PEARSON

MyReadinessTest[®] for English & Mathematics

Math Content Library – Topics & Objectives

Module 1: Whole Numbers

- 1 Reading and Writing Whole Numbers
 - 1 Identify the place value of digits in whole numbers.
 - 2 Write whole numbers in words.
 - 3 Write whole numbers using digits.
 - 4 Solve word problems involving whole numbers.
- 2 Comparing and Rounding Whole Numbers
 - 1 Compare whole numbers.
 - 2 Round whole numbers to the given place value.
 - 3 Solve word problems involving rounding whole numbers.
- 3 Adding and Subtracting Whole Numbers
 - 1 Add whole numbers when carrying is not required.
 - 2 Add whole numbers when carrying is required.
 - 3 Subtract whole numbers when borrowing is not required.
 - 4 Subtract whole numbers when borrowing is required.
 - 5 Solve word problems involving the addition of whole numbers.
 - 6 Solve word problems involving the subtraction of whole numbers.
- 4 Multiplying Whole Numbers
 - 1 Multiply single-digit whole numbers.
 - 2 Use multiplication shortcuts for numbers ending in zero.
 - 3 Multiply by whole numbers having more than one digit.
 - 4 Solve word problems involving the multiplication of whole numbers.
- 5 Dividing Whole Numbers
 - 1 Identify dividends, divisors, quotients, and remainders.
 - 2 Write division problems using other symbols.
 - 3 Perform short division.
 - 4 Given a division problem, select an appropriate answer.
 - 5 Perform long division.
 - 6 Solve word problems involving the division of whole numbers.
- 6 Estimate by Rounding
 - 1 Estimate answers by rounding.
 - 2 Estimate by rounding, then find exact answers.
 - 3 Solve word problems involving estimation.
- 7 Exponents and Roots
 - 1 Identify exponents and bases.
 - 2 Expand and evaluate whole numbers raised to positive exponents.
 - 3 Find square roots of perfect squares.
- 8 The Order of Operations
 - 1 Use the order of operations.
 - 2 Solve word problems involving the order of operations.

- 9 Factors of Whole Numbers
 - 1 Find factors of numbers.
 - 2 Determine if a number is prime, composite, or neither.
 - 3 Find prime factorizations.
 - 4 Identify the greatest common factor (GCF).
 - 5 Solve word problems involving factors.

Module 2: Fractions and Mixed Numbers

- 1 Basics of Fractions
 - 1 Identify numerators and denominators.
 - 2 Identify proper fractions and improper fractions.
 - 3 Use fractions to represent diagrams or word problems.
 - 4 Analyze part/whole relationships.
 - 5 Locate fractions on the number line.
- 2 Basics of Mixed Numbers
 - 1 Identify proper fractions, improper fractions, and mixed numbers.
 - 2 Locate mixed numbers on the number line.
 - 3 Convert mixed numbers to improper fractions.
 - 4 Convert improper fractions to mixed numbers.
- 3 Writing a Fraction in Lowest Terms
 - 1 Test divisibility.
 - 2 Write a fraction in lowest terms using common factors or the GCF.
 - 3 Write a fraction in lowest terms using prime factorization.
 - 4 Solve word problems involving writing a fraction in lowest terms.
- 4 Equivalent Fractions
 - 1 Determine whether two fractions are equivalent.
 - 2 Rewrite fractions with the indicated numerator or denominator.
- 5 Multiplying Fractions
 - 1 Multiply with fractions.
 - 2 Multiply mixed numbers.
 - 3 Solve word problems involving the multiplication of fractions.
 - 4 Solve word problems involving the multiplication of mixed numbers.
- 6 Dividing Fractions
 - 1 Find the reciprocal of a fraction.
 - 2 Divide fractions.
 - 3 Divide mixed numbers.
 - 4 Solve word problems involving the division of fractions.
 - 5 Solve word problems involving the division of mixed numbers.
- 7 Adding and Subtracting Like Fractions
 - 1 Determine if fractions are like fractions or unlike fractions.
 - 2 Add like fractions.
 - 3 Subtract like fractions.
 - 4 Solve word problems involving the addition and subtraction of like fractions.
- 8 Least Common Multiples and Least Common Denominator
 - 1 Find the least common multiple (LCM) using prime factorization.
 - 2 Find the least common multiple (LCM) using multiples of the largest number.

- 3 Find the least common denominator (LCD) of a list of fractions.
- 4 Write fractions with the least common denominator (LCD).
- 5 Identify the greater of two fractions.
- 6 Solve word problems involving the LCM or LCD.
- 9 Adding and Subtracting Unlike Fractions
 - 1 Add or subtract unlike fractions.
 - 2 Add or subtract mixed numbers.
 - 3 Solve word problems involving adding or subtracting unlike fractions.
- 10 Exponents and Roots
 - 1 Evaluate fractions raised to positive exponents.
 - 2 Find square roots of fractions with perfect square numerators and denominators.
 - 3 Solve word problems involving exponents or roots of fractions.
- 11 The Order of Operations and Complex Fractions
 - 1 Use the order of operations.
 - 2 Understand the difference between regular fractions and complex fractions.
 - 3 Simplify complex fractions.
 - 4 Solve word problems involving the order of operations.

Module 3: Decimals

- 1 Reading and Writing Decimals
 - 1 Identify the place value of digits in decimal numbers.
 - 2 Write decimal numbers given place values.
 - 3 Write decimal numbers as fractions or mixed numbers.
 - 4 Write decimal numbers in words and vice versa.
 - 5 Solve word problems involving writing decimals.
- 2 Comparing and Rounding Decimals
 - 1 Arrange decimals in order.
 - 2 Round decimals to a given place value.
 - 3 Round monetary values.
 - 4 Solve word problems involving rounding decimals.
- 3 Adding and Subtracting Decimals
 - 1 Add or subtract decimals.
 - 2 Add or subtract decimals with rounding.
 - 3 Use estimation skills.
 - 4 Solve word problems involving the addition or subtraction of decimals.
 - 5 Solve word problems involving estimation.
- 4 Multiplying Decimals
 - 1 Multiply decimals.
 - 2 Multiply decimals by powers of ten.
 - 3 Multiply decimals with rounding.
 - 4 Evaluate decimals raised to positive exponents.
 - 5 Solve word problems involving the multiplication of decimals.
- 5 Dividing Decimals
 - 1 Divide decimals by whole numbers.
 - 2 Divide decimals by decimals.
 - 3 Divide decimals by powers of ten.
 - 4 Divide decimals with rounding.
 - 5 Solve word problems involving the division of decimals.

- 6 Writing Fractions and Decimals
 - 1 Write fractions as equivalent decimals.
 - 2 Write decimals as equivalent fractions.
 - 3 Arrange decimals and fractions in order.
 - 4 Solve word problems involving fractions and decimals.

Module 4: Introduction to Algebra and the Real Number System

- 1 Introduction to Integers, Opposites, and Absolute Value
 - 1 Represent real-life situations with integers.
 - 2 Graph integers on a number line.
 - 3 Define absolute value.
 - 4 Find opposites and absolute values of numbers.
 - 5 Simplify absolute value expressions.
 - 6 Solve word problems involving absolute value.
- 2 Adding Integers
 - 1 Add integers.
 - 2 Evaluate whether statements are true or false.
 - 3 Write a numerical expression for a phrase and simplify it.
 - 4 Solve word problems involving addition with integers.
- 3 Subtracting Integers
 - 1 Subtract integers.
 - 2 Write a numerical expression for a phrase and simplify it.
 - 3 Solve word problems involving subtraction with integers.
- 4 Multiplying and Dividing Integers
 - Multiply integers.
 - 2 Divide integers.
 - 3 Evaluate algebraic expressions using integers.
 - 4 Solve word problems involving multiplication and division with integers.
- 5 Introduction to Expressions
 - 1 Review the order of operations.
 - 2 Identify coefficients, constants, and variables in an expression.
 - 3 Evaluate algebraic expressions.
 - 4 Rewrite phrases as algebraic expressions.
- 6 Introduction to Inequalities
 - 1 Use inequality symbols.
 - 2 Reverse inequality symbols.
 - 3 Solve word problems involving inequalities.
- 7 Introduction to Equations
 - 1 Decide whether a given number is a solution to an equation.
 - 2 Write sentences as equations.
 - 3 Understand the difference between expressions and equations.
 - 4 Solve modeling word problems.
- 8 Real Numbers and the Number Line
 - 1 Classify numbers.
 - 2 Graph numbers on a number line.
 - 3 Order numbers using inequality symbols.
 - 4 Compare irrational and rational numbers.
- 9 Calculating with Real Numbers
 - 1 Add or subtract signed numbers.
 - 2 Multiply or divide real numbers.
 - 3 Simplify expressions using the order of operations.
 - 4 Determine whether numerical statements are true or false.

- 5 Write numerical statements involving real numbers and simplify.
- 6 Translate sentences to equations.
- 7 Solve word problems involving calculations of real numbers.
- 10 Properties of Real Numbers
 - 1 Identify properties of real numbers.
 - 2 Write an equivalent expression using the given property.
 - 3 Simplify expressions using properties of real numbers.
 - 4 Rewrite expressions using the distributive property.
- 11 Simplifying Expressions
 - 1 Understand the difference between terms and factors.
 - 2 Identify terms as like or unlike.
 - 3 Combine like terms.
 - 4 Simplify expressions.

Module 5: Ratio, Proportion, and Percent

- 1 Ratios
- 1 Write ratios using different notation.
- 2 Write ratios as fractions and simplify.
- 3 Solve word problems involving ratios.
- 2 Rates
- 1 Understand the different between ratios and rates.
- 2 Write rates as fractions.
- 3 Find unit rates.
- 4 Determine the best buy.
- 5 Solve word problems involving rates.
- 3 Proportions
 - 1 Write proportions.
 - 2 Write ratios in lowest terms to determine whether proportions are true or false.
 - 3 Use cross products to determine whether proportions are true or false.
 - 4 Find the unknown number in a proportion.
 - 5 Solve word problems involving proportions.
- 4 Basics of Percent: Decimals
 - 1 Write percents as decimals.
 - 2 Write decimals as percents.
 - 3 Convert between decimals and percents.
 - 4 Solve word problems involving percent.
- 5 Basics of Percent: Fractions
 - 1 Write percents as fractions or mixed numbers.
 - 2 Write fractions as percents.
 - 3 Convert between fractions, decimals, and percents.
 - 4 Solve word problems involving percent.
- 6 Understanding and Using the Percent Proportion
 - 1 Set up percent proportions.
 - 2 Set up percent proportions for word problems.
 - 3 Find the part using the percent proportion.
 - 4 Find the whole using the percent proportion.
 - 5 Find the percent using the percent proportion.
 - 6 Solve word problems using the percent proportion.
- 7 Using the Percent Equation
 - 1 Find the part using the percent equation.
 - 2 Find the whole using the percent equation.
 - 3 Find the percent using the percent equation.

- 4 Solve word problems using the percent equation.
- 8 Solving Word Problems with Percent
 - 1 Solve word problems involving percent.
 - 2 Solve word problems involving percent increase or percent decrease.
 - 3 Solve word problems involving sales tax and total price.
 - 4 Solve word problems involving commissions.
 - 5 Solve word problems involving discounts and sale prices.
- 9 Simple Interest
 - 1 Find simple interest.
 - 2 Find total amount due.
 - 3 Solve word problems involving simple interest.

Module 6: Measurement and Significant Digits

- 1 U.S. Customary Units
 - 1 Learn units for time.
 - 2 Learn U.S. customary units for length.
 - 3 Learn U.S. customary units for capacity and weight.
 - 4 Convert measurements by multiplying or dividing.
 - 5 Convert measurements using unit fractions.
 - 6 Solve word problems involving U.S. customary units.
- 2 The Metric System: Length
 - 1 Learn the basic metric units of length.
 - 2 Determine the correct unit.
 - 3 Convert among metric units.
 - 4 Solve word problems involving metric units of length.
- 3 The Metric System: Capacity and Mass
 - 1 Learn the basic metric units of capacity and mass.
 - 2 Determine the correct unit.
 - 3 Determine if a dosage is reasonable or unreasonable.
 - 4 Convert among metric units.
 - 5 Solve word problems involving metric units of capacity and mass.
- 4 Metric and U.S. Customary Conversion
 - 1 Use unit fractions to convert from metric units to U.S. customary units.
 - 2 Use unit fractions to convert from U.S. customary units to metric units.
 - 3 Use unit fractions to convert the units used in rates.
 - 4 Solve word problems involving unit conversions.
- 5 Temperature
 - 1 Learn common temperatures on the Celsius scale.
 - 2 Convert temperatures from degrees Celsius to degrees Fahrenheit.
 - 3 Convert temperatures from degrees Fahrenheit to degrees Celsius.
 - 4 Solve word problems involving temperature.
- 6 Significant Digits
 - 1 Determine the significant digits of a number.
 - 2 Understand the difference between precision and accuracy.
 - 3 Solve word problems involving significant digits.

Module 7: Linear Equations and Inequalities; Absolute Value

- 1 Review of Expressions
 - 1 Simplify expressions.
 - 2 Translate phrases into expressions.
 - 3 Translate sentences into equations.

- 2 Solving Linear Equations in One Variable
 - 1 Solve linear equations using the addition and multiplication properties of equality.
 - 2 Solve linear equations containing parentheses.
 - 3 Solve linear equations containing fractions.
 - 4 Solve word problems involving solving linear equations in one variable.
- 3 More on Solving Linear Equations in One Variable

Understand the difference between equations resulting in one solution, infinitely many

- 1 solutions, or no solution.
- 2 Solve linear equations resulting in infinitely many solutions.
- 3 Solve linear equations resulting in no solution.

4 Solve linear equations resulting in one solution, infinitely many solutions, or no solution.

- 5 Solve word problems involving solving linear equations in one variable.
- 4 Formulas
 - 1 Solve formulas for specified variables.
 - 2 Use formulas to solve problems.
- 5 Solving Linear Inequalities
 - 1 Decide whether a given number is a solution to an inequality.
 - 2 Understand the difference between set builder notation and interval notation.
 - 3 Graph inequalities on a number line.
 - 4 Use the addition property of inequality.
 - 5 Use the multiplication property of inequality.
 - 6 Use the addition property and multiplication property of inequality.
 - 7 Write solutions of linear inequalities using different notation.
 - 8 Solve word problems involving linear inequalities.
- 6 Set Operations and Compound Inequalities
 - 1 Find and graph the intersection or union of two sets.
 - 2 Solve compound inequalities with the word and.
 - 3 Solve three-part inequalities.
 - 4 Solve compound inequalities with the word or.
 - 5 Solve word problems involving compound inequalities.
- 7 Absolute Value Equations and Inequalities
 - 1 Solve absolute value equations.
 - 2 Solve absolute value inequalities.
 - 3 Solve equations with absolute value expressions on both sides.
 - 4 Solve special cases of absolute value equations and inequalities.
 - 5 Solve word problems involving absolute value equations and inequalities.

Module 8: Introduction to Graphing

- 1 The Rectangular Coordinate System
 - 1 Identify x-coordinates and y-coordinates in ordered pairs.
 - 2 Identify the quadrant or axis where a given point lies.
 - 3 Read the coordinates of a point on a graph.
 - 4 Plot points.
- 2 Graphing Linear Equations
 - 1 Determine whether ordered pairs are solutions of linear equations.
 - 2 Complete ordered-pair solutions of equations and plot these points.
 - 3 Match linear graphs with their equations.
 - 4 Graph linear equations by plotting points.
 - 5 Solve word problems involving graphing linear equations.
- 3 The Distance and Midpoint Formulas
 - 1 Find the distance between two points.

- 2 Find the midpoint of a line segment.
- 3 Solve word problems involving the distance formula.
- 4 Solve word problems involving the midpoint formula.
- 4 Intercepts
 - 1 Find x- and y-intercepts.
 - 2 Graph linear equations by plotting x- and y-intercepts.
 - 3 Identify horizontal and vertical lines.
 - 4 Graph horizontal and vertical lines.
 - 5 Solve word problems involving intercepts.
- 5 The Slope of a Line
 - 1 Find slope given two points on a line.
 - 2 Identify slopes and y-intercepts of lines given their equations in slope-intercept form.
 - 3 Find slopes and y-intercepts of lines given their equations in any form.
 - 4 Determine whether the slopes of lines are positive, negative, zero, or undefined.
 - 5 Solve word problems involving slope.
- 6 Parallel and Perpendicular Lines
 - 1 Determine whether lines are parallel, perpendicular, or neither. Use slope-intercept form to determine whether two lines are parallel, perpendicular, or neither.
- 7 Equations of Lines
 - 1 Write an equation of a line given its slope and y-intercept.
 - 2 Write an equation of a line given its slope and a point on the line.
 - 3 Write an equation of a line given two points on the line.
 - 4 Write an equation of a line given its graph.
 - 5 Solve word problems involving the equations of lines.
- 8 Graphing Linear Equations Using Slope
 - 1 Graph a line given its slope and a point on the line.
 - 2 Graph a line given its equation in slope-intercept form.
 - 3 Graph a line given its equation in any form.
 - 4 Solve word problems involving graphing linear equations.
- 9 Graphing Linear Inequalities in Two Variables
 - 1 Determine whether ordered pairs are solutions of linear inequalities in two variables.
 - 2 Graph linear inequalities in two variables.
 - 3 Solve word problems involving graphing linear inequalities.

Module 9: Geometry: Part I

- 1 Lines and Angles
 - 1 Name lines, line segments, rays, and angles using different notations.
 - 2 Classify angles.
 - 3 Identify and calculate measures of complementary and supplementary angles.
 - 4 Identify and calculate measures of congruent angles.
 - 5 Identify and calculate measures of angles using properties of parallel lines.
- 2 Plane Figures
 - 1 Identify different types of triangles.
 - 2 Use the sum of the angles in a triangle to find unknown angle measures.
 - 3 Identify different types of quadrilaterals.
 - 4 Use properties of quadrilaterals to find unknown angle measures.
 - 5 Recognize other polygons, including regular polygons.
- 3 Perimeter and Area
 - 1 Find the perimeter of triangles.

- 2 Find the perimeter of quadrilaterals or other polygons.
- 3 Find the perimeter of composite figures.
- 4 Find the area of triangles.
- 5 Find the area of rectangles and squares.
- 6 Find the area of parallelograms and trapezoids.
- 7 Find the area of composite figures.
- 8 Solve perimeter or area word problems.
- 4 Circles
- 1 Find the radius and diameter of a circle.
- 2 Find the circumference and area of a circle.
- 3 Solve word problems involving circles.
- 5 Working with Perimeter, Circumference, and Area
 - 1 Find the missing dimension of a figure given its perimeter, circumference, or area.
 - 2 Find the perimeter or circumference of a figure given its area.
 - 3 Find the area of a figure given its perimeter or circumference.
 - 4 Solve word problems involving perimeter, circumference, or area.
- 6 Space Figures
 - 1 Understand the difference between plane figures and space figures.
 - 2 Identify vertices, edges, and faces.
 - 3 Identify different types of solids (space figures).
- 7 Surface Area
 - 1 Find the surface area of a prism or cylinder.
 - 2 Find the surface area of a pyramid or cone.
 - 3 Find the surface area of a sphere.
 - 4 Find the surface area of composite figures.
 - 5 Solve word problems involving surface area.
- 8 Volume
- 1 Find the volume of a prism or cylinder.
- 2 Find the volume of a pyramid or cone.
- 3 Find the volume of a sphere.
- 4 Find the volume of composite figures.
- 5 Solve word problems involving volume
- 9 Working With Surface Area and Volume
 - 1 Find the missing dimension of a figure given its surface area or volume.
 - 2 Find the surface area of a figure given its volume.
 - 3 Find the volume of a figure given its surface area.
 - 4 Solve word problems involving surface area or volume.

Module 10: Geometry: Part II

- 1 The Pythagorean Theorem
 - 1 Review square roots.
 - 2 Use the Pythagorean Theorem to find the hypotenuse.
 - 3 Use the Pythagorean Theorem to find unknown side lengths.
 - 4 Determine if lists of numbers are Pythagorean triples.
 - 5 Solve word problems involving the Pythagorean Theorem.
- 2 Congruent and Similar Figures
 - 1 Understand the difference between similarity and congruency.
 - 2 Use properties of congruence to find measures of angles and sides.
 - 3 Use proportions to find measures of unknown sides in similar figures.
 - 4 Solve word problems involving congruent and similar figures.

- 3 Congruent and Similar Triangles
 - 1 Use angle and side relationships to prove congruency.
 - 2 Use properties of congruence to find measures of angles and sides.
 - 3 Use proportions to find measures of unknown sides in similar triangles.
 - 4 Solve word problems involving congruent and similar triangles.
- 4 Translations
 - 1 Identify isometries.
 - 2 Transform figures using translations.
 - 3 Solve word problems involving translations.
- 5 Reflections
 - 1 Reflect a point across a line.
 - 2 Transform figures using reflections.
 - 3 Solve word problems involving reflections.
- 6 Rotations
 - 1 Transform figures using rotations.
 - 2 Identify rotation images of figures.
 - 3 Find the angle of rotation.
 - 4 Solve word problems involving rotations.
- 7 Symmetry
 - 1 Identify types of symmetry in plane figures.
 - 2 Identify types of symmetry in space figures.
 - 3 Solve word problems involving symmetry.
- 8 Dilations
 - 1 Find scale factors in dilations.
 - 2 Transform figures using dilation.
 - 3 Use scale factors to find lengths.
 - 4 Solve word problems involving dilations.
- 9 Compositions of Reflections
 - 1 Transform figures using compositions of reflections.
 - 2 Transform figures using glide reflections.
 - 3 Classify isometries.
 - 4 Solve word problems involving compositions of reflections.

Module 11: Data and Statistics

- 1 Types of Data
 - 1 Understand the difference between quantitative and qualitative variables.
 - 2 Understand the difference between statistics and parameters.
 - 3 Understand the difference between discrete and continuous values.
 - 4 Understand the difference between sample and population.
 - 5 Determine if a sample is representative of a population.
- 2 Sample Data
 - 1 Understand the difference between surveys, observational studies, and experiments.
 - 2 Identify the type of observational study.
 - 3 Identify the type of sampling method used.
 - 4 Understand why randomness is necessary.
 - 5 Determine bias in samples and surveys.
 - 6 Understand the difference between random samples and simple random samples.
 - 7 Understand the difference between sample error and measurement error.
 - 8 Analyze samples.
 - 9 Plan a study.
- 3 Tables and Pictographs
 - 1 Interpret information from a table.

- 2 Interpret information from a pictograph.
- 4 Circle Graphs and Scatterplots
 - 1 Interpret circle graphs.
 - 2 Construct circle graphs.
 - 3 Interpret scatterplots.
 - 4 Construct scatterplots.
- 5 Bar Graphs and Line Graphs
 - 1 Interpret bar graphs.
 - 2 Construct bar graphs.
 - 3 Interpret line graphs.
 - 4 Construct line graphs.
 - 5 Translate between pictographs, circle graphs, bar graphs, and line graphs.
- 6 Frequency Distributions, Histograms, and Stem-and-Leaf Displays
 - 1 Interpret histograms.
 - 2 Complete frequency tables.
 - 3 Construct histograms.
 - 4 Interpret stem-and-leaf displays.
 - 5 Create stem-and-leaf displays.
- 7 Mean and Weighted Mean
 - 1 Understand the difference between mean and weighted mean.
 - 2 Find the mean.
 - 3 Find the weighted mean.
 - 4 Find the missing data value of a list of numbers given the mean.
 - 5 Solve word problems involving mean and weighted mean.
- 8 Median and Mode
 - 1 Understand the difference between mean, median, and mode.
 - 2 Find the median.
 - 3 Find the mode.
 - 4 Solve word problems involving median and mode.
- 9 Box-and-Whisker Plots and the 5-Number Summary
 - 1 Understand the difference between center and spread.
 - 2 Understand the difference between range and interquartile range.
 - 3 Complete 5-Number summaries.
 - 4 Create box-and-whisker plots.
- 10 Variance and Standard Deviation
 - 1 Understand the difference between variance and standard deviation.
 - 2 Calculate variance and standard deviation.

Module 12: Introduction to Functions

- 1 Introduction to Functions
 - 1 Understand definitions of relations and functions.
 - 2 Understand the difference between dependent variables and independent variables.
 - 3 Find the domain and range of a relation and determine whether it is a function.
 - 4 Understand the difference between discrete functions and continuous functions.
 - 5 Use the vertical line test to identify functions.
 - 6 Use the horizontal line test to identify one-to-one functions.
- 2 Linear Functions
 - 1 Decide whether an equation defines a function.
 - 2 Evaluate linear functions.
 - 3 Find the domain and range of a linear function.
 - 4 Write linear functions.
 - 5 Solve word problems involving linear functions.
- 3 Absolute Value Functions

- 1 Evaluate absolute value functions.
- 2 Find the domain of absolute value functions.
- 3 Find the intercepts of absolute value functions.
- 4 Graphing Absolute Value Functions or Inequalities
 - 1 Graph absolute value functions.
 - 2 Identify the domain, range, and intercepts of an absolute value function from its graph.
 - Identify intervals on which absolute value functions are increasing, decreasing,
 - or

- 3 constant.
- 4 Use graphs to locate relative maxima or minima for absolute value functions. Determine whether ordered pairs are solutions of absolute value inequalities in two
- 5 variables.
- 6 Graph absolute value inequalities in two variables.

Module 13: Exponents and

Polynomials

- 1 Introduction to Polynomials
 - 1 Identify polynomials.
 - 2 Identify terms of a polynomial.
 - 3 Determine the coefficient and degree of each term.
 - 4 Combine like terms.
 - 5 Classify polynomials as monomials, binomials, or trinomials.
 - 6 Find the degree of a polynomial.
 - 7 Write polynomials in descending order.
 - 8 Evaluate polynomials and polynomial functions.
- 2 Adding and Subtracting Polynomials
 - 1 Add polynomials.
 - 2 Subtract polynomials.
 - 3 Add or subtract polynomial functions.
 - 4 Solve perimeter word problems involving the addition or subtraction of polynomials.
 - 5 Solve word problems involving the addition or subtraction of polynomials.
- 3 The Product Rule and Power Rules for Exponents
 - 1 Identify exponents and bases.
 - 2 Write repeated factors using exponential notation.
 - 3 Evaluate an exponential expression.
 - 4 Use the product rule for exponents.
 - 5 Use the power rule for exponents.
 - 6 Use the power of a product rule for exponents.
 - 7 Use more than one rule for exponents.
 - 8 Solve word problems involving the product rule and power rules for exponents.
- 4 Multiplying a Monomial and a Polynomial
 - 1 Multiply a monomial and a polynomial using the rectangular method.
 - 2 Multiply a monomial and a polynomial using the distributive property.
 - 3 Solve word problems involving multiplying a monomial and a polynomial.
- 5 Multiplying Binomials
 - 1 Multiply two binomials using the rectangular method.
 - 2 Multiply two binomials using the distributive property.
 - 3 Multiply two binomials using the FOIL method.
 - 4 Identify the mistakes in finding the product.
 - 5 Solve area word problems involving multiplying binomials.
- 6 Multiplying Polynomials
 - 1 Multiply two polynomials.

- 2 Multiply polynomial functions.
- 3 Identify the mistakes in finding the product.
- 4 Solve geometry word problems involving multiplying polynomials.
- 7 Special Products
 - 1 Square binomials.
 - 2 Find the product of a sum and difference of two terms.
 - 3 Find higher powers of binomials.
 - 4 Solve geometry word problems involving special products.
- 8 Integer Exponents and the Quotient Rule
 - 1 Simplify expressions with a zero exponent.
 - 2 Understand the negative exponent rule.
 - 3 Simplify expressions containing negative exponents.
 - 4 Use the quotient rule for exponents.
 - 5 Use more than one rule for exponents.
 - 6 Solve word problems involving the quotient rule of exponents.
- 9 Dividing a Polynomial by a Monomial
 - 1 Divide a polynomial by a monomial.
 - 2 Solve geometry word problems involving the division of a polynomial by a monomial.
 - 3 Solve word problems involving the division of a polynomial by a monomial.
- 10 Dividing a Polynomial by a Polynomial
 - 1 Divide using long division of polynomials.
 - 2 Divide using synthetic division.
 - 3 Identify the mistakes in finding the quotient.
 - 4 Solve geometry word problems involving the division of polynomials.
 - 5 Solve word problems involving the division of polynomials.
- 11 Scientific Notation
 - 1 Express numbers in scientific notation.
 - 2 Convert from scientific notation to decimal form.
 - 3 Perform calculations using scientific notation.
 - 4 Solve word problems involving scientific notation.

Module 14: Factoring Polynomials

- 1 Factoring the Greatest Common Factor
 - 1 Review finding the greatest common factor of a list of numbers.
 - 2 Find the greatest common factor of a list of terms.
 - 3 Factor out the greatest common factor.
 - 4 Factor by grouping.
- 2 Factoring Trinomials of the Form x²+bx+c
 - 1 Factor trinomials of the form x^2+bx+c , where b>0 and c>0.
 - 2 Factor trinomials of the form x^2+bx+c , where b<0 and c>0.
 - 3 Factor trinomials of the form x^2+bx+c , where c<0.
 - 4 Factor out the greatest common factor and then factor trinomials of the form x^2+bx+c .
- 3 Factoring Trinomials of the Form ax²+bx+c
 - 1 Factor trinomials of the form ax^2+bx+c, where ac is positive.
 - 2 Factor trinomials of the form ax^2+bx+c , where ac is negative.
 - 3 Factor out the greatest common factor and then factor trinomials of the form
 - ax^2+bx+c.
 - 4 Factor by grouping.
 - 5 Factor by substitution.
- 4 Factoring Special Cases
 - 1 Factor perfect square trinomials.
 - 2 Factor a difference of two squares.

- 3 Factor the sum or difference of two cubes.
- 4 Identify the mistake in factoring a polynomial.
- 5 Solving Quadratic Equations by Factoring
 - 1 Solve quadratic equations by factoring.
 - 2 Solve higher-degree polynomial equations by factoring.
 - 3 Solve geometry word problems involving quadratic equations.
 - 4 Solve word problems involving consecutive integers.
 - 5 Solve word problems involving quadratic models.

Module 15: Rational Expressions and Functions

- 1 The Fundamental Property of Rational Expressions
 - 1 Evaluate rational expressions.
 - 2 Identify values for which a rational expression is undefined.
 - 3 Write rational expressions in lowest terms.
 - 4 Recognize equivalent forms of rational expressions.
 - 5 Solve word problems involving rational expressions.
- 2 Multiplying and Dividing Rational Expressions
 - 1 Multiply rational expressions.
 - 2 Find reciprocals.
 - 3 Divide rational expressions.
 - 4 Solve word problems involving the multiplication or division of rational expressions.
- 3 Adding and Subtracting Rational Expressions
 - 1 Add or subtract rational expressions having the same denominator.
 - 2 Find the least common denominator for a group of rational expressions.
 - 3 Rewrite rational expressions with given denominators.
 - 4 Add or subtract rational expressions having different denominators.
 - 5 Solve word problems involving the addition or subtraction of rational expressions.
- 4 Simplify Complex Fractions
 - Use the method of first simplifying the numerator and denominator separately. Use the method of first multiplying the numerator and denominator by the LCD of all the
 - 2 fractions in the complex fraction.
- 5 Solving Rational Equations
 - 1 Evaluate rational functions.
 - 2 Solve rational equations.
 - 3 Solve rational equations with variables in denominators.
 - 4 Solve formulas for specified variables.
- 6 Rational Functions
 - 1 Find the domain and range of rational functions.
 - 2 Solve word problems involving unknown numbers.
 - 3 Solve word problems involving distance, rate, and time.
 - 4 Solve word problems about work.
- 7 Graphing Rational Functions
 - 1 Graph rational functions.
 - 2 Identify intervals on which rational functions are increasing, decreasing, or constant.
 - 3 Analyze graphs of rational functions.
 - 4 Solve word problems involving graphing rational functions.
- 8 Variation
 - 1 Understand the difference between direct and inverse variation.
 - 2 Solve problems about direct variation.
 - 3 Solve problems about inverse variation.
 - 4 Solve word problems involving direct and inverse variation.

Module 16: Systems and Matrices

- 1 Systems of Linear Equations by Graphing
 - 1 Decide whether an ordered pair is a solution to a system of linear equations.
 - 2 Solve linear systems by graphing.
 - 3 Describe systems of linear equations.
 - 4 Solve word problems by graphing systems of linear equations.
- 2 Systems of Linear Equations by Substitution
 - 1 Solve linear systems using the substitution method.
 - 2 Solve word problems involving systems of linear equations.
- 3 Systems of Linear Equations by Elimination
 - 1 Solve linear systems using the elimination method when multiplication is not necessary.
 - 2 Solve linear systems using the elimination method when multiplication is necessary.
 - 3 Solve word problems involving systems of linear equations.
- 4 Systems of Linear Equations by Any Method
 - 1 Solve linear systems using any method.
 - 2 Solve word problems involving mixtures.
 - 3 Solve word problems involving unknown numbers.
 - 4 Solve word problems involving prices or investments.
 - 5 Solve word problems involving wind or currents.
- 5 Systems of Linear Inequalities
 - Understand the difference between the solution sets of systems of linear equations and
 - 1 systems of linear inequalities.
 - 2 Decide whether an ordered pair is a solution to a system of linear inequalities.
 - 3 Graph systems of linear inequalities.
 - 4 Solve word problems involving systems of linear inequalities.
- 6 Systems of Linear Equations in Three Variables
 - 1 Solve systems of three equations.
 - 2 Solve word problems involving systems of three variables.
- 7 Solving Systems of Linear Equations by Matrix Methods
 - 1 Use row operations to solve a system with two variables.
 - 2 Use row operations to solve a system with three variables.
- 8 Properties of Matrices
 - 1 Know the basic definitions for matrices.
 - 2 Add and subtract matrices.
 - 3 Multiply a matrix by a scalar.
 - 4 Multiply matrices.
 - 5 Solve word problems using matrices.
- 9 Matrix Inverses
 - 1 Find multiplicative inverse matrices.
 - 2 Use inverse matrices to solve systems of linear equations.
 - 3 Solve modeling applications.
- 10 Determinants and Cramer's Rule
 - 1 Evaluate 2 x 2 determinants.
 - 2 Use expansion by minors to evaluate 3 x 3 determinants.
 - 3 Apply Cramer's rule to solve linear systems.

Module 17: Roots and Radicals

- 1 Introduction to Roots and Radicals
 - 1 Review finding square roots of perfect squares.
 - 2 Understand the difference between principal square roots and their opposites.
 - 3 Identify indices and radicands of radical expressions.

- 4 Identify cases where radical expressions are undefined.
- 5 Approximate irrational square roots.
- 6 Find higher roots.
- 7 Use rational exponents to simplify radical expressions.
- 8 Find squares of radical expressions.
- 9 Solve word problems involving roots and radical expressions.
- 2 Product and Quotient Rules for Radicals
 - 1 Use the product rule for radicals to multiply radical expressions.
 - 2 Use the product rule for radicals to simplify radical expressions.
 - 3 Use the quotient rule for radicals to simplify radical expressions.
 - 4 Use the product rule and quotient rule for radicals to simplify radical expressions.
- 3 Adding and Subtracting Radicals
 - 1 Understand the difference between like and unlike radicals.
 - 2 Add or subtract like radicals.
 - 3 Simplify radical expressions, then add or subtract any like radicals.
 - 4 Solve word problems involving the addition or subtraction of like radicals.
- 4 Rationalizing the Denominator
 - 1 Rationalize denominators with square roots.
 - 2 Rationalize denominators with cube roots.
 - 3 Use conjugates to rationalize denominators of radical expressions.
- 5 More Simplifying and Operations with Radicals
 - 1 Simplify expressions containing radicals.
 - 2 Write radical expressions with quotients in lowest terms.
- 6 Solving Equations Containing Radicals
 - 1 Solve radical equations with one radical term.
 - 2 Solve radical equations with two isolated radical terms.
 - 3 Solve radical equations with two radical terms.
 - 4 Identify extraneous solutions.
 - 5 Solve word problems involving solving radical equations.
- 7 Square Root and Cube Root Functions
 - 1 Evaluate square root and cube root functions.
 - 2 Identify the domain and range for square root and cube root functions.
 - 3 Find the intercepts of square root and cube root functions.
 - 4 Solve word problems involving square root and cube root functions.
- 8 Graphing Square Root and Cube Root Functions
 - 1 Graph square root and cube root functions.
 - Identify intervals on which square root and cube root functions are increasing,
 - 2 decreasing, or constant.
 - Identify the domain, range, and intercepts of square root and cube root functions given
 - 3 their graphs.

Module 18: Quadratic Equations and Inequalities; Complex

Numbers

- 1 Using the Square Root Property to Solve Quadratic Equations
 - 1 Solve equations of the form $x^2=k$.
 - 2 Solve equations of the form $(ax+b)^2=k$.
 - 3 Use formulas involving squared variables.
 - 4 Solve word problems using the square root property.
- 2 Completing the Square to Solve Quadratic Equations
 - 1 Complete the square.
 - 2 Solve by completing the square when the coefficient of the squared term is one.
 - 3 Solve by completing the square when the coefficient of the squared term is not one.

- 4 Simplify before solving.
- 5 Solve word problems by completing the square.
- 3 Using the Quadratic Formula to Solve Quadratic Equations
 - 1 Identify the values of a, b, and c for quadratic equations.
 - 2 Use the quadratic formula to solve equations.
 - 3 Use the discriminant to determine the number of real solutions.
 - 4 Approximate solutions from the quadratic formula using a calculator.
 - 5 Solve word problems using the quadratic formula.
- 4 Quadratic Inequalities
 - 1 Graph quadratic inequalities.
 - 2 Solve quadratic inequalities using any method.
 - 3 Graph solution sets of quadratic inequalities on number lines.
 - 4 Solve word problems involving quadratic inequalities.
- 5 Introduction to Complex Numbers
 - 1 Identify the real and imaginary parts of a complex number.
 - 2 Write complex numbers using *i* notation.
 - 3 Plot complex numbers and find their absolute value.
 - 4 Add and subtract complex numbers.
- 6 Using Complex Numbers
 - 1 Multiply complex numbers.
 - 2 Find complex conjugates.
 - 3 Divide complex numbers.
 - 4 Perform operations with square roots of negative numbers.
 - 5 Solve word problems involving complex numbers.
- 7 Solving Quadratic Equations with Complex Solutions
 - 1 Solve quadratic equations by the square root property.
 - 2 Solve quadratic equations by completing the square.
 - 3 Write quadratic equations given complex roots.
- 8 Using the Quadratic Formula (with Complex Solutions)
 - 1 Solve quadratic equations using the quadratic formula.
 - 2 Use the discriminant to determine the number and types of solutions.
 - 3 Determine the most efficient method to use when solving a quadratic equation.4 Solve word problems modeled by quadratic equations.
- 9 Quadratic Functions
 - 1 Evaluate quadratic functions.
 - 2 Convert between $f(x)=ax^2+bx+c$ and standard form $f(x)=a(x-h)^2+k$.
 - 3 Recognize characteristics of parabolas from functions written in vertex form.
 - 4 Write an equation for a parabola given its graph.
 - 5 Solve word problems involving quadratic functions.
- 10 Graphs of Quadratic Functions
 - 1 Graph a parabola given its equation in vertex form.
 - 2 Graph a parabola using its roots.
 - 3 Identify the domain, range, and intercepts of a quadratic function from its graph.
 - 4 Use graphs to locate maxima or minima values.
 - 5 Solve word problems involving graphs of quadratic functions.
- 11 Systems of Quadratic Equations and Inequalities
 - 1 Solve linear-quadratic systems by graphing.
 - 2 Solve linear-quadratic systems by substitution.
 - 3 Solve systems of quadratic equations by any method.
 - 4 Solve systems of quadratic inequalities by graphing.
 - 5 Solve word problems involving systems of quadratic equations or inequalities.

- 1 Piecewise Functions
 - 1 Understand piecewise function notation.
 - 2 Evaluate piecewise functions.
 - 3 Graph piecewise functions.
 - 4 Solve word problems involving piecewise functions.
- 2 Even and Odd Functions
 - 1 Understand the difference between even and odd functions.
 - 2 Identify functions as even or odd.
 - 3 Identify the types of symmetry for a function.
 - 4 Solve word problems involving even and odd functions.
- 3 Transformations of Functions: Vertical and Horizontal Shifts
 - 1 Use vertical shifts to graph functions.
 - 2 Use horizontal shifts to graph functions.
 - 3 Graph functions involving a sequence of transformations.
- 4 Transformations of Functions: Reflections
 - 1 Use reflections about the x-axis to graph functions.
 - 2 Use reflections about the y-axis to graph functions.
 - 3 Graph functions involving a sequence of transformations.
- 5 Transformations of Functions: Stretching and Shrinking
 - 1 Use vertical stretching to graph functions.
 - 2 Use vertical shrinking to graph functions.
 - 3 Use horizontal stretching to graph functions.
 - 4 Use horizontal shrinking to graph functions.
 - 5 Graph functions involving a sequence of transformations.
- 6 Combinations of Functions
 - 1 Review finding the domain of a function.
 - 2 Combine functions using the algebra of functions, specifying domains.
 - 3 Evaluate combined functions.
 - 4 Solve word problems involving the combination of functions.
- 7 Composite Functions
 - 1 Form composite functions.
 - 2 Evaluate composite functions.
 - 3 Determine domains for composite functions.
 - 4 Write functions as compositions.
 - 5 Solve word problems involving composite functions.
- 8 Inverse Functions
 - 1 Verify inverse functions.
 - 2 Find the inverse of a function.
 - 3 Use the horizontal line test to determine if a function has an inverse function.
 - 4 Use the graph of a one-to-one function to graph its inverse function.
 - 5 Find the inverse of a function and graph both functions on the same axes.

Module 20: Exponential and Logarithmic Functions

- 1 Exponential Functions
 - 1 Identify exponential functions.
 - 2 Evaluate exponential functions.
 - 3 Find the domain and range of exponential functions.
 - 4 Evaluate functions with base e.
 - 5 Solve word problems involving exponential functions.
- 2 Graphs of Exponential Functions
 - 1 Graph exponential functions.
 - 2 Identify the domain, range, and intercepts of a exponential function from its graph.

- 3 Identify intervals on which exponential functions are increasing, decreasing, or constant.
- 3 Logarithmic Functions
 - 1 Evaluate logarithms using a calculator.
 - 2 Convert between exponential form and logarithmic form.
 - 3 Evaluate logarithmic functions.
 - 4 Solve word problems involving logarithmic functions.
- 4 Natural Logarithms
 - 1 Understand when to use natural logarithms.
 - 2 Convert between exponential form and logarithmic form.
 - 3 Evaluate natural logarithmic functions.
 - 4 Solve word problems involving natural logarithms.
- 5 Graphs of Logarithmic Functions
 - 1 Graph logarithmic functions.
 - 2 Identify the domain, range, and intercepts of a logarithmic function from its graph.
 - 3 Identify intervals on which logarithmic functions are increasing, decreasing, or constant.
 - 4 Solve word problems involving graphing logarithmic functions.
- 6 Properties of Logarithms
 - 1 Use properties of logarithms to simplify expressions.
 - 2 Use properties of logarithms to expand expressions.
 - 3 Use properties of logarithms to evaluate expressions.
 - 4 Use the change of base formula.
 - 5 Solve word problems involving properties of logarithms.
- 7 Solving Exponential Equations
 - 1 Solve exponential equations with a common base.
 - 2 Solve exponential equations using logarithms.
 - 3 Solve exponential equations by graphing.
 - 4 Solve word problems involving exponential equations.
- 8 Solving Logarithmic Equations
 - 1 Solve logarithmic equations using exponents.
 - 2 Solve logarithmic equations using properties of logarithms.
 - 3 Solve logarithmic equations by graphing.
 - 4 Solve word problems involving logarithmic equations.
- 9 Exponential Growth and Decay
 - 1 Model exponential growth.
 - 2 Model exponential decay.
 - 3 Solve word problems involving exponential growth.
 - 4 Solve word problems involving exponential decay.
- 10 Compound Interest
 - 1 Find compound interest and the compounding amount.
 - 2 Find the time or rate needed to produce a given amount of compound interest.
 - 3 Solve word problems involving compound interest.

Module 21: Sequences and Series

- 1 Infinite Sequences
 - 1 Identify the mathematical patterns found in a sequence.
 - 2 Find particular terms of a sequence from the general term.
 - 3 Use recursion formulas.
 - 4 Solve word problems involving infinite sequences.
- 2 Factorials and Summation Notation
 - 1 Use factorial notation.

- 2 Use summation notation.
- 3 Solve word problems involving summation notation.
- 3 Arithmetic Sequences
 - 1 Find the common difference of an arithmetic sequence.
 - 2 Find terms of an arithmetic sequence.
 - 3 Use the formula for the general term of an arithmetic sequence.
 - 4 Calculate the arithmetic mean.
 - 5 Solve word problems involving arithmetic sequences.
- 4 Geometric Sequences
 - 1 Find the common ratio of a geometric sequence.
 - 2 Find terms of a geometric sequence.
 - 3 Use the formula for the general term of a geometric sequence.
 - 4 Identify a sequence as arithmetic, geometric, or neither.
 - 5 Calculate the geometric mean.
 - 6 Solve word problems involving geometric sequences.
- 5 Arithmetic Series
 - 1 Use the formula for the sum of the first n terms of an arithmetic sequence.
 - 2 Write an arithmetic series in summation notation.
 - 3 Identify finite and infinite sequences and series.
 - 4 Solve word problems involving arithmetic series.
- 6 Geometric Series
 - 1 Use the formula for the sum of the first n terms of a geometric sequence.
 - 2 Determine whether an infinite geometric series converges or diverges.
 - 3 Use the formula for the sum of an infinite geometric series.
 - 4 Identify a series as arithmetic, geometric, or neither.
 - 5 Solve word problems involving geometric series.

Module 22: Counting, Probability, and Distributions

- 1 The Binomial Theorem
 - 1 Find binomial coefficients.
 - 2 Expand binomials using the binomial theorem.
 - 3 Find the nth term of a binomial expansion.
 - 4 Use Pascal's triangle to expand a binomial.
 - 5 Solve word problems involving the binomial theorem.
- 2 Permutations and Combinations
 - 1 Apply the fundamental counting principal.
 - 2 Count permutations.
 - 3 Count combinations.
 - 4 Understand the difference between permutations and combinations.
- 3 Introduction to Probability
 - 1 Understand the differences between outcomes, sample spaces, and events.
 - 2 Use a tree diagram to count outcomes.
 - 3 Use Venn diagrams to count outcomes.
 - 4 Find theoretical probabilities.
- 4 Empirical Probability
 - 1 Understand the difference between theoretical probability and empirical probability.
 - 2 Find empirical probabilities.
 - 3 Find the complement of the probability of an event.
 - 4 Calculate odds.
- 5 Probability of Independent Events and Dependent Events
 - 1 Understand the difference between independent events and dependent events.
 - 2 Find probabilities of independent events.

- 3 Find probabilities of dependent events.
- 6 Probability of Mutually Exclusive Events and Overlapping Events
 - 1 Understand the difference between mutually exclusive events and overlapping events.
 - 2 Find probabilities of mutually exclusive events.
 - 3 Find probabilities of overlapping events.
- 7 Conditional Probability
 - 1 Find conditional probabilities.
 - 2 Use tables and tree diagrams to determine conditional probabilities.
- 8 Binomial Distributions
 - 1 Find probabilities using the binomial probability formula.
 - 2 Expand binomials using the binomial theorem with combinations.
 - 3 Use binomial expansion to find binomial distributions.
 - 4 Solve word problems involving binomial distributions.
- 9 Normal Distributions
 - Understand the difference between discrete probability distributions and continuous
 - 1 probability distributions.
 - 2 Review standard deviations.
 - 3 Identify graphs that are positively skewed, negatively skewed, or normally distributed.
 - 4 Sketch normal curves.
 - 5 Solve word problems involving normal distributions.

Module 23: Trigonometric

Functions

- 1 Introduction to Angles
 - 1 Review different types of angles.
 - 2 Convert between decimal degrees and degrees-minutes-seconds.
 - 3 Draw angles in standard position and identify the quadrant where the terminal side lies.
 - 4 Solve word problems involving angles.
- 2 Angles and Radian Measure
 - 1 Use radian measure.
 - 2 Convert between degrees and radians.
 - 3 Review complementary and supplementary angles.
 - 4 Find coterminal angles.
 - 5 Solve word problems involving angles.
- 3 Arcs
- 1 Find the length of a circular arc.
- 2 Calculate linear speed.
- 3 Calculate angular speed.
- 4 Solve word problems involving arc length.
- 5 Solve word problems involving linear speed and angular speed.
- 4 Right Triangle Trigonometry
 - 1 Use right triangles to evaluate trigonometric functions.
 - 2 Evaluate trigonometric functions of special angles.
 - 3 Understand and use reciprocal identities.
 - 4 Evaluate trigonometric functions with a calculator.
 - 5 Solve word problems involving right triangle trigonometry.
- 5 Trigonometric Functions of Any Angle
 - 1 Use the definitions of trigonometric functions of any angle.
 - 2 Use the signs of the trigonometric functions.
 - 3 Find reference angles.
 - 4 Use reference angles to evaluate trigonometric functions.

- 6 Trigonometric Functions of Real Numbers; Periodic Functions
 - 1 Use a unit circle to define trigonometric functions of real numbers.
 - 2 Use even and odd trigonometric functions.
 - 3 Use periodic properties.
 - 4 Solve word problems.
- 7 Fundamental Trigonometric Identities
 - 1 Understand and use quotient identities.
 - 2 Understand and use Pythagorean identities.
 - 3 Use fundamental trigonometric identities to simplify expressions.
- 8 Graphs of the Sine and Cosine Functions
 - 1 Graph sine functions.
 - 2 Identify the period and amplitude of sine functions.
 - 3 Graph cosine functions.
 - 4 Identify the period and amplitude of cosine functions.
 - 5 Solve word problems involving modeling periodic behavior.
 - 9 Graphs of the Tangent and Cotangent
 - Functions
 - 1 Graph tangent functions.
 - 2 Identify the period and asymptotes of tangent functions.
 - 3 Graph cotangent functions.
 - 4 Identify the period and asymptotes of cotangent functions.
- 10 Graphs of the Cosecant and Secant Functions
 - 1 Graph cosecant functions.
 - 2 Identify the period and asymptotes of cosecant functions.
 - 3 Graph secant functions.
 - 4 Identify the period and asymptotes of secant functions.
 - 5 Match graphs of trigonometric functions with their equations.
- 11 Inverse Trigonometric Functions
 - 1 Find exact values for the inverse sine function.
 - 2 Find exact values for the inverse cosine function.
 - 3 Find exact values for the inverse tangent function.
 - 4 Use a calculator to evaluate inverse trigonometric functions.
 - 5 Find exact values of composite functions with inverse trigonometric functions.

Module 24: Additional Trigonometry Topics

- 1 Verifying Trigonometric Identities
 - 1 Verify identities.
- 2 Sum and Difference Formulas
 - 1 Use the formula for the cosine of the difference of two angles.
 - 2 Use sum and difference formulas for cosines and sines.
 - 3 Use sum and difference formulas for tangents.
- 3 Double-Angle, Power-Reducing, and Half-Angle Formulas
 - 1 Use the double-angle formulas.
 - 2 Use the power-reducing formulas.
 - 3 Use the half-angle formulas.
- 4 Product-to-Sum and Sum-to-Product Formulas
 - 1 Use the product-to-sum formulas.
 - 2 Use the sum-to-product formulas.
- 5 Trigonometric Equations
 - 1 Find all solutions of a trigonometric equation.
 - 2 Solve equations with multiple angles.
 - 3 Solve trigonometric equations quadratic in form.
 - 4 Use factoring to separate different functions in trigonometric equations.

- 5 Use identities to solve trigonometric equations.
- 6 Solve applications.
- 6 The Laws of Sines and Cosines
 - 1 Solve triangles using the Law of Sines.
 - 2 Solve triangles using the Law of Cosines.
 - 3 Find areas of triangles.
 - 4 Solve applications.
- 7 Vectors
- 1 Perform vector operations geometrically and algebraically.
- 2 Find the magnitude and direction angle of a vector.
- 3 Find the magnitudes of horizontal and vertical components of a vector.
- 4 Write the given position vector.
- 5 Find the magnitude of a resultant force.
- 6 Write a vector in the form ai + bj.

Module 25: Conic Sections and Analytic

- Geometry
- 1 Circles
 - 1 Write the standard form of an equation of a circle.

2. Give the center and radius of a circle whose equation is in standard form and graph the circle.

3. Convert the general form of the equation of a circle into standard form and graph the circle.

- 4. Find and use points of intersection between graphs of circles and lines.
- 5. Solve applications.
- 2 The Ellipse
 - 1 Graph ellipses centered at the origin and locate the foci.
 - 2 Write the equation of an ellipse in standard form from its graph.
 - 3 Write the equation of an ellipse in standard form from given conditions.
 - 4 Graph ellipses not centered at the origin and locate the foci.
 - 5 Convert the general form of an ellipse to standard form by completing the square.
 - 6 Solve a system of equations by graphing.
 - 7 Solve applications.
- 3 The Hyperbola
 - 1 Graph hyperbolas centered at the origin and determine the vertices and foci.
 - 2 Write the equation of a hyperbola in standard form from given conditions.
 - 3 Write the equation of a hyperbola in standard form from its graph.
 - 4 Graph hyperbolas not centered at the origin and determine the vertices and foci.
 - 5 Convert the general form of a hyperbola to standard form by completing the square.
 - 6 Graph relations and determine the domain and range.
 - 7 Solve a system of equations by graphing.
 - 8 Solve applications.
- 4 Parabola
 - 1 Graph parabolas with vertices at the origin.
 - 2 Write equations of parabolas in standard form.
 - 3 Graph parabolas with vertices not at the origin.
 - 4 Determine the domain and range of a relation.
 - 5 Solve a system of equations by graphing.
 - 6 Solve applications.
- 5 Systems of Nonlinear Equations in Two Variables
 - 1 Solve systems of nonlinear equations by substitution.
 - 2 Solve systems of nonlinear equations by addition.
 - 3 Solve systems of nonlinear equations by the method of your choice.
 - 4 Solve problems using systems of nonlinear equations.

- 6 Rotation of Axes
 - 1 Identify conics without completing the square.
 - 2 Use rotation of axes formulas.
 - 3 Write equations of rotated conics in standard form.
 - 4 Identify conics without rotating axes.
 - 5 Use a graphing utility to graph the equation of a rotated conic section.
- 7 Parametric Equations
 - 1 Find coordinates of points on a plane curve for given values of the parameter.
 - 2 Use point plotting to graph plane curves described by parametric equations.
 - 3 Eliminate the parameter.
 - 4 Find parametric equations for functions.
 - 5 Graph plane curves represented by parametric functions.
 - 6 Solve applications.
- 8 Conic Sections in Polar Coordinates
 - 1 Define conics in terms of a focus and a directrix.
 - 2 Graph the polar equations of conics.
 - 3 Solve applications.