College Readiness Math is a fourth year math course focused on reinforcing core concepts from Algebra I, Geometry and Algebra II. Bridge Math is intended for students who need to review concepts before continuing their studies. It starts with a review of algebraic concepts before moving on to a variety of key algebraic, geometric, statistical, and probability concepts. Course topics include rational and irrational numbers, systems of linear equations, quadratic functions, exponential functions, triangles, coordinate geometry, solid geometry, conditional probability, independence, data analysis, scatterplots, and linear and non-linear models of data.

Throughout the course, students hone their computational skills and extend their knowledge through problem solving and real-world applications. Within each Bridge Math lesson, students are supplied with scaffolded note-taking study guides 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.

The course is built to state standards.

Length: Two Semesters

UNIT 1: FOUNDATIONS OF ALGEBRA

LESSON 1: RATIONAL AND IRRATIONAL NUMBERS

Study: Rational and Irrational Numbers
Learn about different types of real numbers, including rational and irrational numbers. Investigate sums and products of rational and irrational numbers.
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: Rational and Irrational Numbers
Take a quiz to assess your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 2: 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 3: 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 30 mins Scoring: 20 points

LESSON 4: 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

Checkup: 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 5: 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

Checkup: 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 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

Checkup: 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 30 mins Scoring: 20 points

LESSON 7: PERFORMANCE TASK: PROBLEM SOLVING WITH INEQUALITIES

Study: Problem Solving with Inequalities
Learn strategies for solving a variety of application problems related to topics in this unit.

Duration: 0 hrs 45 mins Scoring: 0 points

Project: Performance Task: A Trade Show Booth

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: FOUNDATIONS OF ALGEBRA WRAP-UP

Review: Foundations of Algebra Practice Problems

Check your understanding of the topics in this unit.

Duration: 0 hrs 30 mins Scoring: 0 points

Discuss: In Your Own Words

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

Duration: 0 hrs 40 mins Scoring: 20 points

Test (CS): Foundations of Algebra

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

Duration: 0 hrs 50 mins Scoring: 50 points

Test (TS): Foundations of Algebra

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: WHAT IS A FUNCTION?

Study: Relating to Functions

Learn about functions, their graphs, and some special functions.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

Complete a set of practice problems on functions.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: What Is a Function?

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 2: GRAPHING FUNCTIONS

Study: Graphing Functions

Learn the vertical line and horizontal line tests for evaluating a function. Evaluate a function for given values and explore special functions.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

Complete a set of practice problems on graphing functions.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Graphing Functions

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: 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 35 mins Scoring: 0 points

Checkup: 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 20 mins Scoring: 20 points

Practice: Modeling: Slope-Intercept Equation of a Line
Model and solve a real-world problem.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 4: 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 35 mins Scoring: 0 points

Checkup: 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 20 mins Scoring: 20 points

LESSON 5: FUNCTIONS WRAP-UP

Review: Practice Problems
Check your understanding of the 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: SYSTEMS OF LINEAR EQUATIONS

LESSON 1: TWO-VARIABLE SYSTEMS: GRAPHING

Study: Two-Variable Systems: Graphing
Use graphing to solve two-variable systems of linear equations. Explore what it means for a linear system to have no solution, one solution, or an infinite number of solutions.
Duration: 0 hrs 45 mins Scoring: 0 points

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

Quiz: Two-Variable Systems: Graphing
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 2: TWO-VARIABLE SYSTEMS: SUBSTITUTION

Study: Two-Variable Systems: Substitution
Use substitution to solve two-variable systems of linear equations.
Duration: 0 hrs 45 mins Scoring: 0 points

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

Quiz: Two-Variable Systems: Substitution
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 3: TWO-VARIABLE SYSTEMS: ELIMINATION

Study: Two-Variable Systems: Elimination
Use elimination to solve two-variable systems of linear equations.
Duration: 0 hrs 45 mins Scoring: 0 points

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

Quiz: Two-Variable Systems: Elimination
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 25 mins Scoring: 20 points

Journal: Two-Variable Systems: Elimination
Construct arguments and critique the reasoning of others as you write about topics in algebra.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 4: SYSTEMS OF LINEAR EQUATIONS WRAP-UP

Review: Systems of Linear Equations Practice Problems
Check your understanding of the topics in this unit.
Duration: 0 hrs 30 mins Scoring: 0 points

Discuss: What's the Solution?
Join a three- to five-question discussion to practice methods learned in this unit.
Duration: 0 hrs 40 mins Scoring: 20 points

Test (CS): Systems of Linear Equations
Take a computer-scored test to check what you have learned in this unit.
Duration: 0 hrs 50 mins Scoring: 50 points

Test (TS): Systems of Linear Equations
Take a teacher-scored test to check what you have learned in this unit.
Duration: 0 hrs 50 mins Scoring: 50 points

UNIT 4: 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

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 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

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 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 Special Cases

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: Solving Quadratic Equations

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 (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

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: 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

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 Quadratic Functions

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

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: Imaginary Numbers and Complex Solutions

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 9: 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

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: 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 10: QUADRATIC FUNCTIONS WRAP-UP

Checkup: Practice Problems

Submit your work for a set of 20 practice problems.

Duration: 0 hrs 25 mins Scoring: 0 points

Review: Quadratic Functions

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

Duration: 0 hrs 30 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 50 mins Scoring: 50 points

Test (TS): Quadratic 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: 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

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: 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

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: 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

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: 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

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 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 Scoring: 0 points

Checkup: Practice Problems

Complete a set of practice problems on solving polynomial equations.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Solving Polynomial Equations

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 6: GRAPHING POLYNOMIAL FUNCTIONS

Study: Graphs of 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

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 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 FUNCTIONS WRAP-UP

Checkup: Practice Problems

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

Duration: 0 hrs 25 mins Scoring: 0 points

Review: Polynomial Functions
Get ready for the unit test by reviewing important ideas and skills.
Duration: 0 hrs 30 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 50 mins Scoring: 40 points

Test (TS): Polynomial Functions
Take a teacher-scored test to check what you have learned in this unit.
Duration: 0 hrs 50 mins Scoring: 50 points

UNIT 6: SEMESTER EXAM

LESSON 1: SEMESTER EXAM

Review: Semester Review
Prepare for the final exam by reviewing key concepts and skills.
Duration: 0 hrs 30 mins Scoring: 0 points

Exam: Semester Exam
Take a computer-scored exam to demonstrate your mastery of concepts and skills covered in Semester 1.
Duration: 0 hrs 50 mins Scoring: 56 points

UNIT 7: 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 35 mins Scoring: 0 points

Checkup: 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 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: Exponential Functions
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: 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 35 mins Scoring: 0 points

Checkup: 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 20 mins Scoring: 20 points

LESSON 5: EXPONENTS AND EXPONENTIAL FUNCTIONS WRAP-UP

Review: Practice Problems
Submit your work for a set of 20 practice problems.
Duration: 0 hrs 30 mins Scoring: 0 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 8: 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: 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

Checkup: 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 4: 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

Checkup: 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 5: RIGHT TRIANGLES

Study: Right Triangles

Review right triangles and get an introduction to trigonometric ratios.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

Complete a set of practice problems on trigonometry.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Introduction to Trigonometry

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 6: TRIANGLES WRAP-UP

Review: Triangles Practice Problems

Check your understanding of the topics in this unit.

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 50 mins Scoring: 50 points

Test (TS): Triangles

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

Duration: 0 hrs 50 mins Scoring: 50 points

UNIT 9: 2-D AND 3-D GEOMETRY

LESSON 1: MIDPOINT FORMULA

Study: Midpoint Formula

Learn about the midpoints of horizontal, vertical, and diagonal line segments and about the midpoint formula. Complete a sample problem.

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: Midpoint Formula

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 2: THE DISTANCE FORMULA

Study: The Distance Formula

Derive the distance formula from the Pythagorean theorem. Use this formula to calculate the distance between any two points. Apply the distance formula in a real-world problem that involves locating the shortest route on a nautical map.

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 Distance Formula

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: AREA AND PERIMETER OF POLYGONS WITH COORDINATE GEOMETRY

Study: Area and Perimeter of Polygons with Coordinate Geometry

Find the perimeter of any polygon. Determine the areas of irregular polygons by breaking them up into quadrilaterals and regular polygons. Use the apothem formula to find the area of a regular polygon. Complete sample problems about the area of irregular polygons.

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: Area and Perimeter of Polygons

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 4: 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

Checkup: 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 5: AREA AND SECTORS

Study: Area and Sectors

Learn about the formula for the area of a circle. Explore a case study comparing the cost per square inch of small and large pizzas. Learn about sectors and the area of a sector.

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: Area and Sectors

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

Duration: 0 hrs 20 mins Scoring: 20 points

Practice: Modeling: Stained Glass Window

Use what you know about finding the area of circles and sectors to model and solve a real-world problem.

Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 6: 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 7: 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

Checkup: 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 8: 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

Checkup: 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 9: 2-D AND 3-D GEOMETRY WRAP-UP

Review: 2-D and 3-D Geometry Practice Problems

Check your understanding of the topics in this unit.

Duration: 0 hrs 30 mins Scoring: 0 points

Test (CS): 2-D and 3-D Geometry

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

Duration: 0 hrs 50 mins Scoring: 50 points

Test (TS): 2-D and 3-D Geometry

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

Duration: 0 hrs 50 mins Scoring: 50 points

UNIT 10: APPLICATIONS OF PROBABILITY

LESSON 1: WHAT IS PROBABILITY?

Study: What Is Probability?

Learn the definition for probability and explore its different forms.

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 Probability?

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

Duration: 0 hrs 20 mins Scoring: 20 points

Study: Organizing What Is Possible

Explore the numbers of possible outcomes from a brown bag containing gum balls of different colors.

Duration: 0 hrs 35 mins Scoring: 0 points

LESSON 2: COUNTING PRINCIPLES

Study: Counting Principles

Learn about counting strategies and the multiplication principle. Practice using tree diagrams and Venn diagrams in probability problems.

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: Counting Principles

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: BASIC RULES OF PROBABILITY

Study: Basic Rules of Probability

Learn four rules of probability, as well as the addition rule for disjoint events and the multiplication rule for independent events.

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: Basic Rules of Probability, Part I

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 4: CONDITIONAL PROBABILITY

Study: Conditional Probability

Learn how to identify and solve conditional probability problems using correct notation, formulas, and tables.

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: Conditional Probability

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 20 points

Practice: Modeling: A Student Survey

Use your knowledge of conditional probability to analyze the results of a student survey.

Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 5: INDEPENDENCE

Study: Independence

Learn how to show if two events are independent, and solve probability problems for both independent and dependent events using the multiplication rule and tree diagrams.

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: Independence

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 20 points

Journal: Smoking and Lung Cancer

Use what you know about conditional probability and independence to critique the reasoning of others.

Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 6: APPLICATIONS OF PROBABILITY WRAP-UP

Review: Applications of Probability Practice Problems

Check your understanding of the topics in this unit.

Duration: 0 hrs 30 mins Scoring: 0 points

Test (CS): Applications of Probability

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

Duration: 0 hrs 50 mins Scoring: 50 points

Test (TS): Applications of Probability

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

Duration: 0 hrs 50 mins Scoring: 50 points

UNIT 11: DATA AND MATHEMATICAL MODELING

LESSON 1: REVIEW OF GRAPHICAL ANALYSIS OF DATA

Study: Review of Graphical Analysis of Data

Learn about the different ways to express data graphically and the various shapes or properties these representations have.

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: Graphical Analysis of Data

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 2: TWO-VARIABLE DATA AND SCATTERPLOTS

Study: Two-Variable Data and Scatterplots

Create scatterplots for bivariate data and recognize positive and negative correlations. Use a calculator to find correlation coefficients, and understand what the result says about the strength of the correlation. Know that correlation does not imply causation.

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: Two-Variable Data and Scatterplots

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 3: FITTING LINEAR MODELS TO DATA

Study: Fitting Linear Models to Data

Find equations for best-fit lines (regression equations) by estimation and by using a calculator. Use regression equations to make predictions. Find residuals and residual plots and understand how they indicate whether or not a linear model is appropriate.

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: Fitting Linear Models to Data

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

Practice: Modeling: Fitting Linear Models to Data

Model and solve a real-world problem.

Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 4: NONLINEAR MODELS

Study: Nonlinear Models

Learn how to apply nonlinear regression.

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: Nonlinear Models

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

Journal: Nonlinear Models

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

Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 5: DATA AND MATHEMATICAL MODELING WRAP-UP

Review: Data and Mathematical Modeling Practice Problems

Check your understanding of the topics in this unit.

Duration: 0 hrs 30 mins Scoring: 0 points

Discuss: The Latest Model

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

Duration: 0 hrs 40 mins Scoring: 20 points

Test (CS): Data and Mathematical Modeling

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

Duration: 0 hrs 50 mins Scoring: 50 points

Test (TS): Data and Mathematical Modeling

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

Duration: 0 hrs 50 mins Scoring: 50 points

UNIT 12: SEMESTER 2 EXAM

LESSON 1: SEMESTER 2 EXAM

Review: Semester 2

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: 56 points