Mathematics for College Readiness provides a fourth-year math curriculum focused on developing the mastery of skills identified as critical to postsecondary readiness in math. This full-year course is aligned with Florida’s Postsecondary Readiness Competencies in mathematics and targets students who are required to complete additional instruction based on their performance on the Postsecondary Education Readiness Test (PERT).

Course topics include solving equations with addition, subtraction, multiplication and division; fractions and decimals; inequalities; functions and sequences; systems of equations; polynomials; factoring quadratic equations; rational expressions; and data analysis.

Throughout the course, students are supplied with scaffolded note-taking guides, called Study Sheets, as well as post-study Checkup activities that provide them the opportunity to hone their computational skills by working through a low-stakes, 10-question problem set before moving on to formal assessment. Formative assessments help students to understand areas of weakness and improve performance, while summative assessments chart progress and skill development.

The course is built to the Florida Postsecondary Readiness Competencies.

Length: Two semesters

UNIT 1: INTEGERS AND OPERATIONS

LESSON 1: TYPES OF NUMBERS

Study: Types of Numbers
Learn about different types of real numbers, including exponents decimals and percents. Compare numbers of different types and formats using a number line.
Duration: 0 hrs 50 mins Scoring: 0 points

Quiz: Types of Numbers
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 2: NEGATIVE NUMBERS

Study: Negative Numbers
Learn about positive, negative, and opposite numbers, as well as integers and signs.
Duration: 0 hrs 30 mins

Checkup: Practice Problems
Complete a set of practice problems to hone your calculation skills.
Duration: 0 hrs 20 mins

Quiz: Negative Numbers
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 9 points

LESSON 3: ABSOLUTE VALUE

Study: Absolute Value
Learn about the absolute value of integers, the definition symbol, and the absolute value of expressions.
Duration: 0 hrs 30 mins

Checkup: Practice Problems
Complete a set of practice problems to hone your calculation skills.
Duration: 0 hrs 20 mins
Quiz: Absolute Value
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 10 points

LESSON 4: ADDING AND SUBTRACTING INTEGERS
Study: Adding and Subtracting Integers
Add integers with and without the aid of a number line.
Duration: 0 hrs 30 mins

Checkup: Practice Problems
Complete a set of practice problems to hone your calculation skills.
Duration: 0 hrs 20 mins

Quiz: Adding and Subtracting Integers
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 10 points

LESSON 5: MULTIPLYING AND DIVIDING INTEGERS
Study: Multiplying and Dividing Integers
Learn rules for multiplying a positive and negative integer or multiplying two negative integers.
Duration: 0 hrs 30 mins

Checkup: Practice Problems
Complete a set of practice problems to hone your calculation skills.
Duration: 0 hrs 20 mins

Quiz: Multiplying and Dividing Integers
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 10 points

LESSON 6: PROPERTIES OF OPERATIONS
Study: Properties of Operations
Learn about the associative, commutative, and distributive properties of addition and multiplication.
Duration: 0 hrs 30 mins

Checkup: Practice Problems
Complete a set of practice problems to hone your calculation skills.
Duration: 0 hrs 20 mins

Quiz: Properties of Operations
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 9 points

LESSON 7: ORDER OF OPERATIONS
Study: Order of Operations
Use the order of operations to evaluate expressions.
Duration: 0 hrs 30 mins

Checkup: Practice Problems
Complete a set of practice problems to hone your calculation skills.
Duration: 0 hrs 20 mins

Quiz: Order of Operations
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 10 points

LESSON 8: NUMBER LINES AND INEQUALITIES
Study: Number Lines and Inequalities
Define and use a number line. Represent relationships between numbers with inequality symbols.
Duration: 0 hrs 30 mins

Checkup: Practice Problems
Complete a set of practice problems to hone your calculation skills.
Duration: 0 hrs 20 mins

Quiz: Number Lines and Inequalities
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 8 points

LESSON 9: PROBLEM SOLVING
Study: Problem Solving
Learn strategies for solving a variety of application problems related to topics in this unit.
Duration: 0 hrs 30 mins

Practice: Assignment
Submit your work for a set of problem-solving applications.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 10: INTEGERS AND OPERATIONS WRAP-UP
Review: Integers and Operations
Review unit material in preparation for upcoming assessments.
Duration: 0 hrs 30 mins

Test (CS): Integers and Operations
Take a computer-scored test to assess what you have learned in this unit.
Duration: 0 hrs 30 mins Scoring: 50 points

Test (TS): Integers and Operations
Take a teacher-scored test to assess what you have learned in this unit.
Duration: 0 hrs 30 mins Scoring: 50 points

UNIT 2: MEASUREMENT

LESSON 1: METRIC AND CUSTOMARY UNITS
Study: Metric and Customary Units
Explore the history of measurement in the forms of the metric system and the British/U.S. System of Units. Create derived units from more basic components, such as "kilometers per hour."
Duration: 0 hrs 40 mins

Checkup: Practice Problems
Complete a set of practice problems to hone your calculation skills.
Duration: 0 hrs 20 mins

Quiz: Metric and Customary Units
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 25 mins Scoring: 20 points

Quiz: Metric System
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 25 mins Scoring: 16 points

LESSON 2: CONVERTING UNITS
Study: Converting Units
Learn about converting between units from different systems, multiplication by one, and canceling units.
LESSON 3: ESTIMATION AND SCALE
Study: Estimation and Scale
Learn about scale of numbers, order of magnitude, powers of 10, estimating large numbers, and Fermi problems.
Duration: 0 hrs 40 mins

Checkup: Practice Problems
Complete a set of practice problems to hone your calculation skills.
Duration: 0 hrs 20 mins

Quiz: Estimation and Scale
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 4: PRECISION IN MEASUREMENT
Study: Precision in Measurement
Learn about precision, accuracy, significant figures, multiplication, and addition.
Duration: 0 hrs 40 mins

Checkup: Practice Problems
Complete a set of practice problems to hone your calculation skills.
Duration: 0 hrs 20 mins

Quiz: Precision in Measurement
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 5: APPLICATIONS OF MEASUREMENT
Study: Applications of Measurement
Learn about applications of units, unit conversions, estimation and scale, order of magnitude, precision, accuracy, and significant figures.
Duration: 0 hrs 40 mins

Checkup: Practice Problems
Complete a set of practice problems to hone your calculation skills.
Duration: 0 hrs 20 mins

Quiz: Applications of Measurement
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 6: WRAP-UP
Practice: Assignment
Submit your work for a set of 20 practice problems.
Duration: 0 hrs 40 mins Scoring: 100 points

Test (CS): Measurement
Take a computer-scored test to assess what you have learned in this unit.
UNIT 3: 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 45 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 25 mins Scoring: 20 points

LESSON 2: ALGEBRAIC PROPERTIES AND EXPRESSIONS

Study: Algebraic Properties and Expressions
Translate verbal descriptions to mathematical expressions, write expressions to model real-world situations, and evaluate expressions using algebraic properties.
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: Algebraic Properties and Expressions
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 25 mins Scoring: 20 points

Journal: Algebraic Properties and Expressions
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: 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

Practice: Modeling: Solving Linear Equations
Model and solve a real-world problem.
Duration: 0 hrs 45 mins Scoring: 20 points

LESSON 4: 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
UNIT 4: SOLVING EQUATIONS AND INEQUALITIES

LESSON 1: 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 2: 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 3: 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 4: 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 45 mins Scoring: 20 points

LESSON 5: 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

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 6: SOLVING EQUATIONS AND INEQUALITIES WRAP-UP
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): 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

UNIT 5: FUNCTIONS
LESSON 1: DOMAIN AND RANGE
Study: Domain and Range
Understand the meanings of the domain and range of a function. Use function notation and evaluate a function for a given value in its domain.
Duration: 0 hrs 45 mins Scoring: 0 points

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

Quiz: Domain and Range
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 25 mins Scoring: 20 points

Journal: Domain and Range
Construct arguments and critique the reasoning of others as you write about topics in algebra.
Duration: 0 hrs 45 mins Scoring: 20 points

LESSON 2: IDENTIFYING FUNCTIONS
Study: Identifying Functions
Determine whether relations represented by graphs or tables of values are functions. Identify the domain and range of a function from an input–output table.
LESSON 3: GRAPHS OF FUNCTIONS

Study: Graphs of Functions
Determine the domain and range of a function from its graph. Identify sections where a graph is increasing, decreasing, or remaining constant.
Duration: 0 hrs 45 mins Scoring: 0 points

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

Quiz: Graphs of Functions
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 25 mins Scoring: 20 points

Practice: Modeling: Graphs of Functions
Model and solve a real-world problem.
Duration: 0 hrs 45 mins Scoring: 20 points

LESSON 4: ADDING AND SUBTRACTING FUNCTIONS

Study: Adding and Subtracting Functions
Learn how to add and subtract functions.
Duration: 0 hrs 45 mins Scoring: 0 points

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

Quiz: Adding and Subtracting Functions
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 5: FUNCTIONS WRAP-UP

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

Discuss: Relating to Functions
Join a three- to five-question discussion to practice methods learned in this unit.
Duration: 0 hrs 40 mins Scoring: 20 points

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

UNIT 6: 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

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

Quiz: Slope
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 25 mins Scoring: 20 points

Journal: Slope
Construct arguments and critique the reasoning of others as you write about topics in algebra.
Duration: 0 hrs 45 mins Scoring: 20 points

LESSON 2: SLOPE-INTERCEPT EQUATION OF A LINE

Study: Slope-Intercept Equation of a Line
Learn to use the slope and \( y \)-intercept of a line to write its slope-intercept equation. Understand the meaning of the slope and \( y \)-intercept in slope-intercept equations that model real-world situations.
Duration: 0 hrs 45 mins Scoring: 0 points

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 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

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 25 mins Scoring: 20 points

LESSON 4: PARALLEL AND PERPENDICULAR LINES

Study: Parallel and Perpendicular Lines
Learn about parallel and perpendicular lines and the relationships between their slopes. Write equations for lines perpendicular and parallel to given lines.
Duration: 0 hrs 45 mins Scoring: 0 points

Checkup: Practice Problems
Check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points
Quiz: Parallel and Perpendicular Lines
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 5: LINEAR INEQUALITIES
Study: Linear Inequalities
Learn how to graph the half-planes that represent solutions for linear inequalities.
Duration: 0 hrs 45 mins Scoring: 0 points

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

Quiz: Linear Inequalities
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 6: LINEAR EQUATIONS WRAP-UP
Discuss: A Slippery Slope
Join a three- to five-question discussion to practice methods learned in this unit.
Duration: 0 hrs 40 mins Scoring: 20 points

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

UNIT 7: 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 45 mins Scoring: 20 points

LESSON 4: TWO-VARIABLE SYSTEMS OF INEQUALITIES
Study: Two-Variable Systems of Inequalities
Use graphing to solve two-variable systems of linear inequalities. Use what you know about solving systems of inequalities to solve a real-world problem where there are constraints (limitations) that restrict your options.
Duration: 0 hrs 45 mins Scoring: 0 points

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

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

Practice: Modeling: Two-Variable Systems of Inequalities
Model and solve a real-world problem.
Duration: 0 hrs 45 mins Scoring: 20 points

LESSON 5: SYSTEMS OF LINEAR EQUATIONS WRAP-UP
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

UNIT 8: SEMESTER 1 WRAP-UP
LESSON 1: SEMESTER I EXAM
Exam: Semester I Exam
Take a computer-scored exam to demonstrate your mastery of concepts and skills covered in this semester.
Duration: 1 hr 20 mins Scoring: 200 points

UNIT 9: 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
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.

Checkup: 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.

Checkup: 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: EXPONENTS AND EXPONENTIAL FUNCTIONS WRAP-UP

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

UNIT 10: QUADRATIC FUNCTIONS

LESSON 1: FACTORING $x^2 + bx + c$
Study: Factoring $x^2 + bx + c$
Learn the definition of a quadratic trinomial. Learn how to factor quadratic trinomials when the coefficient of the $x$-squared term is 1.
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: Factoring $x^2 + bx + c$
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 25 mins Scoring: 20 points

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

Study: Factoring $ax^2 + bx + c$
Learn how to factor quadratic trinomials with leading coefficients other than 1.
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: Factoring $ax^2 + bx + c$
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 25 mins Scoring: 20 points

Practice: Modeling: Factoring $ax^2 + bx + c$
Model and solve a real-world problem.
Duration: 0 hrs 45 mins Scoring: 20 points

LESSON 3: SPECIAL CASES

Study: Special Cases
Learn how to work with special cases of factoring. Learn definitions for a perfect square trinomial and a difference of two squares. Practice using strategies that will help you factor each of these special cases.
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: Special Cases
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 4: 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

Checkup: 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 5: 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

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

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

LESSON 7: GRAPHS OF QUADRATIC FUNCTIONS

Study: Graphs of Quadratic Functions
Relate factors of a quadratic function to the graph of a parabola and its corresponding x-intercepts. Locate the vertex of a quadratic function graphically and algebraically. Use the discriminant of the quadratic formula to identify the number and types of solutions to a given quadratic equation, as well as to visualize its corresponding graph.
Duration: 0 hrs 35 mins Scoring: 0 points

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

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

LESSON 8: QUADRATIC FUNCTIONS WRAP-UP
Discuss: Just the Factors
Join a three- to five-question discussion to practice methods learned in this unit.
Duration: 0 hrs 40 mins Scoring: 20 points

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

UNIT 11: MANIPULATING 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 reciprocal parent functions.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

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

LESSON 2: SHIFTING FUNCTIONS

Study: Shifting Functions
Learn about shifting graphs of functions up/down and left/right by changing the coordinates of each ordered pair. Learn about changing the equation of a function to shift its graph vertically or horizontally and about combining vertical and horizontal shifts.
Duration: 0 hrs 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: Shifting Functions
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: STRETCHING FUNCTIONS VERTICALLY

Study: Stretching Functions Vertically
Learn about vertically stretching or compressing a function’s graph by multiplying by a constant; flipping the graph by multiplying by a negative constant; and combining vertical stretches with vertical or horizontal shifts.
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: Stretching Functions Vertically
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 4: TRANSFORMATION OF PARENT FUNCTIONS

Study: Transformation of Parent Functions
Learn how to perform vertical shifts, horizontal shifts, vertical stretches and compressions, horizontal stretches and compressions, and any combination of these transformations on parent functions.
Duration: 0 hrs 35 mins Scoring: 0 points
Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

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

Practice: Modeling: Transformations of Parent Functions
Use the modeling tool to transform a function.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 5: ARITHMETIC OF FUNCTIONS
Study: Arithmetic of Functions
Learn how to add, subtract, multiply, divide, and compose functions.
Duration: 0 hrs 35 mins

Checkup: Practice Problems
Complete a set of practice problems on the arithmetic of functions.
Duration: 0 hrs 25 mins

Quiz: Arithmetic of Functions
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 6: PERFORMANCE TASK: TRANSFORMING FUNCTIONS
Study: Solving the Ball-Tossing Problem
Create an equation using data from a table, and graph the result.
Duration: 0 hrs 35 mins Scoring: 0 points

Project: Performance Task: 3-D Printer Business
Create an equation using data from a table, and graph the result.
Duration: 2 hrs Scoring: 150 points

LESSON 7: MANIPULATING FUNCTIONS WRAP-UP
Test (CS): Manipulating Functions
Take a computer-scored test to assess what you have learned in this unit.
Duration: 1 hr Scoring: 75 points

UNIT 12: 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
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: DIVIDING POLYNOMIALS
Study: Dividing Polynomials
Learn how to do long division with polynomials. Find out how to divide polynomials with missing terms and divide polynomials with remainders.
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: Dividing Polynomials
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 3: 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 4: 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
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 5: POLYNOMIAL IDENTITIES
Study: Polynomial Identities
Prove polynomial identities and use them to describe numerical relationships.
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: Polynomial Identities
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 6: TRANSFORMATIONS OF POLYNOMIAL FUNCTIONS
Study: Transformations of Polynomial Functions
Transform polynomial functions.
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: Transformations of Polynomial Functions
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 7: POLYNOMIAL FUNCTIONS WRAP-UP
Test (CS): Polynomial Functions
Take a computer-scored test to check what you have learned in this unit.
Duration: 0 hrs 40 mins Scoring: 52 points

UNIT 13: RATIONAL EXPRESSIONS AND FUNCTIONS

LESSON 1: 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

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

LESSON 2: SIMPLIFYING RATIONAL EXPRESSIONS
Study: Simplifying Rational Expressions
Practice finding and dividing out common factors in numerators and denominators of rational expressions. Explore the crucial difference between common factors and terms.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

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

LESSON 3: MULTIPLYING AND DIVIDING RATIONAL EXPRESSIONS
Study: Multiplying and Dividing Rational Expressions
Review multiplying and dividing numerical fractions, multiplying rational expressions, dividing rational expressions, and simplifying the results.
Duration: 0 hrs 35 mins Scoring: 0 points
LESSON 4: ADDING AND SUBTRACTING RATIONAL EXPRESSIONS

Study: Adding and Subtracting Rational Expressions
Review adding and subtracting numerical fractions, adding and subtracting rational expressions with like denominators, finding least common denominators, finding multiples of rational expressions, and adding and subtracting rational expressions with unlike denominators.
Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to check your understanding of the lesson.
Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Adding and Subtracting Rational Expressions
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 5: RATIONAL EQUATIONS

Study: Rational Equations
Learn how to solve simple rational equations.
Duration: 0 hrs 50 mins Scoring: 0 points

Checkup: Practice Problems
Complete a set of practice problems to hone your calculation skills.
Duration: 0 hrs 30 mins Scoring: 0 points

Quiz: Rational Equations
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 6: SOLVING RADICAL EQUATIONS

Study: Solving Radical Equations
Learn how to solve equations with radical expressions by isolating the radical and squaring both sides.
Duration: 0 hrs 40 mins

Checkup: Practice Problems
Complete a set of practice problems to hone your calculation skills.
Duration: 0 hrs 25 mins

Quiz: Solving Radical Equations
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 20 points

Study: Applications of Radical Equations
Explore case studies in order to practice methods of solving radical equations in applied settings.
Duration: 0 hrs 40 mins

LESSON 7: RATIONAL EXPRESSIONS WRAP-UP

Test (CS): Rational Expressions
Take a computer-scored test to assess what you have learned in this unit.
UNIT 14: DATA AND MATHEMATICAL MODELING

LESSON 1: TWO-WAY FREQUENCY TABLES

Study: Two-Way Frequency Tables
Learn how to build and use two-way frequency tables and two-way relative frequency tables. Understand how to find and use joint frequencies and marginal frequencies, and how to calculate conditional relative probabilities from a two-way table. Use two-way tables to recognize associations in data.
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-Way Frequency Tables
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 25 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 45 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 45 mins Scoring: 20 points

LESSON 5: DATA AND MATHEMATICAL MODELING WRAP-UP
Test (CS): Data and Mathematical Modeling
Take a computer-scored test to check what you have learned in this unit.
Duration: 0 hrs 40 mins Scoring: 50 points

UNIT 15: SEMESTER 2 WRAP-UP
LESSON 1: SEMESTER 2 EXAM
Exam: Semester 2 Exam
Take a computer-scored exam to demonstrate your mastery of concepts and skills covered in this semester.
Duration: 1 hr 20 mins Scoring: 200 points