Liberal Arts Mathematics 1 addresses the need for an elective course that focuses on reinforcing, deepening, and extending a student's mathematical understanding. Liberal Arts Mathematics 1 starts with a review of problem-solving skills before moving on to a variety of key algebraic, geometric, and statistical concepts. Throughout the course, students hone their computational skills and extend their knowledge through problem solving and real-world applications.

Course topics include problem solving; real numbers and operations; functions and graphing; systems of linear equations; polynomials and factoring; geometric concepts such as coordinate geometry and properties of geometric shapes; and descriptive statistics.

Within each Liberal Arts Mathematics 1 lesson, students are supplied with a scaffolded note-taking guide, called a Study Sheet, and are given ample opportunity to practice computations in low-stakes Checkup activities before moving on to formal assessment. Additionally, students will have the opportunity to formulate and justify conclusions as they extend and apply concepts through printable exercises and "in-your-own-words" interactive activities.

To assist students for whom language presents a barrier to learning or who are not reading at grade level, Liberal Arts Mathematics 1 includes audio resources in English.

This course is aligned with Florida's Next Generation Sunshine State Standards and Benchmarks.

Length: Two semesters

UNIT 1: INTRODUCTION TO PROBLEM SOLVING

LESSON 1: BUILDING BASIC WORD PROBLEMS

Study: Building Basic Word Problems

Learn how to convert number sentences into addition or subtraction word problems. Practice this skill using sample problems.

Duration: 0 hrs 25 mins

Checkup: Practice Problems

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

Duration: 0 hrs 20 mins

Quiz: Building Basic Word Problems

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 2: A FOUR-STEP APPROACH

Study: A Four-Step Approach

Learn the four steps for solving word problems. Apply the four steps to sample problems.

Duration: 0 hrs 25 mins

Checkup: Practice Problems

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

Duration: 0 hrs 20 mins

Quiz: A Four-Step Approach

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: TOO MUCH OR TOO LITTLE INFORMATION

Study: Too Much or Too Little Information

Learn about determining if there is enough information to solve a given problem, identifying missing information, and separating relevant from irrelevant information. Practice these skills using sample problems.

Duration: 0 hrs 25 mins

Checkup: Practice Problems

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

Duration: 0 hrs 20 mins

Quiz: Too Much or Too Little Information

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 4: DRAW A DIAGRAM

Study: Draw a Diagram

Learn what information to include in a diagram of a problem. Practice this skill using sample problems.

Duration: 0 hrs 25 mins

Checkup: Practice Problems

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

Duration: 0 hrs 20 mins

Quiz: Draw a Diagram

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 5: USE A MODEL OR ACT IT OUT

Study: Use a Model or Act it Out

Use sample problems to learn when and how to act out a problem or make a model.

Duration: 0 hrs 25 mins

Checkup: Practice Problems

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

Duration: 0 hrs 20 mins

Quiz: Use a Model or Act it Out

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 6: MAKE A LIST

Study: Make a List

Learn the steps for making a list in order to solve a word problem. Explore strategies for checking your answers. Practice these skills using sample problems.

Duration: 0 hrs 25 mins

Checkup: Practice Problems

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

Duration: 0 hrs 20 mins

Quiz: Make a List

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 7: BUILD A CHART AND FIND A PATTERN

Study: Build a Chart and Find a Pattern

Learn about collecting data in charts, identifying patterns in order to solve word problems, and completing charts in order to answer questions. Practice these skills using sample problems.

Duration: 0 hrs 25 mins

Checkup: Practice Problems

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

Duration: 0 hrs 20 mins

Quiz: Build a Chart and Find a Pattern

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 8: GUESS AND CHECK

Study: Guess and Check

Review the four problem solving steps. Learn how to make logical guesses to solve a problem. Solve word problems using this strategy.

Duration: 0 hrs 25 mins

Checkup: Practice Problems

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

Duration: 0 hrs 20 mins

Quiz: Guess and Check

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 9: WORK BACKWARD

Study: Work Backward

Learn about starting with a solution and working backward to solve a word problem. Learn how to check your answers by working forward. Practice these skills using sample problems.

Duration: 0 hrs 25 mins

Checkup: Practice Problems

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

Duration: 0 hrs 20 mins

Quiz: Work Backward

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 10: BUILDING EQUATIONS

Study: Building Equations

Learn about setting up an equation using information in a word problem and about choosing the correct operation(s). Practice these skills using sample problems.

Duration: 0 hrs 25 mins

Checkup: Practice Problems

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

Duration: 0 hrs 20 mins

Quiz: Building Equations

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 11: DEDUCTIVE REASONING

Study: Deductive Reasoning

Learn the definition of deductive reasoning. Practice making conclusions and deducing which statements in a problem are true. Practice these skills using sample problems.

Duration: 0 hrs 25 mins

Checkup: Practice Problems

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

Duration: 0 hrs 20 mins

Quiz: Deductive Reasoning

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 12: INDUCTIVE REASONING

Study: Inductive Reasoning

Explore inductive reasoning and using induction to continue a pattern. Practice these skills using sample problems.

Duration: 0 hrs 25 mins

Checkup: Practice Problems

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

Duration: 0 hrs 20 mins

Quiz: Inductive Reasoning

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 13: LOGIC PUZZLES

Study: Logic Puzzles

Learn about organizing logic data in a grid and about direct and indirect information. Practice these skills using sample logic problems.

Duration: 0 hrs 25 mins

Checkup: Practice Problems

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

Duration: 0 hrs 20 mins

Quiz: Logic Puzzles

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 14: PROBLEM SOLVING

Study: Problem Solving

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

Duration: 0 hrs 25 mins

Practice: Assignment

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

Duration: 0 hrs 30 mins Scoring: 25 points

LESSON 15: INTRODUCTION TO PROBLEM SOLVING WRAP-UP

Practice: Assignment

Submit your work for a set of 20 practice problems.

Duration: 0 hrs 40 mins Scoring: 100 points

Review: Introduction to Problem Solving

Review unit material in preparation for upcoming assessments.

Duration: 0 hrs 30 mins

Discuss: Introduction to Problem Solving

Take part in a three- to five-question discussion about applying methods learned in this unit.

Duration: 0 hrs 20 mins Scoring: 30 points

Test (CS): Introduction to Problem Solving

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

Duration: 0 hrs 30 mins Scoring: 75 points

Test (TS): Introduction to Problem Solving

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

Duration: 0 hrs 30 mins Scoring: 50 points

LESSON 16: DIAGNOSTIC

Diagnostic: Introduction to Problem Solving

Take a diagnostic unit test that will generate a study plan based on your responses.

Duration: 0 hrs 30 mins Scoring: 28 points

UNIT 2: REVIEW OF ALGEBRAIC CONCEPTS

LESSON 1: TYPES OF NUMBERS

Study: Types of Numbers

Learn about different types of real numbers, including exponents decimals and percents. Compare numbers of different types and formats using a number line.

Duration: 0 hrs 50 mins Scoring: 0 points

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

Use properties of operations and the order of operations to evaluate expressions involving integers. Learn about reverse operations, absolute value, and how to represent absolute values on a number line. Recognize and acquire a basic understanding of exponents.

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: Properties of Operations

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

Quiz: Order of Operations

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

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 3: VARIABLES AND PROBLEM SOLVING

Study: Variables and Problem Solving

Review what a variable is, and how to form and use variable expressions to solve problems.

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: Variable Expressions

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

Duration: 0 hrs 25 mins Scoring: 20 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 4: SOLVING WITH ADDITION, SUBTRACTION, MULTIPLICATION, AND DIVISION

Study: Solving with Addition, Subtraction, Multiplication, and Division

Review how to isolate variables and solve simple equations and inequalities using properties of addition, subtraction, multiplication and division. Identify solution sets for inequalities using a number line.

Duration: 0 hrs 30 mins Scoring: 0 points

Checkup: Practice Problems

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

Duration: 0 hrs 20 mins Scoring: 0 points

Quiz: Using Operations to Solve Equalities

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

Quiz: Using Operations to Solve Inequalities

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 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 50 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: FRACTIONS, DECIMALS, AND PERCENTS

Study: Fractions, Decimals, and Percents

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 50 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 20 mins Scoring: 16 points

Quiz: Equivalent Fractions

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 7: OPERATIONS WITH EXPONENTS

Study: Operations with Exponents

Learn about evaluating expressions with exponents using the order of operations.

Duration: 0 hrs 50 mins

Checkup: Practice Problems

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

Duration: 0 hrs 20 mins

Quiz: Operations with Exponents

Take a quiz to assess your understanding of the material.

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

Quiz: Scientific Notation

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

Duration: 0 hrs 20 mins Scoring: 20 points

Quiz: Exponents in Geometry

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

Duration: 0 hrs 10 mins Scoring: 10 points

LESSON 8: OPERATIONS WITH ROOTS AND POWERS

Study: Operations 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 50 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: 20 points

Quiz: Solving Inequalities with Roots and Powers

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

Quiz: Finding Solution Sets with Inequalities

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 9: WRAP-UP

Practice: Assignment

Submit your work for a set of 20 practice problems.

Duration: 0 hrs 40 mins Scoring: 100 points

Review: Review Exercises

Review unit material in preparation for upcoming assessments.

Duration: 0 hrs 30 mins Scoring: 0 points

Discuss: When Does a Number Become Scientific?

Take part in a discussion about applying methods learned in this unit.

Duration: 0 hrs 20 mins Scoring: 30 points

Test (CS): Review of Algebraic Concepts

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

Duration: 0 hrs 40 mins Scoring: 75 points

Test (TS): Review of Algebraic Concepts

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

Duration: 0 hrs 30 mins Scoring: 50 points

LESSON 10: DIAGNOSTIC

Diagnostic: Review of Algebraic Concepts

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

Duration: 0 hrs 40 mins Scoring: 25 points

UNIT 3: FUNCTIONS

LESSON 1: WHEN ONE THING DEPENDS ON ANOTHER

Study: When One Thing Depends on Another

Learn the definition and explore examples of functions as quantities that depend on other quantities.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 20 mins

Quiz: When One Thing Depends on Another

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 2: 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 20 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 3: INPUT-OUTPUT MACHINES

Study: Input-Output Machines

Learn about the domain and range of functions, input-output diagrams, using rules for functions, and mathematical expressions in functions.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 20 mins

Quiz: Using Functions

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 4: FUNCTIONS AND TABLES

Study: Functions and Tables

Learn about using input-output tables to define or describe functions, estimating values of functions, and finding a function's rule on a table.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 20 mins

Quiz: Functions and Tables

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 5: FUNCTIONS AND GRAPHS

Study: Functions and Graphs

Learn about using bar graphs, pie charts, and line graphs to describe or define functions.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 20 mins

Quiz: Functions and Graphs

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 6: FUNCTIONS AND FORMULAS

Study: Functions and Formulas

Learn about using algebraic rules and formulas to describe and define functions.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 20 mins

Quiz: Functions and Formulas

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

Study: Solving the Profit Problem

In a real-world application, use tables, rules, and the method of estimating values to write an equation that expresses a function. Solve the equation and express the output in a line graph.

Duration: 0 hrs 40 mins

LESSON 7: HOW MANY OUTPUTS?

Study: How Many Outputs?

Review functions and what makes them special; independent and dependent variables; inputs and outputs; and examples of relationships that might not be functional.

Duration: 0 hrs 40 mins

Quiz: How Many Outputs?

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 8: 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 20 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.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 9: 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 20 mins

Quiz: Domain and Range

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 12 points

LESSON 10: FUNCTIONS WRAP-UP

Practice: Assignment

Submit your work for a set of 20 practice problems.

Duration: 0 hrs 40 mins Scoring: 100 points

Review: Functions

Prepare for the unit test by reviewing key concepts and skills.

Duration: 0 hrs 30 mins

Discuss: Real-World Functions

Take part in a three- to five-question discussion about applying methods learned in this unit.

Duration: 0 hrs 20 mins Scoring: 30 points

Test (CS): Functions

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

Duration: 0 hrs 30 mins Scoring: 75 points

Test (TS): Functions

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

Duration: 0 hrs 30 mins Scoring: 50 points

LESSON 11: DIAGNOSTIC

Diagnostic: Functions

Take a diagnostic unit test that will generate a study plan based on your responses.

Duration: 0 hrs 30 mins Scoring: 25 points

UNIT 4: GRAPHING DATA

LESSON 1: THE CARTESIAN COORDINATE SYSTEM

Study: The Cartesian Coordinate System

Learn about René Descartes, latitude and longitude as a grid, the Cartesian coordinate system as perpendicular number lines, axes and the origin, the *xy*-plane, *x*- and *y*-coordinates, and ordered pairs.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 25 mins

Quiz: The Cartesian Coordinate System

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

LESSON 2: GEOMETRY WITH COORDINATES

Study: Geometry with Coordinates

Learn about using geometry with the coordinate system to find lengths of line segments, distances between points, perimeters, and even areas in the *xy*-plane.

Duration: 0 hrs 40 mins

Quiz: Geometry with Coordinates

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 3: MIDPOINT FORMULA

Study: Midpoint Formula

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

Duration: 0 hrs 40 mins

Checkup: Answer Key

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

Duration: 0 hrs 25 mins

Quiz: Midpoint Formula

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

LESSON 4: THE DISTANCE FORMULA

Study: The Distance Formula

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

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 25 mins

Quiz: The Distance Formula

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 5: COORDINATES AND DATA

Study: Coordinates and Data

Learn about graphs and the Cartesian coordinate system, plotting data points, looking for patterns, finding correlations, dependent and independent variables, the line of best fit, and deviation and range.

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: Problem Solving with Graphs

Duration: 0 hrs 30 mins Scoring: 25 points

Quiz: Coordinates and Data

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 16 points

LESSON 6: 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

Quiz: Data Analysis

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 15 mins Scoring: 18 points

LESSON 7: WRAP-UP

Practice: Assignment

Submit your work for a set of 20 practice problems.

Duration: 0 hrs 40 mins Scoring: 100 points

Review: Review Exercise

Take part in interactive games to review unit material in preparation for upcoming assessments.

Duration: 0 hrs 30 mins

Discuss: You are Here

Take part in a three- to five-question discussion about applying methods learned in this unit.

Duration: 0 hrs 20 mins Scoring: 30 points

Test (CS): Graphing Data

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

Duration: 0 hrs 40 mins Scoring: 75 points

Test (TS): Graphing Data

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

Duration: 0 hrs 30 mins Scoring: 50 points

LESSON 8: DIAGNOSTIC

Diagnostic: Graphing Data

Take a diagnostic unit test that will generate a study plan based on your responses.

Duration: 0 hrs 40 mins Scoring: 25 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: SLOPE

Study: Slope

Learn about measuring slope, rise, and run; the slope formula; negative zero and undefined slope; and measuring the rate of change of a dependent variable.

Duration: 0 hrs 40 mins

Practice: Graphing Tool

Use a graphing tool to investigate slope.

Duration: 0 hrs 30 mins Scoring: 25 points

Checkup: Practice Problems

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

Duration: 0 hrs 25 mins

Quiz: Computing Slope

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 24 points

Quiz: Special Cases of Slope

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

LESSON 3: THE RESCUE SHIP PROBLEM

Study: The Rescue Ship Problem

Explore a case study about using the slope formula and a parallel rule to steer a ship through dangerous waters.

Duration: 0 hrs 40 mins

LESSON 4: PARALLEL AND PERPENDICULAR LINES

Study: Parallel and Perpendicular Lines

Learn about the definition and slopes of parallel and perpendicular lines. Learn about negative reciprocals.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 25 mins

Quiz: Parallel and Perpendicular Lines

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 26 points

LESSON 5: SLOPE-INTERCEPT EQUATION OF A LINE

Study: Slope-Intercept Equation of a Line

Learn about using slope and y-intercept to find 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: Finding Slope-Intercept Equations of Lines

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 22 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 EQUATION OF A LINE

Study: Point-Slope Equation of a Line

Learn about using slope and a point to find the y-intercept of a line; deriving and using the point-slope equation; and the standard form of an equation. Complete an application problem involving a mass on a spring.

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: Linear Equation Conversions

Practice converting between different forms for writing an equation of a line.

Duration: 0 hrs 30 mins Scoring: 25 points

Practice: Graphing Equations of Lines

Practice graphing equations of lines.

Duration: 0 hrs 30 mins Scoring: 25 points

Quiz: Finding the Point-Slope Equation

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

Quiz: Finding the Equations of Lines

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 26 points

LESSON 8: LINEAR INEQUALITIES

Study: Linear Inequalities

Learn about finding and graphing solutions sets for linear 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: Graphs of Inequalities

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 18 points

Study: Solving the Lighting Problem

Learn about applying linear inequalities in order to solve the real-world problem of energy usage, comparing incandescent and

fluorescent light bulbs.

Duration: 0 hrs 40 mins

LESSON 9: CIRCLES

Study: Circles

Use algebra to find an equation whose solution set is a circle. Learn about the standard equation for circles not centered at the origin.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 25 mins

Quiz: Circles Centered at the Origin

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

Quiz: Circles Not Centered at the Origin

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 22 points

LESSON 10: WRAP-UP

Practice: Assignment

Submit your work for a set of 20 practice problems.

Duration: 0 hrs 40 mins Scoring: 100 points

Review: Review Exercise

Take part in interactive games to review unit material in preparation for upcoming assessments.

Duration: 0 hrs 30 mins

Discuss: A Slippery Slope

Take part in a three- to five-question discussion about applying methods learned in this unit.

Duration: 0 hrs 20 mins Scoring: 30 points

Test (CS): Linear Equations

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

Duration: 0 hrs 40 mins Scoring: 75 points

Test (TS): Linear Equations

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

Duration: 0 hrs 30 mins Scoring: 50 points

LESSON 11: DIAGNOSTIC

Diagnostic: Linear Equations

Take a diagnostic unit test that will generate a study plan based on your responses.

Duration: 0 hrs 40 mins Scoring: 25 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: 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 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

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: THREE-VARIABLE SYSTEMS OF EQUATIONS

Study: Three-Variable Systems of Equations

Learn about using the elimination and substitution methods to solve systems of three linear equations in three variables.

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 of Equations

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 26 points

LESSON 8: 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 9: WRAP-UP

Practice: Assignment

Submit your work for a set of 20 practice problems.

Duration: 0 hrs 40 mins Scoring: 100 points

Review: Review Exercise

Review unit material in preparation for upcoming assessments.

Duration: 0 hrs 30 mins

Discuss: What's the Solution?

Take part in a three- to five-question discussion about applying methods learned in this unit.

Duration: 0 hrs 20 mins Scoring: 30 points

Test (CS): Systems of Linear Equations

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

Duration: 0 hrs 40 mins Scoring: 84 points

Test (TS): Systems of Linear Equations

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

Duration: 0 hrs 30 mins Scoring: 50 points

LESSON 10: DIAGNOSTIC

Diagnostic: Systems of Linear Equations

Take a diagnostic unit test that will generate a study plan based on your responses.

Duration: 0 hrs 40 mins Scoring: 28 points

UNIT 7: SEMESTER EXAM

LESSON 1: SEMESTER EXAM

Exam: Semester Exam

Duration: 1 hr Scoring: 200 points

UNIT 8: POLYNOMIALS

LESSON 1: WHAT IS A POLYNOMIAL?

Study: What is a Polynomial?

Learn the definitions of monomials, polynomials, constants, terms, coefficients, binomials, trinomials, and degree. Learn about finding degrees of polynomials.

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: Degrees of Polynomials

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

Quiz: Degrees of Polynomials (Advanced)

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

LESSON 2: 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.

Duration: 0 hrs 30 mins

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 3: 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 4: 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 5: DIVIDING POLYNOMIALS

Study: Dividing Polynomials

Learn about using long division to find the quotient of two polynomials; dividing polynomials with missing terms; and dividing polynomials with remainders.

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 Long Division

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

LESSON 6: GRAPHING POLYNOMIALS

Study: Graphing Polynomials

Learn about graphs as pictures of solution sets. Use a table to find and graph solutions to polynomial equations. Explore why these graphs are always continuous curves. Graph higher-degree polynomial equations by plotting their corresponding points and identifying their parts, such as extreme values (maximum and minimum) and roots.

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 Parabolic Equations

Solve problems by drawing graphs of parabolic equations.

Duration: 0 hrs 30 mins Scoring: 25 points

Quiz: Finding Extreme Values

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 24 points

Quiz: Finding Roots of Graphs

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 22 points

Study: The Stereo Problem

Apply the method of graphing polynomials in order to solve the real-world problem of finding the relationship between the price of stereos and sales figures.

Duration: 0 hrs 40 mins

LESSON 7: WRAP-UP

Practice: Assignment

Submit your work for a set of 20 practice problems.

Duration: 0 hrs 40 mins Scoring: 100 points

Review: Review Exercise

Take part in interactive games to review unit material in preparation for upcoming assessments.

Duration: 0 hrs 30 mins

Discuss: Thinking Positive in the Real World

Take part in a three- to five-question discussion about applying methods learned in this unit.

Duration: 0 hrs 20 mins Scoring: 30 points

Test (CS): Polynomials

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

Duration: 0 hrs 40 mins Scoring: 75 points

Test (TS): Polynomials

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

Duration: 0 hrs 30 mins Scoring: 50 points

LESSON 8: DIAGNOSTIC

Diagnostic: Polynomials

Take a diagnostic unit test that will generate a study plan based on your responses.

Duration: 0 hrs 40 mins Scoring: 25 points

UNIT 9: FACTORING OF POLYNOMIALS

LESSON 1: 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 2: FACTORING WITH TILES

Study: Factoring with Tiles

Review using tiles to multiply polynomials and to find factors of polynomials.

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 with Tiles

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 24 points

LESSON 3: 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 4: GROUPING

Study: Grouping

Learn about polynomials with terms that have a common factor; applying the distributive property in reverse to factor out common factors; and finding the greatest common factor.

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 Grouping

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

Quiz: Finding GCFs of Polynomials

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 16 points

LESSON 5: 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 6: 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 7: 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 8: 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 9: 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.

Duration: 0 hrs 25 mins Scoring: 24 points

Quiz: Completing the Square (Advanced)

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 24 points

LESSON 10: 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 11: WRAP-UP

Practice: Assignment

Submit your work for a set of 20 practice problems.

Duration: 0 hrs 40 mins Scoring: 100 points

Review: Review Exercise

Take part in interactive games to review unit material in preparation for upcoming assessments.

Duration: 0 hrs 30 mins

Discuss: Being Part of a Group

Take part in a three- to five-question discussion about applying methods learned in this unit.

Duration: 0 hrs 20 mins Scoring: 30 points

Test (CS): Factoring of Polynomials

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

Duration: 0 hrs 40 mins Scoring: 99 points

Test (TS): Factoring of Polynomials

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

Duration: 0 hrs 30 mins Scoring: 50 points

LESSON 12: DIAGNOSTIC

Diagnostic: Factoring of Polynomials

Take a diagnostic unit test that will generate a study plan based on your responses.

Duration: 0 hrs 40 mins Scoring: 33 points

UNIT 10: TRIANGLES

LESSON 1: WHAT IS A TRIANGLE?

Study: What Is a Triangle?

Learn about the definition and parts of a triangle; opposite and included figures; naming and sorting triangles; equilateral, isosceles, and scalene triangles; and the triangle inequality theorem.

Duration: 0 hrs 50 mins

Checkup: Practice Problems

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

Duration: 0 hrs 30 mins

Quiz: Naming Triangles by Angle Measures

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 16 points

Quiz: Naming Triangles by Side Lengths

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 18 points

Quiz: The Triangle Inequality Theorem

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 22 points

LESSON 2: THE ANGLES OF A TRIANGLE

Study: The Angles of a Triangle

Explore the angle sum theorem and third angle theorem for triangles. Learn the meaning behind the statement “QED.” Investigate the relationship between a given triangle’s vertex and its exterior and remote interior angles.

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: Angle Theorems

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

Quiz: Exterior and Remote Interior Angles

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 16 points

LESSON 3: CONGRUENCE

Study: Congruence

Learn about congruence transformations of triangles, corresponding triangles, notation for writing congruence statements, and the CPCTC triangle congruence theorem.

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: Congruent Triangles

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 18 points

Quiz: Properties of Congruence

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 18 points

LESSON 4: CONGRUENCE POSTULATES

Study: Congruence Postulates

Learn about postulates, including the SSS, SAS, ASA, and AAS theorems.

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: Using Congruence Postulates

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

Quiz: Using Congruence Postulates II

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 5: PROOFS OF CONGRUENCE

Study: Proofs of Congruence

Learn about proving that parts of triangles are congruent using Thales's method for measuring the distance from ship to shore.

Duration: 0 hrs 50 mins

Quiz: Proofs of Congruence

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 16 points

LESSON 6: SIMILAR TRIANGLES

Study: Similar Triangles

Learn about similarity vs. congruence, testing for similarity among triangles, proportionality, the definition of similar triangles, and the scale factor.

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: Similar Triangles

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 28 points

LESSON 7: RATIOS AND PROPORTIONS

Study: Ratios and Proportions

Learn about ratios, proportions, means, and extremes. Learn about applying the cross product property application to the student-teacher ratio problem and the photo-enlargement problem.

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: Ratios and Proportions

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 18 points

LESSON 8: SIMILARITY THEOREMS

Study: Similarity Theorems

Learn about the ASA similarity postulate, SSS similarity theorem, and SAS similarity theorem.

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: Similarity Theorems

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 22 points

LESSON 9: TRIANGLE THEOREMS

Study: Triangle Theorems

Learn and prove the isosceles triangle theorem and its converse. Investigate two corollaries involving angle measures for equilateral triangles. Explore theorems for scalene triangles. Apply what is learned to solve Thales's problem.

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: Isosceles and Equilateral Triangles

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 16 points

Quiz: Scalene Triangles

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 16 points

LESSON 10: MEDIANS ALTITUDES AND BISECTORS

Study: Medians Altitudes and Bisectors

Identify and explore medians, altitudes, angle bisectors, and perpendicular bisectors of triangles. Discover their relationship to centroids, orthocenters, incenters, and circumcenters.

Duration: 0 hrs 50 mins

Quiz: Medians Altitudes and Bisectors

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 24 points

LESSON 11: THE PARALLAX PROBLEM

Study: The Parallax Problem

Learn to apply the concepts of congruence, similarity, ratio, and proportion to the solution of a real-world parallax problem.

Duration: 0 hrs 50 mins

LESSON 12: WRAP-UP

Practice: Assignment

Submit your work for a set of 20 practice problems.

Duration: 0 hrs 40 mins Scoring: 100 points

Review: Review Exercises

Take part in interactive games to review unit material in preparation for upcoming assessments.

Duration: 0 hrs 30 mins

Discuss: The Well-Balanced Triangle

Respond to one of three discussion questions asking you to apply methods learned in this unit.

Duration: 0 hrs 20 mins Scoring: 30 points

Test (CS): Triangles

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

Duration: 0 hrs 40 mins Scoring: 75 points

Test (TS): Triangles

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

Duration: 0 hrs 30 mins Scoring: 50 points

LESSON 13: DIAGNOSTIC

Diagnostic: Triangles

Take a diagnostic unit test that will generate a study plan based on your responses.

Duration: 0 hrs 40 mins Scoring: 25 points

UNIT 11: RIGHT TRIANGLES

LESSON 1: AREA OF A TRIANGLE

Study: Area of a Triangle

Learn about the area of a polygon, square units, and the triangle area formula and theorem.

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: Area of a Triangle

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 18 points

LESSON 2: THE PYTHAGOREAN THEOREM

Study: The Pythagorean Theorem

Learn about how the Pythagorean theorem applies only to right triangles and discover one proof of it. Learn about the converse of the Pythagorean theorem, Pythagorean triples, and applying the theorem to the problem of fitting a baseball bat into a rectangular trunk.

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: The Pythagorean Theorem

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 16 points

LESSON 3: CONGRUENT RIGHT TRIANGLES

Study: Congruent Right Triangles

Learn about the HL, LL, HA, LA, and perpendicular bisector theorems. Learn about the angle bisector theorem and its converse.

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: Proving Right Triangle Congruence

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 26 points

Quiz: Right Triangle Measurements

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 18 points

LESSON 4: SIMILAR RIGHT TRIANGLES

Study: Similar Right Triangles

Explore the properties of similar right triangles and prove that if an altitude is drawn from the right-angle vertex of a right triangle to its hypotenuse, then three similar triangles are formed. Calculate the missing sides of similar right triangles using proportions, and apply concepts learned to a miniature-golf problem.

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: Similar Right Triangles

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 16 points

LESSON 5: SPECIAL RIGHT TRIANGLES

Study: Special Right Triangles

Explore 45-45-90 and 30-60-90 triangles as special cases of right triangles and learn how to apply the ratios of their side lengths.

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: 45-45-90 Right Triangles

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

Quiz: 30-60-90 Right Triangles

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 12 points

LESSON 6: TRIGONOMETRIC RATIOS

Study: Trigonometric Ratios

Learn the definitions of *sine*, *cosine*, and *tangent*. Memorize "soh-cah-toa" as a mnemonic device relating to these ratios. Explore the use of trigonometric ratios in the solution of a real-world problem involving the construction of a cable car.

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: Trigonometric Ratios

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 16 points

LESSON 7: WRAP-UP

Practice: Assignment

Submit your work for a set of 20 practice problems.

Duration: 0 hrs 40 mins Scoring: 100 points

Review: Review Exercise

Take part in interactive games to review unit material in preparation for upcoming assessments.

Duration: 0 hrs 30 mins

Discuss: A Closer Look at a Baseball Diamond

Students respond to one of three discussion questions asking them to apply methods learned in this unit.

Duration: 0 hrs 20 mins Scoring: 30 points

Test (CS): Right Triangles

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

Duration: 0 hrs 40 mins Scoring: 75 points

Test (TS): Right Triangles

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

Duration: 0 hrs 30 mins Scoring: 50 points

LESSON 8: DIAGNOSTIC

Diagnostic: Right Triangles

Take a diagnostic unit test that will generate a study plan based on your responses.

Duration: 0 hrs 40 mins Scoring: 25 points

UNIT 12: QUADRILATERALS AND OTHER POLYGONS

LESSON 1: POLYGONS AND QUADRILATERALS

Study: Polygons and Quadrilaterals

Learn about the definitions of a polygon and a quadrilateral and the relationship of one to the other; identifying and naming polygons and quadrilaterals; and convex, concave, regular, congruent, and similar polygons.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 25 mins

Quiz: Identifying and Naming Polygons and Quadrilaterals

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

Quiz: Sorting and Recognizing Polygons

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 24 points

LESSON 2: CONGRUENT AND SIMILAR POLYGONS

Study: Congruent and Similar Polygons

Use the properties of similar and congruent polygons to solve real-life problems.

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: Congruent and Similar Polygons

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 3: ANGLE SUMS OF A POLYGON

Study: Angle Sums of a Polygon

Learn about the diagonal of a polygon, the formula for the sum of the measures of a polygon's interior angles, and exterior angles and a theorem for the sum of their measures.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 25 mins

Quiz: Angle Sums of a Polygon

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

LESSON 4: PARALLELOGRAMS

Study: Parallelograms

Learn about the definition of a parallelogram, properties and theorems of parallelograms, consecutive angle pairs, and diagonals.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 25 mins

Quiz: Parallelograms

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

LESSON 5: TESTS FOR PARALLELOGRAMS

Study: Tests for Parallelograms

Explore parallelogram theorems involving opposite side lengths, opposite and consecutive angle measures, and bisecting diagonals. Then work through a sample proof.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 25 mins

Quiz: Tests for Parallelograms

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

LESSON 6: RECTANGLES

Study: Rectangles

Learn about the definition of a rectangle, congruent diagonal theorems, and right angle theorems. Explore a sample problem case study about proving that a window is rectangular using the congruent diagonal theorem.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 25 mins

Quiz: Rectangles

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 28 points

LESSON 7: RHOMBI AND SQUARES

Study: Rhombi and Squares

Identify the properties and definitions of a rhombus and a square. Prove that the diagonals of a rhombus are perpendicular. Investigate how diagonals of a rhombus bisect opposite vertices. Apply the properties of rhombi and squares to find missing side lengths, diagonal lengths, and angle measures.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 25 mins

Quiz: Rhombi and Squares

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

LESSON 8: TRAPEZOIDS AND KITES

Study: Trapezoids and Kites

Define and study trapezoids and kites and see how they relate to other types of quadrilaterals. Apply the properties of trapezoids and kites to find missing side lengths, median lengths and angles.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 25 mins

Quiz: Trapezoids and Kites

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

LESSON 9: AREA AND PERIMETER OF QUADRILATERALS

Study: Area and Perimeter of Quadrilaterals

Learn about the formulas for the perimeter of a parallelogram, a rhombus, and a square and for the area of a polygon, rectangle, and square. Complete a sample problem in which you must calculate the area of a square. Learn about the altitude, base, and height of parallelograms and the formulas for the area of a parallelogram and a trapezoid.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 25 mins

Quiz: Area and Perimeter of Quadrilaterals

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

Quiz: Area of Rhombi and Trapezoids

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 22 points

LESSON 10: AREA AND PERIMETER OF POLYGONS

Study: Area and Perimeter of Polygons

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

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 25 mins

Quiz: Area and Perimeter of Polygons

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 26 points

LESSON 11: AREA AND PERIMETER - CHANGING DIMENSIONS

Study: Area and Perimeter - Changing Dimensions

Learn how changing the dimensions of common geometric figures affect the figures' area and perimeter.

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 25 mins Scoring: 0 points

Quiz: Area and Perimeter - Changing Dimensions

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 20 points

LESSON 12: WRAP-UP

Practice: Assignment

Submit your work for a set of 20 practice problems.

Duration: 0 hrs 40 mins Scoring: 100 points

Review: Review Exercises

Take part in interactive games to review unit material in preparation for upcoming assessments.

Duration: 0 hrs 30 mins

Discuss: Parts Bits and Pieces

Respond to one of four discussion questions asking you to apply methods learned in this unit.

Duration: 0 hrs 20 mins Scoring: 30 points

Test (CS): Quadrilaterals and Other Polygons

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

Duration: 0 hrs 40 mins Scoring: 75 points

Test (TS): Quadrilaterals and Other Polygons

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

Duration: 0 hrs 30 mins Scoring: 50 points

LESSON 13: DIAGNOSTIC

Diagnostic: Quadrilaterals and Other Polygons

Take a diagnostic unit test that will generate a study plan based on your responses.

Duration: 0 hrs 40 mins Scoring: 25 points

UNIT 13: THREE-DIMENSIONAL SOLIDS

LESSON 1: THREE DIMENSIONS

Study: Three Dimensions

Learn about measuring three-dimensional figures.

Duration: 0 hrs 40 mins

Quiz: Three Dimensions

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 24 points

LESSON 2: WHAT IS A POLYHEDRON?

Study: What is a Polyhedron?

Learn about the definition and elements of a polyhedron, prisms and their components, triangular and rectangular prisms, cubes, and regular and irregular pyramids.

Duration: 0 hrs 40 mins

Practice: Polyhedron Grower Tool

Use a polyhedron-grower tool to visualize the relationships between dimensions.

Duration: 0 hrs 30 mins Scoring: 25 points

Quiz: What is a Polyhedron?

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

LESSON 3: CYLINDERS AND CONES

Study: Cylinders and Cones

Learn about the definition, components, and properties of a cylinder; the definition and components of a cone; and the similarities between cones and pyramids.

Duration: 0 hrs 40 mins

Quiz: Cylinders and Cones

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 22 points

LESSON 4: PLATONIC SOLIDS

Study: Platonic Solids

Learn about polygonal numbers, regularity of Platonic solids, and building your own Platonic solids.

Duration: 0 hrs 40 mins

Quiz: Platonic Solids

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

LESSON 5: SURFACE AREA

Study: Surface Area

Learn about perimeter and surface area; base and lateral area; the formulae for lateral and surface area of a right prism, the surface area of an oblique prism, and the surface area of a pyramid; the formulae for lateral and surface area of a regular pyramid; slant height vs. altitude; and the formulae for lateral and surface area of a right cylinder, surface area of an oblique cylinder, and surface area of right and oblique cones. Explore sample problems dealing with these subjects.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 25 mins

Quiz: Surface Area of Regular Prisms and Pyramids

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

Quiz: Surface Area of Right Cylinders and Cones

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 22 points

LESSON 6: VOLUME

Study: Volume

Learn about area and volume; the formulae for volume of a cube and a rectangular prism; and Bonaventura Francesco Cavalieri's principle. Learn about the formulae for volume of a cylinder, a pyramid, and a cone; explore sample problems dealing with these formulae. Learn about cross-sectional area.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 25 mins

Quiz: Volume of Prisms Cylinders and Cubes

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 28 points

Quiz: Volume of Cones Cylinders and Pyramids

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 24 points

LESSON 7: SPHERES

Study: Spheres

Learn about the definition of a sphere; the formulae for surface area and volume of a sphere; comparing the surface area and volume of a sphere, cube, cylinder, and cone; and deriving the formula for volume of a sphere using Cavalieri's principle.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 25 mins

Quiz: Spheres

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 24 points

LESSON 8: SIMILAR SOLIDS

Study: Similar Solids

Learn about similar prisms, pyramids, cylinders, cones, and spheres; the constant ratio between corresponding parts of similar solids; and the ratio of volumes of similar solids.

Duration: 0 hrs 40 mins

Checkup: Practice Problems

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

Duration: 0 hrs 25 mins

Quiz: Similar Solids

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 25 mins Scoring: 30 points

LESSON 9: WRAP-UP

Practice: Assignment

Submit your work for a set of 20 practice problems.

Duration: 0 hrs 40 mins Scoring: 100 points

Review: Review Exercises

Take part in interactive games to review unit material in preparation for upcoming assessments.

Duration: 0 hrs 30 mins

Discuss: Polyhedron Tinker Toys

Respond to one of three discussion questions asking you to apply methods learned in this unit.

Duration: 0 hrs 20 mins Scoring: 30 points

Test (CS): Three-Dimensional Solids

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

Duration: 0 hrs 40 mins Scoring: 75 points

Test (TS): Three-Dimensional Solids

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

Duration: 0 hrs 30 mins Scoring: 50 points

LESSON 10: DIAGNOSTIC

Diagnostic: Three-Dimensional Solids

Take a diagnostic unit test that will generate a study plan based on your responses.

Duration: 0 hrs 40 mins Scoring: 25 points

UNIT 14: NUMERICAL DATA SETS

LESSON 1: NUMERICAL DATA

Study: Numerical Data

Learn how to construct and interpret stem-and-leaf plots, histograms, and dot plots along with comparative stem-and-leaf and dot plots.

Duration: 0 hrs 40 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: Numerical Data

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 2: MEASURES OF CENTER

Study: Measures of Center

Learn how to calculate and interpret measures of center, such as mean, median, and mode.

Duration: 0 hrs 40 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: Measures of Center

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 3: MEASURES OF SPREAD

Study: Measures of Spread

Learn how to calculate and interpret variance, standard deviation, range, interquartile range, and outliers.

Duration: 0 hrs 40 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: Measures of Spread

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 4: BOX PLOTS

Study: Box Plots

Learn how to calculate and interpret box plots, comparative box plots, and modified box plots.

Duration: 0 hrs 40 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: Box Plots

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 5: DESCRIBING DISTRIBUTIONS

Study: Describing Distributions

Learn how to describe distributions using measures of center, shape, and spread for single and comparative data sets.

Duration: 0 hrs 40 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: Describing Distributions

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 6: TRANSFORMING UNIVARIATE DATA

Study: Transforming Univariate Data

Learn how to calculate the effects of transformations on the center, shape, and spread.

Duration: 0 hrs 40 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: Transforming Univariate Data

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 7: SCATTERPLOTS

Study: Scatterplots

Learn how to construct and interpret scatterplots.

Duration: 0 hrs 40 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 8: SELECTING DATA DISPLAYS

Study: Selecting Data Displays

Identify the characteristics of different formats for displaying data. Select the most appropriate format for displaying a given set of data.

Duration: 0 hrs 50 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

Practice: Displaying Comparative Data

Collect, display and compare two sets of data using tables and box plots.

Duration: 0 hrs 30 mins Scoring: 25 points

Quiz: Selecting Data Displays

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 20 mins Scoring: 20 points

LESSON 9: NUMERICAL DATA SETS WRAP-UP

Practice: Assignment

Submit your work for a set of 20 practice problems.

Duration: 0 hrs 40 mins Scoring: 100 points

Review: Numerical Data Sets

Prepare for the unit test by reviewing key concepts and skills.

Duration: 0 hrs 30 mins Scoring: 0 points

Discuss: Displaying and Describing Real-World Data

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

Duration: 0 hrs 20 mins Scoring: 30 points

Test (CS): Numerical Data Sets

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

Duration: 0 hrs 40 mins Scoring: 75 points

Test (TS): Numerical Data Sets

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

Duration: 0 hrs 30 mins Scoring: 50 points

LESSON 10: DIAGNOSTIC

Diagnostic: Numerical Data Sets

Take a diagnostic unit test that will generate a study plan based on your responses.

Duration: 0 hrs 40 mins Scoring: 25 points

UNIT 15: SEMESTER EXAM

LESSON 1: SEMESTER EXAM

Exam: Semester Exam

Duration: 1 hr Scoring: 200 points