration: 0 hrs 40 mins Scoring: 50 points

Test (TS): Constructions and Transformations

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

Duration: 0 hrs 30 mins Scoring: 50 points

UNIT 15: THREE-DIMENSIONAL SOLIDS

LESSON 1: THREE DIMENSIONS

Study: Three Dimensions

Learn about measuring three-dimensional figures.

Duration: 0 hrs 35 mins Scoring: 0 points

Quiz: Three Dimensions

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 2: WHAT IS A POLYHEDRON?

Study: What Is a Polyhedron?

Learn about the definition and elements of a polyhedron, prisms and their components, triangular and rectangular prisms, cubes, and regular and irregular pyramids.

Duration: 0 hrs 35 mins Scoring: 0 points

Quiz: What Is a Polyhedron?

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: CYLINDERS AND CONES

Study: Cylinders and Cones

Learn about the definition, components, and properties of a cylinder; the definition and components of a cone; and the similarities between cones and pyramids.

Duration: 0 hrs 35 mins Scoring: 0 points

Quiz: Cylinders and Cones

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 4: PLATONIC SOLIDS

Study: Platonic Solids

Learn about polygonal numbers, regularity of Platonic solids, and building your own Platonic solids.

Duration: 0 hrs 35 mins Scoring: 0 points

Quiz: Platonic Solids

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

Duration: 0 hrs 20 mins Scoring: 20 points

Practice: Modeling: Solids

Practice with a real-world solid modeling application.

Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 5: SURFACE AREA

Study: Surface Area

Learn about perimeter and surface area; base and lateral area; slant height versus altitude; and the formulas for surface

area of a right prism, an oblique prism, a regular pyramid, an oblique cylinder, a right cone, and an oblique cone. Explore sample problems dealing with these subjects.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Surface Area

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 6: VOLUME

Study: Volume

Learn about area and volume, the formulas for volume of a cube and a rectangular prism, and Bonaventura Francesco Cavalieri's principle. Learn about the formulas for volume of a cylinder, a pyramid, and a cone; explore sample problems dealing with these formulas. Learn about cross-sectional area.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Volume

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

Duration: 0 hrs 20 mins Scoring: 20 points

Journal: Volume

Think about and discuss how changing one dimension of a given shape changes its volume and surface area.

Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 7: SPHERES

Study: Spheres

Learn about the definition of a sphere; the formulas for surface area and volume of a sphere; comparing the surface area and volume of a sphere, cube, cylinder, and cone; and using Cavalieri's principle to derive the formula for volume of a sphere.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Spheres

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 8: SIMILAR SOLIDS

Study: Similar Solids

Learn about similar prisms, pyramids, cylinders, cones, and spheres; the constant ratio between corresponding parts of similar solids; and the ratio of volumes of similar solids.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Similar Solids

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 9: PERFORMANCE TASK: THREE-DIMENSIONAL SOLIDS

Study: Geodesic Domes

Use your knowledge of three-dimensional solids to solve a geodesic dome problem.

Duration: 0 hrs 35 mins Scoring: 0 points

Project: Performance Task: The Subway Stop

Use what you know about three-dimensional solids to solve a real-world problem.

Duration: 2 hrs Scoring: 120 points

LESSON 10: THREE-DIMENSIONAL SOLIDS WRAP-UP

Checkpoint: Three-Dimensional Solids Practice Problems

Check your understanding of the topics in this unit.

Duration: 0 hrs 25 mins Scoring: 0 points

Review: Three-Dimensional Solids

Get ready for the unit test by reviewing important ideas and skills.

Duration: 0 hrs 30 mins Scoring: 0 points

Test (CS): Three-Dimensional Solids

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

Duration: 0 hrs 40 mins Scoring: 50 points

Test (TS): Three-Dimensional Solids

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

Duration: 0 hrs 30 mins Scoring: 50 points

UNIT 16: SEMESTER 2 EXAM

LESSON 1: SEMESTER 2 REVIEW AND EXAM

Review: Semester 2 Review

Prepare for the final exam by reviewing key concepts and skills.

Duration: 0 hrs 30 mins Scoring: 0 points

Exam: Semester 2 Exam

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

Duration: 0 hrs 50 mins Scoring: 200 points