Florida Algebra I focuses on the understanding of key algebraic topics and the mastery of critical reasoning skills. It is aligned with Florida's Next Generation Sunshine State Standards and prepares students for Florida's end-of-course assessment for Algebra I. Through a "Discovery-Confirmation-Practice"-based exploration of algebraic concepts, students are challenged to work toward a mastery of computational skills, to deepen their conceptual understanding of key ideas and solution strategies, and to extend their knowledge in a variety of problem-solving applications. Course topics include algebraic expressions and equations; problem solving with functions; graphing; linear equations and inequalities; polynomials; radical expressions and equations; rational expressions and functions; and matrices.

Florida Algebra I features ample opportunity for students to hone their computational skills by working through practice problem sets before moving on to formal assessment. Throughout the course, diagnostic assessments help students to quickly identify areas of weakness and improve performance while summative assessments chart progress and skill development.

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

Length: Two semesters

UNIT 1: PATTERNS IN MATHEMATICS

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

Quiz: Rational and Irrational Numbers
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 2: INTEGERS AND OPERATIONS

Study: Integers and Operations
Review sets; subsets; elements; whole numbers; positive and negative integers; the number line; absolute value; arithmetic operations and their properties; and the order of operations.
Duration: 0 hrs 40 mins

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

Quiz: Properties of Operations
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 25 mins Scoring: 28 points

Quiz: Order of Operations

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 18 points

LESSON 3: FRACTIONS AND DECIMALS

Study: Fractions and Decimals

Review fraction terminology (including "numerator" and "denominator"); performing operations with fractions; real (rational and irrational) numbers; equivalent fractions; prime numbers and factorization; least common multiples; reciprocals; and converting fractions to decimals and percents.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Like Denominators

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 16 points

Quiz: Equivalent Fractions

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 18 points

Quiz: Fractions, Decimals, and Percents

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 28 points

LESSON 4: EXPONENTS

Study: Exponents

Review exponents and their place in the order of operations; laws for evaluating exponential expressions; fractional and decimal exponents; radical notation and principal square roots; laws for simplifying radical expressions; and scientific notation.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Exponential Expressions

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

Quiz: Operations with Radicals

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 16 points

Quiz: Scientific Notation

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 24 points

LESSON 5: VARIABLES AND PROBLEM SOLVING

Study: Variables and Problem Solving

Review variable expressions; mathematical sentences; equations and inequalities; solution sets; and steps to solving algebra problems.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Variables and Problem Solving

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins   Scoring: 28 points

LESSON 6: WHAT IS A SET?

Study: What Is a Set?

Define a set and its parts. Explore sets in the real world.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: What Is a Set?

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins   Scoring: 12 points

LESSON 7: SET NOTATION

Study: Set Notation

Learn the standard notation for sets.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Set Notation

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins   Scoring: 12 points

LESSON 8: SET OPERATIONS

Study: Set Operations

Learn to perform operations on sets, including union and intersection, complement, and Cartesian product.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Set Operations

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins   Scoring: 12 points

LESSON 9: SET RELATIONSHIPS

Study: Set Relationships

Use Venn diagrams to explore such concepts as inclusion, containment, and subsets.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Set Relationships

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins   Scoring: 12 points

LESSON 10: PATTERNS IN MATHEMATICS WRAP-UP

Test (CS): Patterns in Mathematics

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

Duration: 1 hr Scoring: 75 points

LESSON 11: DIAGNOSTIC

Diagnostic: Patterns in Mathematics

Take a diagnostic test that will create a study plan based on your answers.

Duration: 0 hrs 40 mins Scoring: 40 points

UNIT 2: ALGEBRAIC EXPRESSIONS AND EQUATIONS

LESSON 1: PROPERTIES OF OPERATIONS

Study: Properties of Operations

Learn about the associative, commutative, and distributive properties of addition and multiplication.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: The Associative Property

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

Quiz: The Commutative and Distributive Properties

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 2: SOLVING WITH ADDITION AND SUBTRACTION

Study: Solving with Addition and Subtraction

Review isolating variables, using a number line to solve equations, and solution sets for inequalities.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Solving Equations with Addition and Subtraction

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 16 points

Quiz: Solving Inequalities with Addition and Subtraction

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 16 points

LESSON 3: SOLVING WITH MULTIPLICATION AND DIVISION

Study: Solving with Multiplication and Division

Review solving equations involving multiplication, including by using a number line; solving equations involving division, including by using a number line; and solving inequalities with multiplication and division.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Solving Equations with Multiplication

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 16 points

Quiz: Solving Equations with Division

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 16 points

Quiz: Solving Inequalities with Multiplication and Division

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 22 points

LESSON 4: SOLVING WITH ROOTS AND POWERS

Study: Solving with Roots and Powers

Review solving equations with square roots and absolute values. Review solving inequalities with square roots and absolute values, including by using a number line.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Solving with Roots and Powers

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 16 points

Quiz: Solving Inequalities with Roots and Powers

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 16 points

Quiz: Finding Solution Sets with Inequalities

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 16 points

LESSON 5: SOLVING MULTISTEP LINEAR EQUATIONS

Study: Solving Multistep Linear Equations

Review collecting like terms, using both addition/subtraction and multiplication/division and identifying equations that are never or always true.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Basic Collecting of Like Terms

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 16 points

Quiz: Advanced Collecting of Like Terms

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 16 points

Quiz: Finding Number of Solution Sets

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 16 points

LESSON 6: ADDING AND SUBTRACTING POLYNOMIALS

Study: Adding and Subtracting Polynomials

Learn about using tiles to represent, add, and subtract polynomials and about adding and subtracting polynomials by collecting like terms. Apply these methods to the real-world problem of purchasing streetlamps.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Quiz: Polynomial Addition with Tiles

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

Quiz: Polynomial Addition

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 28 points

Quiz: Polynomial Subtraction

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 16 points

LESSON 7: ALGEBRAIC EXPRESSIONS AND EQUATIONS WRAP-UP

Test (CS): Algebraic Expressions and Equations

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

Duration: 1 hr Scoring: 75 points

LESSON 8: DIAGNOSTIC

Diagnostic: Algebraic Expressions and Equations

Take a diagnostic test that will create a study plan based on your answers.

Duration: 0 hrs 40 mins Scoring: 30 points

UNIT 3: PROPORTIONAL REASONING

LESSON 1: SOME GUIDELINES FOR PROBLEM SOLVING

Study: Some Guidelines for Problem Solving

Use problem-solving tips to solve a problem. Develop a general strategy for solving problems.

Duration: 0 hrs 40 mins

Quiz: Some Guidelines for Problem Solving

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

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Canceling Units

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

Quiz: Converting Units

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 3: UNITS AND REASONABLE VALUES

Study: Units and Reasonable Values

Learn about units of measurement and predict reasonable values for answers to word problems.

Duration: 0 hrs 40 mins Scoring: 0 points

Checkup: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 30 mins Scoring: 0 points

Quiz: Units and Reasonable Values

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 4: 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 30 mins

Quiz: Applications of Measurement

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

LESSON 5: INTRODUCTION TO RATIOS

Study: Introduction to Ratios

Learn about writing fractions as ratios, simplifying ratios, other ways to write ratios, and the order of numbers in a ratio. Practice these skills using sample problems.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Introduction to Ratios

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 10 points

LESSON 6: COMPARING RATIOS

Study: Comparing Ratios

Learn how to compare two ratios and convert ratios into fractions and percentages.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Comparing Ratios

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 10 points

LESSON 7: RATES

Study: Rates

Use ratios to define rates and solve rate problems.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Rates

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 8 points

LESSON 8: PROBLEM SOLVING

Study: Problem Solving

Learn strategies for solving a variety of application problems related to topics in this unit.

Duration: 0 hrs 40 mins

Practice: Assignment

Submit your work for a set of problem-solving applications.

Duration: 0 hrs 40 mins Scoring: 25 points

LESSON 9: RATES OF CHANGE

Study: Rates of Change

Learn about average rate of change by discussing the example of average speed. Discover the difference between constant and variable rates of change.

Duration: 0 hrs 40 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: Rates of Change

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 10: PROPORTIONS

Study: Proportions

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

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Practice: Proportion Builder Tool

Use a proportion builder tool to investigate proportions.

Duration: 0 hrs 40 mins Scoring: 25 points

Quiz: Proportions

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 16 points

LESSON 11: PROPORTIONAL REASONING WRAP-UP

Test (CS): Proportional Reasoning

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

Duration: 1 hr Scoring: 75 points

LESSON 12: DIAGNOSTIC

Diagnostic: Proportional Reasoning

Take a diagnostic test that will create a study plan based on your answers.

Duration: 0 hrs 40 mins Scoring: 37 points

UNIT 4: FUNCTIONS AND RELATIONS

LESSON 1: VARIABLE EXPRESSIONS

Study: Variable Expressions

Define and form variable expressions using operations.

Duration: 0 hrs 40 mins Scoring: 0 points

Checkup: Practice Problems
Check your understanding of the lesson.

Duration: 0 hrs 30 mins Scoring: 0 points

Quiz: Variable Expressions
Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 2: MATHEMATICAL SENTENCES

Study: Mathematical Sentences
Learn about the types and parts of mathematical sentences. Learn to turn word problems into mathematical sentences.

Duration: 0 hrs 40 mins Scoring: 0 points

Checkup: Practice Problems
Check your understanding of the lesson.

Duration: 0 hrs 30 mins Scoring: 0 points

Quiz: Mathematical Sentences
Take a quiz to check your understanding of what you have learned.

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 3: FUNCTION NOTATION

Study: Function Notation
Learn about and explore examples of function notation.

Duration: 0 hrs 40 mins

Checkup: Practice Problems
Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 30 mins

Quiz: Translating to Function Notation
Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

Quiz: Function Notation for Specific Amounts
Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

Quiz: Naming Functions
Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 4: FUNCTIONS AND RELATIONS

Study: Functions and Relations
Learn about using mapping diagrams; ordered pairs on diagrams; the difference between mapping diagrams of functions and relations; the vertical-line test; and equations of functions and relations.

Duration: 0 hrs 40 mins

Checkup: Practice Problems
Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 30 mins

Quiz: Mapping Functions and Relations
Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

Quiz: Identifying Functions and Relations
Take a quiz to assess your understanding of the material.

LESSON 5: DOMAIN AND RANGE

Study: Domain and Range

Learn about domain and range on a mapping diagram, estimating domain and range of functions, and calculating the domain of a function from an equation.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Domain and Range

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 6: FUNCTIONS AND RELATIONS WRAP-UP

Test (CS): Functions and Relations

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

Duration: 1 hr Scoring: 75 points

LESSON 7: DIAGNOSTIC

Diagnostic: Functions and Relations

Take a diagnostic test that will create a study plan based on your answers.

Duration: 0 hrs 40 mins Scoring: 24 points

UNIT 5: LINEAR EQUATIONS

LESSON 1: PATTERNS AND LINES

Study: Patterns and Lines

Explore a variety of functional relationships involving direct variation. Get an introduction to lines by examining the connection between the pattern of points on the graph of a line and the line's equation. Find the equation of a line based on the coordinates of its points and graph a linear equation from a chart of its solutions.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Finding Equations of Lines as Solutions

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

LESSON 2: LINES IN THE *XY*-PLANE

Study: Lines in the *xy*-plane

Learn about plotting solution set values of equations as data points on the *xy*-plane (that is, plotting the graph of the equation).

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Lines in the *xy*-plane

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 3: SLOPE

Study: Slope

Learn about rise, run, and the slope formula. Learn about rearranging a formula to compute rise and run, negative zero, and undefined slopes.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Finding the Slope of a Line (Basic)

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

Quiz: Finding the Slope of a Line (Advanced)

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

Quiz: Identifying Types of Slopes

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 4: SLOPE AND EQUATIONS

Study: Slope and Equations

Learn about finding the equation of a line. Learn about slope as the coefficient of the variable in the linear equation ($y = mx$).

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Slope and Equations

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 5: SLOPE-INTERCEPT FORM

Study: Slope-Intercept Form

Determine the equations of lines that don't pass through the origin. Plot a set of points to find the graph, slope, and y-intercept equation of a line. Discover the general form of the slope-intercept equation of a line.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Slope-Intercept Form

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 6: GRAPHING AND MANIPULATING $Y = MX + B$

Study: Graphing and Manipulating $y = mx + b$

Learn, describe, and predict how changing the values of m and b in the slope-intercept equation of a line changes the graph of the equation.

Duration: 0 hrs 40 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: Graphing and Manipulating $y = mx + b$

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins   Scoring: 20 points

LESSON 7: POINT-SLOPE FORM

Study: Point-Slope Form

Learn about the point-slope equation and about manipulating equations into slope-intercept form.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Point-Slope Equation of a Line

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins   Scoring: 12 points

Quiz: Point-Intercept Equation of a Line

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins   Scoring: 12 points

LESSON 8: PROPERTIES OF LINES

Study: Properties of Lines

Derive information about lines in their various forms.

Duration: 0 hrs 40 mins

Practice: Properties of Lines

Submit your work for a set of 20 practice problems.

Duration: 0 hrs 40 mins   Scoring: 25 points

LESSON 9: PARALLEL AND PERPENDICULAR LINES

Study: Parallel and Perpendicular Lines

Define parallel lines and the relationship of their slopes. Identify perpendicular lines, how they intersect, and the product of their slopes as negative reciprocals.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Parallel and Perpendicular Lines

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins   Scoring: 12 points

LESSON 10: LINEAR EQUATIONS WRAP-UP

Test (CS): Linear Equations

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

Duration: 1 hr   Scoring: 75 points

LESSON 11: DIAGNOSTIC

Diagnostic: Linear Equations

Take a diagnostic test that will create a study plan based on your answers.

Duration: 0 hrs 40 mins   Scoring: 29 points

UNIT 6: SYSTEMS OF LINEAR EQUATIONS

LESSON 1: FORMULATING SYSTEMS OF EQUATIONS

Study: Formulating Systems of Equations

Learn how to formulate mathematical equations from word problems that are described by a system of two equations

or inequalities.

Duration: 0 hrs 40 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: Formulating Systems of Equations

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 2: TWO-VARIABLE SYSTEMS: GRAPHING

Study: Two-Variable Systems: Graphing

Learn about graphing systems of two linear equations and investigating when and why systems of linear equations have no solutions, exactly one solution, or infinitely many solutions.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Solving with Graphing

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

LESSON 3: TWO-VARIABLE SYSTEMS: SUBSTITUTION

Study: Two-Variable Systems: Substitution

Learn about replacing a variable with an equal value or expression in order to transform a two-variable equation into a one-variable equation. Learn about using the substitution method to solve systems of linear equations and about applying this method to the real-world problem of a rabbit catching a turtle.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Solving with Substitution

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

LESSON 4: TWO-VARIABLE SYSTEMS: ELIMINATION

Study: Two-Variable Systems: Elimination

Strategize methods for eliminating a variable term when solving a system of linear equations. Practice adding or subtracting the same value from both sides of an equation in order to eliminate strategic terms. Change equations from nonstandard form to standard form so that they are easier to work with and adapt to the elimination method.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Solving with Elimination — Standard Form

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

Quiz: Solving with Elimination — Non-Standard Form

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 26 points

LESSON 5: SYSTEMS OF LINEAR EQUATIONS WRAP-UP

Test (CS): Systems of Linear Equations

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

Duration: 1 hr Scoring: 75 points

LESSON 6: DIAGNOSTIC

Diagnostic: Systems of Linear Equations

Take a diagnostic test that will create a study plan based on your answers.

Duration: 0 hrs 40 mins Scoring: 29 points

UNIT 7: LINEAR INEQUALITIES

LESSON 1: SOLVING INEQUALITIES

Study: Solving Inequalities

Develop strategies to solve various forms of inequalities and display their solution set on a number line.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Solving Inequalities

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 2: INEQUALITIES

Study: Inequalities

Learn about solving inequalities by dividing by the coefficient of a variable. Learn about multiplying and dividing inequalities by negative numbers.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Solving Inequalities with Division

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

Quiz: Solving Inequalities with Multiplication

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 3: INEQUALITIES AND ABSOLUTE VALUE

Study: Inequalities and Absolute Value

Learn about using a number line to find solution sets of equations with absolute values.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Inequalities and Absolute Value

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 4: MULTISTEP AND COMPOUND INEQUALITIES

Study: Multistep and Compound Inequalities

Apply the techniques you have learned so far in this unit to solve multistep and compound inequalities.

Duration: 0 hrs 40 mins

Checkup: Practice Problems
Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 30 mins

Quiz: Multistep and Compound Inequalities
Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 5: LINEAR INEQUALITIES

Study: Linear Inequalities
Learn about graphing inequalities and the half-plane. Discover three steps to graphing inequalities.

Duration: 0 hrs 40 mins

Checkup: Practice Problems
Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 30 mins

Quiz: Linear Inequalities
Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 6: TWO-VARIABLE SYSTEMS OF INEQUALITIES

Study: Two-Variable Systems of Inequalities
Learn about graphing and finding solution sets for systems of inequalities, including those with no solution and those with more than two inequalities.

Duration: 0 hrs 40 mins

Checkup: Practice Problems
Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 30 mins

Practice: Graphing Tool
Use a graphing tool to investigate two-variable systems of inequalities.

Duration: 0 hrs 40 mins Scoring: 25 points

Quiz: Solving Systems of Inequalities
Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 22 points

Quiz: Solving Systems with More Than Two Inequalities
Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 22 points

LESSON 7: PROBLEM SOLVING

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

Duration: 0 hrs 40 mins

Practice: Assignment
Submit your work for a set of problem-solving applications.

Duration: 0 hrs 40 mins Scoring: 25 points

LESSON 8: LINEAR INEQUALITIES WRAP-UP

Test (CS): Linear Inequalities
Take a computer-scored test to check what you have learned in this unit.

Duration: 1 hr Scoring: 75 points

LESSON 9: DIAGNOSTIC

Diagnostic: Linear Inequalities

Take a diagnostic test that will create a study plan based on your answers.

Duration: 0 hrs 40 mins Scoring: 37 points

UNIT 8: FLORIDA ALGEBRA I SEMESTER 1 EXAM

LESSON 1: FLORIDA ALGEBRA I SEMESTER 1 EXAM

Exam: Florida Algebra I Semester 1 Exam

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

Duration: 1 hr Scoring: 200 points

UNIT 9: FUNCTIONS

LESSON 1: FUNCTION NOTATION

Study: Function Notation

Review the concepts of domain, range, and independent and dependent variables. Learn about function notation, and work with tables and dot plots to discover the difference between a relation and a function.

Duration: 0 hrs 40 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: Function Notation

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 2: EQUALITY OF FUNCTIONS

Study: Equality of Functions

Learn the difference between discrete and continuous domains and use this distinction to discover what it means for two functions to be equal.

Duration: 0 hrs 40 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: Equality of Functions

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 3: DATA ANALYSIS

Study: Data Analysis

Learn about using the Cartesian coordinate system to find patterns in data; plotting points on a graph; dependent and independent variables; converting table data to ordered pairs; and using the best-fit line to estimate the value of data points.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Practice: Graphing Tool

Use a graphing tool to find best-fit lines and use them to make predictions.

Duration: 0 hrs 40 mins Scoring: 25 points

Quiz: Data Analysis

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 18 points

LESSON 4: SHIFTS OF LINES

Study: Shifts of Lines

Learn about vertical and horizontal shifts of functions in the context of the example $y = f(x) = x$. Discover that shifting a line does not change the slope.

Duration: 0 hrs 40 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: Shifts of Lines

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 5: THE EQUATION OF A LINE

Study: The Equation of a Line

Apply the stretch and contract transformations to the line $y = x$ and discover that these are equivalent to changing the slope. Discover the point-slope and slope-intercept equations of a general line.

Duration: 0 hrs 40 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: The Equation of a Line

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 6: 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 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Shifting Functions Vertically

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 18 points

Quiz: Shifting Functions Horizontally

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 16 points

Quiz: Shifting Functions Vertically and Horizontally

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 18 points

LESSON 7: 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 40 mins

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

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

LESSON 8: ABSOLUTE VALUE

Study: Absolute Value
Learn the definition of the absolute-value function. Explore concepts of propositional logic — such as contrapositive, inverse, and converse — by analyzing statements concerning the absolute-value function.
Duration: 0 hrs 40 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: Absolute Value
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 9: FUNCTIONS WRAP-UP

Test (CS): Functions
Take a computer-scored test to check what you have learned in this unit.
Duration: 1 hr Scoring: 75 points

LESSON 10: DIAGNOSTIC

Diagnostic: Functions
Take a diagnostic test that will create a study plan based on your answers.
Duration: 0 hrs 40 mins Scoring: 42 points

UNIT 10: EXPONENTS

LESSON 1: DEFINITIONS AND EXAMPLES OF EXPONENTS

Study: Definitions and Examples of Exponents
Learn the definitions of base, exponent, power, and exponential expression. Learn to use a table to illustrate real-world applications of exponents.
Duration: 0 hrs 40 mins

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

Quiz: Definitions and Examples of Exponents
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 2: EXPONENTS

Study: Exponents
Review exponents and their place in the order of operations. Learn ways to evaluate exponential expressions. Learn about fractional and decimal exponents, radical notation, square roots, and scientific notation.
Duration: 0 hrs 40 mins Scoring: 0 points

Checkup: Practice Problems
Check your understanding of the lesson.
Duration: 0 hrs 30 mins Scoring: 0 points

Quiz: Exponential Expressions

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

Duration: 0 hrs 25 mins Scoring: 20 points

Quiz: Operations with Radicals

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

Duration: 0 hrs 25 mins Scoring: 20 points

Quiz: Scientific Notation

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

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 3: LAWS OF EXPONENTS

Study: Laws of Exponents

Learn about the multiplication law of exponents with positive and negative exponents; the rule for negative exponents; the division law of exponents; raising products and fractions to a power; and the power rule of exponents.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: The Multiplication Law of Exponents

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

Quiz: Zero and Negative Exponents

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

Quiz: The Division Law of Exponents

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

Quiz: Raising Products and Fractions to a Power

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

Quiz: The Power Rule of Exponents

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 4: SCIENTIFIC NOTATION

Study: Scientific Notation

Learn about expressing large numbers using scientific notation and about the form of scientific notation. Explore examples from elementary science.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Scientific Notation

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 5: EXPONENTS IN GEOMETRY

Study: Exponents in Geometry

Learn about using exponents to represent area and volume formulae. Explore units of area and volume.

Duration: 0 hrs 40 mins

Checkup: Practice Problems
Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 30 mins

Quiz: Exponents in Geometry
Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 6: WHAT IS A MONOMIAL?

Study: What Is a Monomial?
Explore the world of monomials.

Duration: 0 hrs 40 mins

Checkup: Practice Problems
Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 30 mins

Practice: Algebra Tiles Tool
Use an algebra tiles tool to investigate monomials.

Duration: 0 hrs 40 mins Scoring: 25 points

Quiz: What Is a Monomial?
Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 7: 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 40 mins

Checkup: Practice Problems
Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 30 mins

Quiz: Evaluating Exponential Functions
Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

Quiz: Calculating Exponential Growth
Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 28 points

LESSON 8: GRAPHS OF EXPONENTIAL FUNCTIONS

Study: Graphs of Exponential Functions
Learn about the shape of graphs of exponential functions with various bases and about finding the domain and range of exponential functions.

Duration: 0 hrs 40 mins

Checkup: Practice Problems
Complete a set of practice problems to hone your calculation skills.

Duration: 0 hrs 30 mins

Quiz: Graphs of Exponential Functions
Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

LESSON 9: GEOMETRIC SEQUENCES

Study: Geometric Sequences

Explore geometric sequences as sets of numbers in which the ratio between any two consecutive numbers is a constant. Compare how the recursive formula and the explicit formula allow you to find the value of any term in a geometric sequence. Explore the graphs of geometric sequences as exponential curves.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Geometric Sequences

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 26 points

Quiz: Formulas for Geometric Sequences

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 24 points

LESSON 10: EXPONENTS WRAP-UP

Test (CS): Exponents

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

Duration: 1 hr Scoring: 75 points

LESSON 11: DIAGNOSTIC

Diagnostic: Exponents

Take a diagnostic test that will create a study plan based on your answers.

Duration: 0 hrs 40 mins Scoring: 39 points

UNIT 11: QUADRATIC EQUATIONS AND FUNCTIONS

LESSON 1: MULTIPLYING BINOMIALS

Study: Multiplying Binomials

Learn about using tiles to multiply linear binomials; using the distributive property to simplify and find the product of two binomials; and the FOIL (first, outer, inner, last) method of finding products.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Finding Products of Binomials

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 28 points

Quiz: Finding the Product of Two Binomials

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

Quiz: The FOIL Method

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 16 points

LESSON 2: MULTIPLYING POLYNOMIALS

Study: Multiplying Polynomials

Learn about using a table to multiply polynomials; using the distributive property; and multiplying polynomials by arranging them vertically.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Polynomial Multiplication

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 22 points

Quiz: Polynomial Multiplication (Advanced)

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 28 points

LESSON 3: WHY FACTOR?

Study: Why Factor?

Learn about composite numbers, reducible polynomials, and the zero product rule.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Factoring Polynomials

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

LESSON 4: 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 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Binomial Factors of Trinomials

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

Quiz: Factoring Trinomials

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

LESSON 5: 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 a leading coefficient different from 1.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Factoring Trinomials (Basic)

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

Quiz: Factoring Trinomials (Advanced)

Take a quiz to assess your understanding of the material.
Duration: 0 hrs 25 mins Scoring: 30 points

LESSON 6: SPECIAL CASES

Study: Special Cases

Learn about recognizing and factoring a difference of squares; perfect-square trinomials; sums; and differences of two cubes.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Factoring a Difference of Squares

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

Quiz: Factoring Perfect Square Trinomials

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

Quiz: Sum or Difference of Two Cubes

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

LESSON 7: 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 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Factoring with the Zero Product Rule

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 28 points

Quiz: Converting Quadratics to Standard Form

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 28 points

Quiz: Quadratics with Perfect Square Trinomials

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 16 points

LESSON 8: COMPLETING THE SQUARE

Study: Completing the Square

Learn about solving quadratic equations without perfect-square trinomials; completing the square using tiles; and completing the square when the coefficients are more complicated.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Completing the Square

Take a quiz to assess your understanding of the material.

Quiz: Completing the Square (Advanced)

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 24 points

LESSON 9: THE QUADRATIC FORMULA

Study: The Quadratic Formula

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

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Complex Numbers and Discriminants

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

Quiz: The Quadratic Formula

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 30 points

LESSON 10: APPLICATIONS OF QUADRATIC EQUATIONS

Study: Solving Quadratic Equations

Learn the definition of a quadratic equation. Discover how the square-root function can be used to solve quadratics without a linear term. Use factoring to solve more general quadratic 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: Solving Quadratic Equations

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 11: FACTORING AND GRAPHING

Study: Factoring and Graphing

Learn about the connection between roots and linear factors; using roots on graphs of polynomials to find linear factors; and polynomials with no linear factors or repeated linear factors.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Factoring by Graphing

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 28 points

Quiz: Factoring by Graphing (Advanced)

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 22 points

LESSON 12: 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 50 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Graphs of Quadratic Functions

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

Quiz: Working with the Discriminant

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 13: QUADRATIC EQUATIONS AND FUNCTIONS WRAP-UP

Test (CS): Quadratic Equations and Functions

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

Duration: 1 hr Scoring: 75 points

LESSON 14: DIAGNOSTIC

Diagnostic: Quadratic Equations and Functions

Take a diagnostic test that will create a study plan based on your answers.

Duration: 0 hrs 40 mins Scoring: 44 points

UNIT 12: RADICAL EXPRESSIONS AND EQUATIONS

LESSON 1: BASICS OF RADICALS

Study: Basics of Radicals

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

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Simplifying Products of Radicals

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

Quiz: Simplifying Quotients of Radicals

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

LESSON 2: MULTIPLYING AND DIVIDING RADICALS

Study: Multiplying and Dividing Radicals

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

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Multiplying Radicals

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

Quiz: Dividing Radicals

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 28 points

LESSON 3: ADDING AND SUBTRACTING RADICALS

Study: Adding and Subtracting Radicals

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

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Adding and Subtracting Radicals

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

LESSON 4: RATIONALIZING DENOMINATORS

Study: Rationalizing Denominators

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

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Rationalizing Denominators

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

LESSON 5: SOLVING RADICAL EQUATIONS

Study: Solving Radical Equations

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

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Solving Radical Equations

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 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 6: RADICAL EXPRESSIONS AND EQUATIONS WRAP-UP

Test (CS): Radical Expressions and Equations

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

Duration: 1 hr Scoring: 75 points

LESSON 7: DIAGNOSTIC

Diagnostic: Radical Expressions and Equations

Take a diagnostic test that will create a study plan based on your answers.

Duration: 0 hrs 40 mins Scoring: 30 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 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Rational Expressions

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 16 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 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Simplifying Rational Expressions

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 16 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 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Multiplying Rational Expressions

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 18 points

Quiz: Dividing Rational Expressions

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 18 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; multiples of rational expressions; and adding and subtracting rational expressions with unlike denominators.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Adding and Subtracting Rational Expressions

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 22 points

LESSON 5: INVERSE VARIATION

Study: Inverse Variation

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

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Inverse Variation

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 18 points

LESSON 6: ADVANCED PROPORTIONS

Study: Advanced Proportions

Learn how to solve more advanced proportions and explore real-world scenarios that require advanced proportional reasoning.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Advanced Proportions

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 7: RATIONAL EQUATIONS

Study: Rational Equations

Learn how to solve simple rational equations.

Duration: 0 hrs 40 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 8: RATIONAL FUNCTIONS

Study: Rational Functions

Learn the definition of a rational function and about finding the domain of a given function. Explore the horizontal and vertical asymptotes of rational functions.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Rational Functions

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 28 points

LESSON 9: RATIONAL EXPRESSIONS AND EQUATIONS WRAP-UP

Test (CS): Rational Expressions and Equations

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

Duration: 1 hr Scoring: 75 points

LESSON 10: DIAGNOSTIC

Diagnostic: Rational Expressions and Equations

Take a diagnostic test that will create a study plan based on your answers.

Duration: 0 hrs 40 mins Scoring: 38 points

UNIT 14: MATRICES

LESSON 1: TWO-VARIABLE SYSTEMS: MATRICES

Study: Two-Variable Systems: Matrices

Learn about using a matrix to represent a system of linear equations; using row arithmetic as shorthand for the elimination method; and using matrices to solve systems of linear equations.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Reading and Using Matrices

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 22 points

Quiz: Solving with a Matrix

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 28 points

LESSON 2: THREE-VARIABLE SYSTEMS: MATRICES

Study: Three-Variable Systems: Matrices

Learn about representing a system of three linear equations in three variables with a matrix; using row arithmetic to put a matrix in reduced form; and using matrices to solve systems of equations.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Solving Three-Variable Systems with Matrices

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 3: LINEAR SYSTEMS

Study: Finding the Point of Intersection

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

Duration: 0 hrs 40 mins

Checkup: Lessons Learned

Complete a set of practice problems on linear systems.

Duration: 0 hrs 30 mins

Quiz: Linear Systems

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 40 mins Scoring: 20 points

LESSON 4: SHIFTING FUNCTIONS

Study: Getting a Move On

Learn how to reflect about the *x*- and *y*-axes. Learn about horizontal and vertical shifts and horizontal and vertical

stretches.

Duration: 0 hrs 40 mins

Checkup: Lessons Learned

Complete a set of practice problems on transformations.

Duration: 0 hrs 30 mins

Quiz: Transformations

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 40 mins Scoring: 20 points

LESSON 5: TRANSFORMATIONS

Study: Transformations

Learn about general transformations of the graph of a function.

Duration: 0 hrs 40 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: Transformations

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 6: MATRICES WRAP-UP

Test (CS): Matrices

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

Duration: 1 hr Scoring: 75 points

LESSON 7: DIAGNOSTIC

Diagnostic: Matrices

Take a diagnostic test that will create a study plan based on your answers.

Duration: 0 hrs 40 mins Scoring: 29 points

UNIT 15: FLORIDA ALGEBRA I SEMESTER 2 EXAM

LESSON 1: FLORIDA ALGEBRA I SEMESTER 2 EXAM

Exam: Florida Algebra I Semester 2 Exam

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

Duration: 1 hr Scoring: 200 points