

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

Checkpoint: 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

Checkpoint: 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.

Duration: 0 hrs 40 mins

Checkpoint: Practice Problems

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

Duration: 0 hrs 20 mins

Quiz: Converting Units

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

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.

Duration: 0 hrs 40 mins Scoring: 50 points

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

Checkpoint: 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

Checkpoint: 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

Checkpoint: 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

Discuss: Using X to Mark the Spot

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.

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

Checkpoint: 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

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 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

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 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

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 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

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: ADDING AND SUBTRACTING FUNCTIONS

Study: Adding and Subtracting Functions

Learn how to add and subtract 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: 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

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

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

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: 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

Checkpoint: 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

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 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

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 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

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 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

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.

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

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 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 1 EXAM

Exam: Semester 1 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

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

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

Checkpoint: 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

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 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

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 6: THE QUADRATIC FORMULA

Study: The Quadratic Formula

Learn about types of equations that can be solved with the quadratic formula; complex numbers; discriminants; and

finding roots (including complex roots) using the quadratic formula.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

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

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Complex Numbers and Discriminants

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

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: The Quadratic Formula

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 7: GRAPHS OF QUADRATIC FUNCTIONS

Study: Graphs of Quadratic Functions

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

Duration: 0 hrs 35 mins Scoring: 0 points

Checkpoint: Practice Problems

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

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Graphs of Quadratic Functions

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

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Working with the Discriminant

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

Duration: 0 hrs 20 mins Scoring: 20 points

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

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: 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

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: 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

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: 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

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: 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: T 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

Checkpoint: 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

Checkpoint: 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

Checkpoint: 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

Checkpoint: Practice Problems

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

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Polynomial Functions

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 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

Checkpoint: 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

Checkpoint: 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: T TRANSFORMATIONS OF POLYNOMIAL FUNCTIONS

Study: Transformations of Polynomial Functions

Transform polynomial functions.

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: T 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

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 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

Checkpoint: Practice Problems

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

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Simplifying Rational Expressions

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 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

Checkpoint: Practice Problems

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

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Multiplying and Dividing Rational Expressions

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

Duration: 0 hrs 20 mins Scoring: 20 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

Checkpoint: Practice Problems

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

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Adding and Subtracting Rational Expressions

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 5: RATIONAL EQUATIONS**Study: Rational Equations**

Learn how to solve simple rational equations.

Duration: 0 hrs 50 mins Scoring: 0 points

Checkpoint: 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.

Duration: 1 hr Scoring: 75 points

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

Checkpoint: 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

Checkpoint: 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