Algebra I curriculum focuses on the mastery of critical skills and the recognition and understanding of key algebraic concepts. Through a "Discovery-Confirmation-Practice"-based exploration of these concepts, students are challenged to strengthen their computational skills, to deepen their understanding of key ideas and solution strategies, and to extend their knowledge through a variety of problem-solving applications.

Course topics include solving equations and inequalities; linear, exponential, and quadratic functions; transformations of functions; systems of linear equations; sequences, polynomials and factoring; bivariate data and regression.

This course supports all students as they develop computational fluency, deepen conceptual understanding, and apply mathematical process standards. Students begin each lesson by discovering new concepts through guided instruction, and then confirm their understanding in an interactive, feedback-rich environment. Modeling activities equip students with tools for analyzing a variety of real-world scenarios and mathematical ideas. Journaling activities allow students to reason abstractly and quantitatively, construct arguments, critique reasoning, and communicate precisely.

The content is specifically aligned with the 2012 TEKS Algebra I Standards.

Length: Two semesters

UNIT 1: SOLVING BASIC EQUATIONS

LESSON 1: SOLVING MATHEMATICAL SENTENCES

Study: Solving Mathematical Sentences
Use the guess-and-check method to solve equations. Define a solution set and compare solution sets of equations and inequalities.
Duration: 0 hrs 35 mins Scoring: 0 points

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

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

LESSON 2: SOME GUIDELINES FOR PROBLEM-SOLVING

Study: Some Guidelines for Problem-Solving
Use problem-solving tips to solve a word problem. Develop a general strategy for solving word problems.
Duration: 0 hrs 35 mins Scoring: 0 points

Quiz: Some Guidelines for Problem-Solving
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: SOLVING WITH ADDITION AND SUBTRACTION

Study: Solving with Addition and Subtraction
Review how to isolate the variable and solve simple equations and inequalities with addition or subtraction.
Duration: 0 hrs 35 mins Scoring: 0 points

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

Quiz: Solving Equations with Addition and Subtraction
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Solving Inequalities with Addition and Subtraction
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 4: SOLVING EQUATIONS WITH MULTIPLICATION AND DIVISION

Study: Solving Equations with Multiplication and Division
Review how to isolate the variable and solve simple equations with multiplication or division.
Duration: 0 hrs 35 mins Scoring: 0 points

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

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

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

LESSON 5: SOLVING INEQUALITIES WITH MULTIPLICATION AND DIVISION

Study: Solving Inequalities with Multiplication and Division
Review how to isolate the variable and solve simple inequalities with multiplication or division.
Duration: 0 hrs 35 mins Scoring: 0 points

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

Quiz: Solving Inequalities with Multiplication and Division
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 6: SOLVING MULTISTEP LINEAR EQUATIONS

Study: Solving Multistep Linear Equations
Review the strategy for isolating variables in multistep equations. Explore equations that have zero, one, or infinite solutions.
Duration: 0 hrs 35 mins Scoring: 0 points

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

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

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

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

Practice: Modeling: Multistep Linear Equations
Use tools to model and solve a real-world problem.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 7: SOLVING LITERAL EQUATIONS AND FORMULAS

Study: Solving Literal Equations and Formulas
Learn how to solve literal equations for one variable.
Duration: 0 hrs 35 mins Scoring: 0 points

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

Quiz: Solving Literal Equations and Formulas
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Journal: Solving Literal Equations and Formulas
Construct arguments and critique the reasoning of others as you write about topics in algebra.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 8: PERFORMANCE TASK: PROBLEM SOLVING WITH EQUATIONS AND INEQUALITIES

Study: Problem Solving with Equations and Inequalities
Learn strategies for solving a variety of application problems related to topics in this unit.
Duration: 0 hrs 35 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: 138 points

LESSON 9: SOLVING BASIC EQUATIONS WRAP-UP

Checkup: Solving Basic Equations Practice Problems
Check your understanding of the topics in this unit.
Duration: 0 hrs 25 mins Scoring: 0 points

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

Test (CS): Solving Basic Equations
Take a computer-scored test to check what you have learned in this unit.
Duration: 0 hrs 40 mins Scoring: 38 points

Test (TS): Solving Basic Equations
Take a teacher-scored test to check what you have learned in this unit.
Duration: 0 hrs 30 mins Scoring: 36 points

UNIT 2: FUNCTIONS

LESSON 1: WHEN ONE THING DEPENDS ON ANOTHER

Study: When One Thing Depends on Another
Learn the definition of a function and explore examples of functions in the world around you.
Duration: 0 hrs 35 mins Scoring: 0 points

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

Quiz: When One Thing Depends on Another

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

LESSON 2: FUNCTION NOTATION

Study: Function Notation
Use variables to name functions, and learn about a special type of language called function notation.
Duration: 0 hrs 35 mins Scoring: 0 points

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

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

Quiz: Function Notation for Specific Amounts
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

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

LESSON 3: INPUT-OUTPUT MACHINES

Study: Input-Output Machines
Learn how to describe functions by their domain and range. Work with input-output diagrams.
Duration: 0 hrs 35 mins Scoring: 0 points

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

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

LESSON 4: DOMAIN AND RANGE

Study: Domain and Range
Learn about mapping diagrams, locating domain and range on mapping diagram and estimating the domain and range of functions.
Duration: 0 hrs 35 mins Scoring: 0 points

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

Quiz: Domain and Range
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 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 30 mins Scoring: 20 points

LESSON 5: FUNCTIONS AND TABLES

Study: Functions and Tables
Learn to use input-output tables to describe and define functions.
Duration: 0 hrs 35 mins Scoring: 0 points

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

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

LESSON 6: FUNCTIONS AND GRAPHS

Study: Functions and Graphs
Learn to identify the domain and range of a function from ordered pairs and the graph of a function. Use the vertical line test to evaluate functions.
Duration: 0 hrs 35 mins Scoring: 0 points

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

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

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

LESSON 7: DISCRETE AND CONTINUOUS DATA

Study: Discrete and Continuous Data
Learn the differences between discrete and continuous data sets, as well as finite and infinite discrete data sets. Describe discrete data sets using set notation, and describe continuous data sets using interval notation. Identify the domain and range of discrete functions and their function mapping diagrams. Describe the domain and range of continuous functions, such as linear and quadratic functions.
Duration: 0 hrs 35 mins Scoring: 0 points

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

Quiz: Discrete and Continuous Data
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 8: FUNCTIONS AND FORMULAS

Study: Functions and Formulas
Learn to use an algebraic rule or formula to describe and define functions.
Duration: 0 hrs 35 mins Scoring: 0 points

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

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

Study: Solving the Profit Problem
Use what you know about functions, as well as information given in tables, graphs, and formulas, to solve a business problem.

Duration: 0 hrs 35 mins Scoring: 0 points

LESSON 9: FUNCTIONS WRAP-UP

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

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

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

Test (TS): Functions
Take a teacher-scored test to check what you have learned in this unit.
Duration: 0 hrs 30 mins Scoring: 24 points

UNIT 3: LINEAR EQUATIONS

LESSON 1: PATTERNS AND LINES

Study: Patterns and Lines
Learn about a type of relationship in functions called direct variation. Explore the connection between the equation of a line and points on its graph. Find the equation of a line by looking at the coordinates of its points. Graph a line using a chart of its solutions.
Duration: 0 hrs 35 mins Scoring: 0 points

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

Quiz: Finding Equations of Lines as Solutions
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 2: SLOPE

Study: Slope
Learn how to find the slope of a line, define rise and run, and measure rates of change.
Duration: 0 hrs 35 mins Scoring: 0 points

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

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

Quiz: Positive, Negative, and Undefined Slopes
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Journal: Slope
Construct arguments and critique the reasoning of others as you write about topics in algebra.
Duration: 0 hrs 30 mins Scoring: 38 points

LESSON 3: SLOPE-INTERCEPT EQUATION OF A LINE

Study: Slope-Intercept Equation of a Line

Learn to use slope and the *y*-intercept of a given line to find its slope-intercept equation.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Finding Slope-Intercept Equations of Lines

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

Duration: 0 hrs 20 mins Scoring: 20 points

Practice: Modeling: Slope-Intercept Equation of a Line

Use tools to model and solve a real-world problem.

Duration: 0 hrs 30 mins Scoring: 38 points

LESSON 4: 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 35 mins Scoring: 0 points

Checkup: Practice Problems

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

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Graphing and Manipulating *y = mx + b*

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 5: POINT-SLOPE EQUATION OF A LINE

Study: Point-Slope Equation of a Line

Learn how to find the *y*-intercept of a line when given its slope and another point on the line. Learn about the point-slope equation of a line and the standard form of an equation.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Finding the Point-Slope Equation

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

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Finding the Equations of Lines

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 6: PARALLEL AND PERPENDICULAR LINES

Study: Parallel and Perpendicular Lines

Learn about parallel and perpendicular lines and the relationships between their slopes.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Slopes of Parallel and Perpendicular Lines

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 7: LINEAR INEQUALITIES

Study: Linear Inequalities
Learn how to find and graph solution sets for linear inequalities.
Duration: 0 hrs 35 mins Scoring: 0 points

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

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

Study: Solving the Lighting Problem
Learn how to use linear inequalities to solve a real-world problem about the best use of energy to light a building.
Duration: 0 hrs 35 mins Scoring: 0 points

LESSON 8: LINEAR EQUATIONS WRAP-UP

Checkup: Linear Equations Practice Problems
Check your understanding of the topics in this unit.
Duration: 0 hrs 25 mins Scoring: 0 points

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

Test (CS): Linear Equations
Take a computer-scored test to check what you have learned in this unit.
Duration: 0 hrs 40 mins Scoring: 46 points

Test (TS): Linear Equations
Take a teacher-scored test to check what you have learned in this unit.
Duration: 0 hrs 30 mins Scoring: 58 points

UNIT 4: 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 35 mins Scoring: 0 points

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

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

LESSON 2: TWO-VARIABLE SYSTEMS: GRAPHING

Study: Two-Variable Systems: Graphing
Learn how to use graphing to solve two-variable systems of linear equations. Explore what it means to have zero, one, or infinite solutions.
Duration: 0 hrs 35 mins Scoring: 0 points

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

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

LESSON 3: TWO-VARIABLE SYSTEMS: SUBSTITUTION

Study: Two-Variable Systems: Substitution
Learn how to use substitution to solve two-variable systems of linear equations.
Duration: 0 hrs 35 mins Scoring: 0 points

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

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

LESSON 4: TWO-VARIABLE SYSTEMS: ELIMINATION

Study: Two-Variable Systems: Elimination
Learn how to use elimination to solve two-variable systems of linear equations.
Duration: 0 hrs 35 mins Scoring: 0 points

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

Quiz: Solving with Elimination -- Standard Form
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Solving with Elimination -- Nonstandard Form
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

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

LESSON 5: TWO-VARIABLE SYSTEMS OF INEQUALITIES

Study: Two-Variable Systems of Inequalities
Learn how to use graphing to solve two-variable systems of linear inequalities. Use what you know about solving systems of inequalities to solve a real-world farming problem.
Duration: 0 hrs 35 mins Scoring: 0 points

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

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

Quiz: Solving Systems with More Than Two Inequalities
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Practice: Modeling: Solving Systems with More Than Two Inequalities
Use tools to model and solve a real-world problem.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 6: SYSTEMS OF LINEAR EQUATIONS WRAP-UP

Checkup: Systems of Linear Equations Practice Problems
Check your understanding of the topics in this unit.
Duration: 0 hrs 25 mins Scoring: 0 points

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

Test (CS): Systems of Linear Equations
Take a computer-scored test to check what you have learned in this unit.
Duration: 0 hrs 40 mins Scoring: 42 points

Test (TS): Systems of Linear Equations
Take a teacher-scored test to check what you have learned in this unit.
Duration: 0 hrs 30 mins Scoring: 58 points

UNIT 5: EXPONENTS AND EXPONENTIAL FUNCTIONS

LESSON 1: ARITHMETIC SEQUENCES

Study: Arithmetic Sequences
Learn about arithmetic sequences, explicit and recursive formulas, and finding the next term in a sequence.
Duration: 0 hrs 35 mins Scoring: 0 points

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

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

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

Journal: Arithmetic Sequences
Construct arguments and critique the reasoning of others as you write about topics in algebra.
Duration: 0 hrs 30 mins Scoring: 20 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 35 mins Scoring: 0 points

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

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

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

LESSON 3: EXPONENTIAL FUNCTIONS

Study: Exponential Functions

Define the standard form of an exponential function and explore a variety of its applications, such as exponential growth and decay (in the forms of doubling time and half-life), as well as compound interest. Compare compound interest to continuously compounded interest using the irrational number *e*.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

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

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Evaluating Exponential Functions

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

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Calculating Exponential Growth

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 4: 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 35 mins Scoring: 0 points

Checkup: Practice Problems

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

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Geometric Sequences

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

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Formulas for Geometric Sequences

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

Duration: 0 hrs 20 mins Scoring: 20 points

Practice: Modeling: Geometric Sequences

Use tools to model and solve a real-world problem.

Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 5: EXAMPLES AND APPLICATIONS OF EXPONENTIAL FUNCTIONS

Study: Examples and Applications of Exponential Functions

Explore case studies in exponential growth and decay and logarithmic growth.

Duration: 0 hrs 35 mins Scoring: 0 points

Practice: Modeling: Valuable Coins

Use tools to model and solve a real-world problem.

Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 6: 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 35 mins Scoring: 0 points

Checkup: Practice Problems

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

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Graphs of Exponential Functions
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 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 30 mins Scoring: 20 points

LESSON 7: EXPONENTS AND EXPONENTIAL FUNCTIONS WRAP-UP

Checkup: Exponents and Exponential Functions Practice Problems
Check your understanding of the topics in this unit.
Duration: 0 hrs 25 mins Scoring: 0 points

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

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

Test (TS): Exponents and Exponential Functions
Take a teacher-scored test to check what you have learned in this unit.
Duration: 0 hrs 30 mins Scoring: 71 points

UNIT 6: ALGEBRA I SEMESTER 1 EXAM

LESSON 1: ALGEBRA I SEMESTER 1 EXAM

Review: Algebra I Semester 1 Exam
Prepare for the final exam by reviewing key concepts and skills.
Duration: 0 hrs 20 mins Scoring: 0 points

Exam: Algebra I Semester 1 Exam
Take a computer-scored exam to demonstrate your mastery of concepts and skills covered in Algebra I Semester 1.
Duration: 0 hrs 50 mins Scoring: 175 points

UNIT 7: POLYNOMIALS

LESSON 1: WHAT IS A POLYNOMIAL?

Study: What Is a Polynomial?
Learn the definitions for monomials, polynomials, constants, terms, coefficients, binomials, trinomials, and degree. Learn how to find the degree of polynomials.
Duration: 0 hrs 35 mins Scoring: 0 points

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

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

Quiz: Degrees of Polynomials (Advanced)
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 2: ADDING AND SUBTRACTING POLYNOMIALS

Study: Adding and Subtracting Polynomials

Learn how tiles can be used to add or subtract like terms in polynomials. Practice adding and subtracting polynomials.
Duration: 0 hrs 35 mins Scoring: 0 points

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

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

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

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

LESSON 3: MULTIPLYING BINOMIALS

Study: Multiplying Binomials
Learn how tiles can be used to multiply linear binomials. Practice using the distributive property and the FOIL method to multiply two binomials.
Duration: 0 hrs 35 mins Scoring: 0 points

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

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

Quiz: Finding the Product of Two Binomials
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

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

Practice: Modeling: Multiplying Binomials
Use tools to model and solve a real-world problem.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 4: MULTIPLYING POLYNOMIALS

Study: Multiplying Polynomials
Use a table to begin learning how to multiply polynomials. Explore how polynomials can be multiplied vertically and horizontally.
Duration: 0 hrs 35 mins Scoring: 0 points

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

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

Quiz: Polynomial Multiplication (Advanced)
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Journal: Multiplying Polynomials
Construct arguments and critique the reasoning of others as you write about topics in algebra.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 5: 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 35 mins Scoring: 0 points

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

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

LESSON 6: POLYNOMIALS WRAP-UP

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

Review: Polynomials
Get ready for the unit test by reviewing important ideas and skills.
Duration: 0 hrs 20 mins Scoring: 0 points

Test (CS): Polynomials
Take a computer-scored test to check what you have learned in this unit.
Duration: 0 hrs 40 mins Scoring: 34 points

Test (TS): Polynomials
Take a teacher-scored test to check what you have learned in this unit.
Duration: 0 hrs 30 mins Scoring: 33 points

UNIT 8: FACTORING OF POLYNOMIALS

LESSON 1: WHY FACTOR?

Study: Why Factor?
Explore the similarities between factoring numbers and polynomials. Learn the definitions for reducible polynomials, composite numbers, and the zero-product rule.
Duration: 0 hrs 35 mins Scoring: 0 points

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

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

LESSON 2: FACTORING AND GRAPHING

Study: Factoring and Graphing
Compare roots and linear factors. Identify the roots of a polynomial. Explore what it means for a polynomial to have one root or no roots.

Duration: 0 hrs 35 mins Scoring: 0 points

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

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

Quiz: Factoring by Graphing (Advanced)
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: GROUPING

Study: Grouping
Find the greatest common factor (GCF) in a polynomial. Use the grouping method to factor one or more GCFs out of a polynomial.
Duration: 0 hrs 35 mins Scoring: 0 points

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

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

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

LESSON 4: FACTORING $X^2 + BX + C$

Study: Factoring $x^2 + bx + c$
Learn the definitions for quadratic trinomials and leading coefficients. Learn how to factor quadratic trinomials with leading coefficients of 1.
Duration: 0 hrs 35 mins Scoring: 0 points

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

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

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

LESSON 5: 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 35 mins Scoring: 0 points

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

Quiz: Factoring Trinomials (Basic)
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Factoring Trinomials (Advanced)
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Journal: Factoring $ax^2 + bx + c$
Construct arguments and critique the reasoning of others as you write about topics in algebra.
Duration: 0 hrs 30 mins Scoring: 38 points

LESSON 6: SPECIAL CASES

Study: Special Cases
Learn how to work with special cases of factoring. Learn definitions for a perfect square trinomial, a difference of two squares, and a sum or difference of cubes. Practice using strategies that will help you factor each of these special cases.
Duration: 0 hrs 35 mins Scoring: 0 points

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

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

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

Quiz: Sum or Difference of Two Cubes
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 7: FACTORING OF POLYNOMIALS WRAP-UP

Checkup: Factoring of Polynomials Practice Problems
Check your understanding of the topics in this unit.
Duration: 0 hrs 25 mins Scoring: 0 points

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

Test (CS): Factoring of Polynomials
Take a computer-scored test to check what you have learned in this unit.
Duration: 0 hrs 40 mins Scoring: 46 points

Test (TS): Factoring of Polynomials
Take a teacher-scored test to check what you have learned in this unit.
Duration: 0 hrs 30 mins Scoring: 50 points

UNIT 9: QUADRATIC EQUATIONS AND FUNCTIONS

LESSON 1: SOLVING QUADRATIC EQUATIONS

Study: Solving Quadratic Equations
Compare quadratic and nonquadratic equations. Learn how to solve quadratic equations by using factoring and the zero-product rule.
Duration: 0 hrs 35 mins Scoring: 0 points

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

Quiz: Factoring with the Zero-Product Rule
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

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

Quiz: Quadratics with Perfect Square Trinomials
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 2: COMPLETING THE SQUARE

Study: Completing the Square
Learn the definition for a special case of factoring called completing the square. Explore the steps to complete a square and practice solving quadratic equations by using this way of factoring.
Duration: 0 hrs 35 mins Scoring: 0 points

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

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

Quiz: Completing the Square (Advanced)
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 20 points

Journal: Completing the Square
Construct arguments and critique the reasoning of others as you write about topics in algebra.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 3: 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 35 mins Scoring: 0 points

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

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

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

LESSON 4: THE QUADRATIC FORMULA

Study: The Quadratic Formula
Learn the definitions for the quadratic formula, imaginary numbers, complex numbers, and discriminants. Explore how

the quadratic formula works and practice using it to factor quadratic equations.

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

Check your understanding of the lesson.

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: 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 5: GRAPHS OF QUADRATIC FUNCTIONS

Study: Graphs of Quadratic Functions

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

Duration: 0 hrs 35 mins Scoring: 0 points

Checkup: Practice Problems

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

Duration: 0 hrs 25 mins Scoring: 0 points

Quiz: Graphs of Quadratic Functions

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

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Working with the Discriminant

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

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 6: QUADRATIC EQUATIONS AND FUNCTIONS WRAP-UP

Checkup: Quadratic Equations and Functions Practice Problems

Check your understanding of the topics in this unit.

Duration: 0 hrs 25 mins Scoring: 0 points

Review: Quadratic Equations and Functions

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

Duration: 0 hrs 30 mins Scoring: 0 points

Test (CS): Quadratic Equations and Functions

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

Duration: 0 hrs 40 mins Scoring: 40 points

Test (TS): Quadratic Equations and Functions

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

Duration: 0 hrs 30 mins Scoring: 42 points

UNIT 10: TRANSFORMING FUNCTIONS

LESSON 1: PARENT FUNCTIONS

Study: Parent Functions

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

Duration: 0 hrs 35 mins Scoring: 0 points

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

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

LESSON 2: SHIFTING FUNCTIONS

Study: Shifting Functions
Learn about shifting graphs of functions up/down and left/right by changing the coordinates of each ordered pair. Learn about changing the equation of a function to shift its graph vertically or horizontally and about combining vertical and horizontal shifts.
Duration: 0 hrs 35 mins Scoring: 0 points

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

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

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

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

Journal: Shifting Functions
Construct arguments and critique the reasoning of others as you write about topics in algebra.
Duration: 0 hrs 30 mins Scoring: 20 points

LESSON 3: STRETCHING FUNCTIONS

Study: Stretching Functions
Learn about vertically stretching or compressing a function's graph by multiplying by a constant; flipping the graph by multiplying by a negative constant; and combining vertical stretches with vertical or horizontal shifts.
Duration: 0 hrs 35 mins Scoring: 0 points

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

Quiz: Stretching Functions
Take a quiz to check your understanding of what you have learned.
Duration: 0 hrs 20 mins Scoring: 18 points

Practice: Modeling: Stretching Functions Vertically
Use tools to model and solve a real-world problem.
Duration: 0 hrs 30 mins Scoring: 38 points

LESSON 4: TRANSFORMATION OF PARENT FUNCTIONS

Study: Transformation of Parent Functions
Learn how to perform vertical shifts, horizontal shifts, vertical stretches and compressions, horizontal stretches and compressions, and any combination of these transformations on parent functions.
Duration: 0 hrs 35 mins Scoring: 0 points

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

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

LESSON 5: TRANSFORMING FUNCTIONS WRAP-UP

Checkup: Transforming Functions Practice Problems
Check your understanding of the topics in this unit.
Duration: 0 hrs 25 mins Scoring: 0 points

Review: Transforming Functions
Get ready for the unit test by reviewing important ideas and skills.
Duration: 0 hrs 20 mins Scoring: 0 points

Test (CS): Transforming Functions
Take a computer-scored test to check what you have learned in this unit.
Duration: 0 hrs 40 mins Scoring: 44 points

Test (TS): Transforming Functions
Take a teacher-scored test to check what you have learned in this unit.
Duration: 0 hrs 30 mins Scoring: 40 points

UNIT 11: BIVARIATE DATA

LESSON 1: SCATTERPLOTS

Study: Scatterplots
Learn how to construct and interpret scatterplots.
Duration: 0 hrs 35 mins Scoring: 0 points

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

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

LESSON 2: CORRELATION COEFFICIENTS

Study: Correlation Coefficients
Learn how to calculate and interpret Pearson's sample correlation coefficient.
Duration: 0 hrs 35 mins Scoring: 0 points

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

Quiz: Correlation Coefficients
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 18 points

LESSON 3: LINEAR REGRESSION

Study: Linear Regression
Learn how to calculate a linear regression equation, interpret the slope and intercept in context, and identify influential points (compared to large residuals).
Duration: 0 hrs 35 mins Scoring: 0 points

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

Quiz: Linear Regression
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 16 points

LESSON 4: NONLINEAR REGRESSION

Study: Nonlinear Regression
Learn how to apply nonlinear regression.
Duration: 0 hrs 35 mins Scoring: 0 points

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

Quiz: Nonlinear Regression
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 20 mins Scoring: 14 points

LESSON 5: BIVARIATE DATA WRAP-UP

Checkup: Assignment
Submit your work for a set of 20 practice problems.
Duration: 0 hrs 25 mins

Review: Bivariate Data
Prepare for the unit test by reviewing key concepts and skills.
Duration: 0 hrs 30 mins Scoring: 0 points

Test (CS): Bivariate Data
Take a computer-scored test to assess what you have learned in this unit.
Duration: 0 hrs 40 mins Scoring: 34 points

Test (TS): Bivariate Data
Take a teacher-scored test to assess what you have learned in this unit.
Duration: 0 hrs 30 mins Scoring: 25 points

UNIT 12: ALGEBRA I SEMESTER 2 EXAM

LESSON 1: ALGEBRA I SEMESTER 2 EXAM

Review: Algebra I Semester 2 Exam
Prepare for the final exam by reviewing key concepts and skills.
Duration: 0 hrs 20 mins Scoring: 0 points

Exam: Algebra I Semester 2 Exam
Take a computer-scored exam to demonstrate your mastery of concepts and skills covered in Algebra I Semester 2.
Duration: 0 hrs 50 mins Scoring: 145 points