

Math Literacy

This course covers the topics outlined below, and can be used to support a non-STEM pathways course. You can customize the scope and sequence of this course to meet your curricular needs.

Curriculum (457 topics + 788 additional topics)

- Arithmetic Readiness (109 topics)
 - ◆ Whole Numbers (26 topics)
 - ◇ Whole number place value: Problem type 1
 - ◇ Whole number place value: Problem type 2
 - ◇ Expanded form: 2 and 3-digit numbers
 - ◇ Expanded form: 4 and 5-digit numbers
 - ◇ Introduction to inequalities
 - ◇ Multiplication as repeated addition
 - ◇ Word problem with multiplication and addition or subtraction of whole numbers
 - ◇ Word problem on unit rates associated with ratios of whole numbers: Whole number answers
 - ◇ Time unit conversion with whole number values
 - ◇ Rounding to tens or hundreds
 - ◇ Rounding to hundreds or thousands
 - ◇ Estimating a sum of whole numbers: Problem type 2
 - ◇ Writing expressions using exponents
 - ◇ Introduction to exponents
 - ◇ Introduction to parentheses
 - ◇ Introduction to order of operations
 - ◇ Order of operations with whole numbers
 - ◇ Order of operations with whole numbers and exponents: Basic
 - ◇ Even and odd numbers
 - ◇ Divisibility rules for 2, 5, and 10
 - ◇ Factors
 - ◇ Prime numbers
 - ◇ Greatest common factor of 2 numbers
 - ◇ Least common multiple of 2 numbers
 - ◇ Finding the next terms of an arithmetic sequence with whole numbers
 - ◇ Finding patterns in shapes
 - ◆ Integers (17 topics)
 - ◇ Plotting integers on a number line
 - ◇ Ordering integers
 - ◇ Writing a signed number for a real-world situation
 - ◇ Interpreting a table of signed numbers that relate to a real-world situation: Problem type 1
 - ◇ Interpreting a table of signed numbers that relate to a real-world situation: Problem type 2
 - ◇ Absolute value of a number
 - ◇ Integer addition: Problem type 1
 - ◇ Integer addition: Problem type 2
 - ◇ Identifying relative change when combining two quantities
 - ◇ Integer subtraction: Problem type 1
 - ◇ Integer subtraction: Problem type 2

- ◇ Integer subtraction: Problem type 3
- ◇ Addition and subtraction with 3 integers
- ◇ Word problem with addition or subtraction of integers
- ◇ Integer multiplication and division
- ◇ Multiplication of 3 or 4 integers
- ◇ Word problem with multiplication or division of integers
- ◆ Introduction to Expressions and Equations (10 topics)
 - ◇ Evaluating an algebraic expression: Whole number addition or subtraction
 - ◇ Evaluating an algebraic expression: Whole number multiplication or division
 - ◇ Evaluating an algebraic expression: Whole numbers with two operations
 - ◇ Evaluating a formula
 - ◇ Evaluating an algebraic expression: Whole numbers with one operation and an exponent
 - ◇ Evaluating a linear expression: Integer multiplication with addition or subtraction
 - ◇ Additive property of equality with whole numbers
 - ◇ Multiplicative property of equality with whole numbers
 - ◇ Using two steps to solve an equation with whole numbers
 - ◇ Distinguishing between expressions and equations
- ◆ Introduction to Perimeter and Area (3 topics)
 - ◇ Perimeter of a polygon
 - ◇ Perimeter of a square or a rectangle
 - ◇ Area of a square or a rectangle
- ◆ Fractions (18 topics)
 - ◇ Introduction to non–unit fractions
 - ◇ Equivalent fractions
 - ◇ Introduction to simplifying a fraction
 - ◇ Simplifying a fraction
 - ◇ Plotting fractions on a number line
 - ◇ Using a common denominator to order fractions
 - ◇ Product of a unit fraction and a whole number
 - ◇ Product of a fraction and a whole number: Problem type 1
 - ◇ Introduction to fraction multiplication
 - ◇ Fraction multiplication
 - ◇ Product of a fraction and a whole number: Problem type 2
 - ◇ Multiplication of 3 fractions
 - ◇ Word problem involving fractions and multiplication
 - ◇ The reciprocal of a number
 - ◇ Addition or subtraction of fractions with the same denominator and simplification
 - ◇ Finding the LCD of two fractions
 - ◇ Writing fractions with a common denominator to add or subtract
 - ◇ Addition or subtraction of fractions with different denominators
- ◆ Decimals (28 topics)
 - ◇ Decimal place value: Tenths and hundredths
 - ◇ Introduction to ordering decimals
 - ◇ Ordering decimals
 - ◇ Rounding decimals
 - ◇ Decimal addition with 2 numbers
 - ◇ Decimal addition with 3 numbers
 - ◇ Subtraction of aligned decimals
 - ◇ Decimal subtraction: Basic
 - ◇ Decimal subtraction: Advanced
 - ◇ Estimating a decimal sum or difference
 - ◇ Signed decimal addition and subtraction
 - ◇ Word problem with addition or subtraction of 2 decimals

- ◇ Word problem with addition of 3 or 4 decimals and whole numbers
- ◇ Multiplying a decimal less than 1 by a whole number
- ◇ Multiplying a decimal by a whole number
- ◇ Multiplying decimals less than 1: Problem type 1
- ◇ Decimal multiplication: Problem type 1
- ◇ Multiplication of a decimal by a power of ten
- ◇ Multiplication of a decimal by a power of 0.1
- ◇ Estimating a product of decimals
- ◇ Word problem with multiplication of a decimal and a whole number
- ◇ Word problem with decimal addition and multiplication
- ◇ Whole number division with decimal answers
- ◇ Division of a decimal by a whole number
- ◇ Division of a decimal by a 1–digit decimal: Problem type 1
- ◇ Division of a decimal by a power of ten
- ◇ Word problem with division of a decimal and a whole number
- ◇ Word problem with decimal subtraction and division
- ◆ Converting Between Fractions and Decimals (7 topics)
 - ◇ Converting a decimal to a proper fraction without simplifying: Basic
 - ◇ Converting a decimal to a proper fraction in simplest form: Basic
 - ◇ Converting a fraction with a denominator of 10 or 100 to a decimal
 - ◇ Converting a proper fraction with a denominator of 2, 4, or 5 to a decimal
 - ◇ Converting a fraction to a terminating decimal: Basic
 - ◇ Converting a fraction to a repeating decimal: Basic
 - ◇ Using a calculator to convert a fraction to a rounded decimal
- Ratios, Proportions, and Percents (51 topics)
 - ◆ Ratios and Unit Rates (9 topics)
 - ◇ Writing ratios using different notations
 - ◇ Simplifying a ratio of whole numbers: Problem type 1
 - ◇ Finding a unit price
 - ◇ Using tables to compare ratios
 - ◇ Computing unit prices to find the better buy
 - ◇ Solving a word problem on proportions using a unit rate
 - ◇ Solving a one–step word problem using the formula $d = rt$
 - ◇ Finding missing values in a table of equivalent ratios
 - ◇ Using a table of equivalent ratios to find a missing quantity in a ratio
 - ◆ Introduction to Proportions (3 topics)
 - ◇ Solving a proportion of the form $x/a=b/c$: Basic
 - ◇ Solving a proportion of the form $x/a = b/c$
 - ◇ Word problem on proportions: Problem type 1
 - ◆ Scale Factors and Scale Drawings (2 topics)
 - ◇ Finding lengths using scale models
 - ◇ Finding a scale factor: Same units
 - ◆ Converting Between Fractions, Decimals, and Percentages (10 topics)
 - ◇ Converting a fraction with a denominator of 100 to a percentage
 - ◇ Converting a percentage to a fraction with a denominator of 100
 - ◇ Representing benchmark percentages on a grid
 - ◇ Introduction to converting a percentage to a decimal
 - ◇ Introduction to converting a decimal to a percentage
 - ◇ Converting between percentages and decimals
 - ◇ Converting a fraction to a percentage: Denominator of 4, 5, or 10
 - ◇ Converting a fraction to a percentage: Denominator of 20, 25, or 50
 - ◇ Using a calculator to convert a fraction to a rounded percentage
 - ◇ Converting a fraction to a percentage in a real–world situation

- ◆ Applications Involving Percentages (15 topics)
 - ◇ Finding a percentage of a whole number
 - ◇ Finding a percentage of a total amount: Real–world situations
 - ◇ Finding a percentage of a total amount without a calculator: Sales tax, commission, discount
 - ◇ Estimating a tip without a calculator
 - ◇ Writing a ratio as a percentage
 - ◇ Finding the rate of a tax or commission
 - ◇ Computing a percentage from a table of values
 - ◇ Applying the percent equation: Problem type 1
 - ◇ Finding the multiplier to give a final amount after a percentage increase or decrease
 - ◇ Finding the final amount given the original amount and a percentage increase or decrease
 - ◇ Finding the sale price given the original price and percent discount
 - ◇ Finding the total cost including tax or markup
 - ◇ Combined effect of more than one markup or discount
 - ◇ Finding the percentage increase or decrease: Basic
 - ◇ Finding the percentage increase or decrease: Advanced
- ◆ Income and Expenses (5 topics)
 - ◇ Hourly gross pay with overtime
 - ◇ Gross pay with commission and salary
 - ◇ Calculating income tax
 - ◇ Balancing a check register
 - ◇ Computing percentages for categories of a budget
- ◆ Simple Interest (3 topics)
 - ◇ Finding the interest and future value of a simple interest loan or investment
 - ◇ Computing the total cost and interest for a loan
 - ◇ Computing the interest and repayment amount for a simple interest loan whose term is given in months or days
- ◆ Compound Interest (4 topics)
 - ◇ Introduction to compound interest
 - ◇ Calculating and comparing simple interest and compound interest
 - ◇ Using a calculator to evaluate exponential expressions
 - ◇ Finding the future value and interest for an investment earning compound interest
- Measurement (27 topics)
 - ◆ U.S. Customary Units of Length (7 topics)
 - ◇ U.S. Customary length conversion with whole number values
 - ◇ Conversions involving measurements in feet and inches
 - ◇ U.S. Customary length conversions involving rounding decimals
 - ◇ Word problem involving a U.S. Customary length conversion
 - ◇ U.S. Customary length conversions involving dimensional analysis
 - ◇ Word problem involving U.S. Customary length conversions using dimensional analysis
 - ◇ Finding the absolute error and percent error of a measurement
 - ◆ Perimeter, Area, and Volume (6 topics)
 - ◇ Finding the missing length in a figure
 - ◇ Area of a piecewise rectangular figure
 - ◇ Circumference of a circle
 - ◇ Area of a circle
 - ◇ Volume of a rectangular prism
 - ◇ Volume of a rectangular prism made of unit cubes
 - ◆ U.S. Customary Units of Area and Volume (1 topics)
 - ◇ Word problem on area involving conversions of U.S. Customary units: Problem type 1
 - ◆ U.S. Customary Units of Weight and Volume (2 topics)
 - ◇ U.S. Customary weight conversions with whole number values
 - ◇ U.S. Customary volume conversion with whole number values

- ◆ Metric Units of Measurement (4 topics)
 - ◇ Choosing metric measurement units
 - ◇ Metric distance conversion with whole number values
 - ◇ Metric distance conversion with decimal values
 - ◇ Metric mass or volume conversion with whole numbers
- ◆ Converting Between Measurement Systems (5 topics)
 - ◇ Converting between metric and U.S. Customary unit systems
 - ◇ Converting between compound units: Basic
 - ◇ Converting between compound units: Advanced
 - ◇ Conversions with currency
 - ◇ Word problem involving conversion between compound units using dimensional analysis
- ◆ Time and Temperature (2 topics)
 - ◇ Simplifying a ratio of whole numbers: Problem type 2
 - ◇ Converting between temperatures in Fahrenheit and Celsius
- Real Numbers (27 topics)
 - ◆ Plotting and Ordering (3 topics)
 - ◇ Square root of a perfect square
 - ◇ Using a calculator to approximate a square root
 - ◇ Estimating a square root
 - ◆ Venn Diagrams and Sets of Real Numbers (5 topics)
 - ◇ Identifying numbers as integers or non-integers
 - ◇ Identifying rational decimal numbers
 - ◇ Identifying numbers as rational or irrational
 - ◇ Interpreting a Venn diagram with 2 sets for a real-world situation
 - ◇ Constructing a Venn diagram to classify real numbers
 - ◆ Operations with Rational Numbers (2 topics)
 - ◇ Signed fraction addition or subtraction: Basic
 - ◇ Signed fraction multiplication: Basic
 - ◆ Exponents and Order of Operations (4 topics)
 - ◇ Exponents and fractions
 - ◇ Exponents and integers: Problem type 1
 - ◇ Evaluating expressions with exponents of zero
 - ◇ Order of operations with integers
 - ◆ Evaluating Expressions (1 topics)
 - ◇ Evaluating a quadratic expression: Integers
 - ◆ Properties of Operations (12 topics)
 - ◇ Introduction to properties of addition
 - ◇ Introduction to properties of multiplication
 - ◇ Identifying like terms
 - ◇ Combining like terms: Whole number coefficients
 - ◇ Combining like terms: Integer coefficients
 - ◇ Multiplying a constant and a linear monomial
 - ◇ Distributive property: Whole number coefficients
 - ◇ Distributive property: Integer coefficients
 - ◇ Identifying equivalent algebraic expressions
 - ◇ Using distribution and combining like terms to simplify: Univariate
 - ◇ Identifying properties used to simplify an algebraic expression
 - ◇ Combining like terms in a quadratic expression
- Linear Equations and Inequalities (61 topics)
 - ◆ One-Step Linear Equations (6 topics)
 - ◇ Additive property of equality with decimals
 - ◇ Additive property of equality with integers
 - ◇ Multiplicative property of equality with fractions

- ◇ Multiplicative property of equality with decimals
- ◇ Multiplicative property of equality with integers
- ◇ Multiplicative property of equality with signed fractions
- ◆ Multi-Step Linear Equations (12 topics)
 - ◇ Identifying solutions to a linear equation in one variable: Two-step equations
 - ◇ Solving a two-step equation with integers
 - ◇ Introduction to using substitution to solve a linear equation
 - ◇ Introduction to solving an equation with parentheses
 - ◇ Solving a multi-step equation given in fractional form
 - ◇ Identifying properties used to solve a linear equation
 - ◇ Introduction to solving an equation with variables on the same side
 - ◇ Solving a linear equation with several occurrences of the variable: Variables on the same side
 - ◇ Introduction to solving a linear equation with a variable on each side
 - ◇ Solving a linear equation with several occurrences of the variable: Variables on both sides
 - ◇ Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 - ◇ Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
- ◆ Solving Formulas for a Variable (4 topics)
 - ◇ Solving for a variable in terms of other variables using addition or subtraction: Basic
 - ◇ Solving for a variable in terms of other variables using multiplication or division: Basic
 - ◇ Solving for a variable in terms of other variables using multiplication or division: Advanced
 - ◇ Solving for a variable in terms of other variables using addition or subtraction with division
- ◆ Writing Expressions and Equations (4 topics)
 - ◇ Writing a one-step expression for a real-world situation
 - ◇ Translating a phrase into a one-step expression
 - ◇ Translating a phrase into a two-step expression
 - ◇ Translating a sentence into a one-step equation
- ◆ Applications of Linear Equations (7 topics)
 - ◇ Solving a fraction word problem using a linear equation of the form $Ax = B$
 - ◇ Solving a word problem with two unknowns using a linear equation
 - ◇ Solving a decimal word problem using a linear equation of the form $Ax + B = C$
 - ◇ Writing an equation to represent a real-world problem: Variable on both sides
 - ◇ Solving a decimal word problem using a linear equation with the variable on both sides
 - ◇ Finding side lengths of rectangles given one dimension and an area or a perimeter
 - ◇ Finding the dimensions of a rectangle given its perimeter and a relationship between sides
- ◆ Writing and Graphing Inequalities (4 topics)
 - ◇ Translating a sentence by using an inequality symbol
 - ◇ Translating a sentence into a one-step inequality
 - ◇ Writing an inequality for a real-world situation
 - ◇ Graphing a linear inequality on the number line
- ◆ Linear Inequalities (6 topics)
 - ◇ Additive property of inequality with integers
 - ◇ Additive property of inequality with signed decimals
 - ◇ Multiplicative property of inequality with integers
 - ◇ Solving a two-step linear inequality: Problem type 1
 - ◇ Solving a two-step linear inequality: Problem type 2
 - ◇ Solving a linear inequality with multiple occurrences of the variable: Problem type 1
- ◆ Applications of Linear Inequalities (3 topics)
 - ◇ Solving a word problem using a two-step linear inequality
 - ◇ Solving a decimal word problem using a two-step linear inequality
 - ◇ Solving a decimal word problem using a linear inequality with the variable on both sides
- ◆ Set Notation and Operations with Sets (6 topics)

- ◇ Identifying elements of sets for a real world situation
- ◇ Writing sets of numbers using descriptive and roster forms
- ◇ Identifying well defined sets
- ◇ Finding sets and complements of sets
- ◇ Finding sets and complements of sets for a real–world situation
- ◇ Union and intersection of finite sets
- ◆ Venn Diagrams (5 topics)
 - ◇ Interpreting Venn diagram cardinalities with 2 sets for a real–world situation
 - ◇ Interpreting a Venn diagram with 3 sets for a real–world situation
 - ◇ Constructing a Venn diagram with 2 sets
 - ◇ Constructing a Venn diagram with 2 sets to solve a word problem
 - ◇ Interpreting Venn diagram cardinalities with 3 sets for a real–world situation
- ◆ The Rectangular Coordinate System (4 topics)
 - ◇ Reading a point in the coordinate plane
 - ◇ Plotting a point in the coordinate plane
 - ◇ Function tables with two–step rules
 - ◇ Finding x– and y–intercepts given the graph of a line on a grid
- Probability and Statistics (61 topics)
 - ◆ Fundamental Counting Principle (3 topics)
 - ◇ Interpreting a tree diagram
 - ◇ Introduction to the counting principle
 - ◇ Counting principle
 - ◆ Permutations and Combinations (3 topics)
 - ◇ Factorial expressions
 - ◇ Computing permutations and combinations
 - ◇ Introduction to permutations and combinations
 - ◆ Probability and Odds of an Event (10 topics)
 - ◇ Determining a sample space and outcomes for a simple event
 - ◇ Determining a sample space and outcomes for a compound event
 - ◇ Introduction to the probability of an event
 - ◇ Probability involving one die or choosing from n distinct objects
 - ◇ Probability involving choosing from objects that are not distinct
 - ◇ Understanding likelihood
 - ◇ Probabilities of an event and its complement
 - ◇ Outcomes and event probability
 - ◇ Experimental and theoretical probability
 - ◇ Finding the odds in favor and against
 - ◆ Expected Value (2 topics)
 - ◇ Introduction to expectation
 - ◇ Computing expected value in a game of chance
 - ◆ Probability of Independent and Dependent Events (6 topics)
 - ◇ Probability of independent events: Decimal answers
 - ◇ Probability of dependent events: Decimal answers
 - ◇ Determining outcomes for compound events and complements of events
 - ◇ Computing conditional probability using a sample space
 - ◇ Computing conditional probability using a two–way frequency table
 - ◇ Computing conditional probability to make an inference using a two–way frequency table
 - ◆ Interpreting and Displaying Data (15 topics)
 - ◇ Choosing an appropriate method for gathering data: Problem type 2
 - ◇ Constructing a bar graph for non–numerical data
 - ◇ Interpreting a bar graph
 - ◇ Interpreting a double bar graph
 - ◇ Finding a percentage of a total amount in a circle graph

- ◇ Measuring an angle with the protractor
- ◇ Angle measure in a circle graph
- ◇ Calculating relative frequencies in a contingency table
- ◇ Making an inference using a two–way frequency table
- ◇ Constructing a frequency distribution for non–grouped data
- ◇ Constructing a frequency distribution for grouped data
- ◇ Constructing a frequency distribution and a histogram
- ◇ Interpreting a histogram
- ◇ Interpreting a line graph
- ◇ Interpreting a stem–and–leaf display
- ◆ Measures of Average (13 topics)
 - ◇ Mean of a data set
 - ◇ Computations involving the mean, sample size, and sum of a data set
 - ◇ Finding the value for a new score that will yield a given mean
 - ◇ Rejecting unreasonable claims based on average statistics
 - ◇ Weighted mean: Tabular data
 - ◇ Introduction to summation notation
 - ◇ Median of a data set
 - ◇ Mode of a data set
 - ◇ Mean, median, and mode: Computations
 - ◇ How changing a value affects the mean and median
 - ◇ Finding outliers in a data set
 - ◇ Choosing the best measure to describe data
 - ◇ Mean, median, and mode: Comparisons
- ◆ Measures of Variation (4 topics)
 - ◇ Range of a data set
 - ◇ Comparing measures of center and variation
 - ◇ Using back–to–back stem–and–leaf displays to compare data sets
 - ◇ Population standard deviation
- ◆ Measures of Position (2 topics)
 - ◇ Percentage of data below a specified value
 - ◇ Interpreting percentile ranks
- ◆ The Normal Distribution (3 topics)
 - ◇ Using the graph of a distribution to find probabilities: Basic
 - ◇ Using the empirical rule to identify values and percentages of a normal distribution
 - ◇ Word problem involving calculations from a normal distribution
- Lines (51 topics)
 - ◆ Graphing and Intercepts (9 topics)
 - ◇ Table for a linear equation
 - ◇ Identifying solutions to a linear equation in two variables
 - ◇ Finding a solution to a linear equation in two variables
 - ◇ Graphing a linear equation of the form $y = mx$
 - ◇ Graphing a line given its equation in slope–intercept form: Integer slope
 - ◇ Graphing a line given its equation in slope–intercept form: Fractional slope
 - ◇ Graphing a line given its equation in standard form
 - ◇ Graphing a vertical or horizontal line
 - ◇ Finding x – and y –intercepts of a line given the equation: Basic
 - ◆ Proportional Relationships (6 topics)
 - ◇ Making a table and plotting points given a unit rate
 - ◇ Writing an equation to represent a proportional relationship
 - ◇ Identifying proportional relationships in equations
 - ◇ Identifying proportional relationships in tables by calculating unit rates: Whole numbers
 - ◇ Finding outputs and rate of increase given the graph of a line that models a real–world situation

- ◇ Comparing proportional relationships given in different forms
- ◆ Slope (4 topics)
 - ◇ Finding slope given the graph of a line in quadrant 1 that models a real–world situation
 - ◇ Finding slope given the graph of a line on a grid
 - ◇ Finding slope given two points on the line
 - ◇ Graphing a line given its slope and y -intercept
- ◆ Equations of Lines (9 topics)
 - ◇ Writing a function rule given a table of ordered pairs: One–step rules
 - ◇ Rewriting a linear equation in the form $Ax + By = C$
 - ◇ Finding the slope and y -intercept of a line given its equation in the form $y = mx + b$
 - ◇ Finding the slope and y -intercept of a line given its equation in the form $Ax + By = C$
 - ◇ Writing an equation of a line given its slope and y -intercept
 - ◇ Writing an equation in slope–intercept form given the slope and a point
 - ◇ Graphing a line given its equation in point–slope form
 - ◇ Writing an equation of a line given the y -intercept and another point
 - ◇ Writing the equation of the line through two given points
- ◆ Applications (11 topics)
 - ◇ Finding outputs of a two–step function with decimals that models a real–world situation: Two variable equation
 - ◇ Finding inputs and outputs of a two–step function that models a real–world situation: Two variable equation
 - ◇ Writing and evaluating a function that models a real–world situation: Basic
 - ◇ Writing and evaluating a function that models a real–world situation: Advanced
 - ◇ Writing an equation and drawing its graph to model a real–world situation: Advanced
 - ◇ Finding the intercepts and rate of change given a graph of a linear function
 - ◇ Finding the initial amount and rate of change given a table for a linear function
 - ◇ Combining functions to write a new function that models a real–world situation
 - ◇ Interpreting the parameters of a linear function that models a real–world situation
 - ◇ Application problem with a linear function: Finding a coordinate given two points
 - ◇ Identifying independent and dependent variables from equations or real–world situations
- ◆ Scatterplots and Lines of Best Fit (6 topics)
 - ◇ Sketching the line of best fit
 - ◇ Scatter plots and correlation
 - ◇ Predictions from the line of best fit
 - ◇ Approximating the equation of a line of best fit and making predictions
 - ◇ Classifying linear and nonlinear relationships from scatter plots
 - ◇ Linear relationship and the correlation coefficient
- ◆ Direct and Inverse Variation (6 topics)
 - ◇ Introduction to solving a rational equation
 - ◇ Solving a rational equation that simplifies to linear: Denominator x
 - ◇ Word problem on direct variation
 - ◇ Interpreting direct variation from a graph
 - ◇ Word problem on inverse variation
 - ◇ Writing an equation that models variation
- Functions (7 topics)
 - ◆ Function Evaluation and Applications (4 topics)
 - ◇ Table for a linear function
 - ◇ Evaluating functions: Linear and quadratic or cubic
 - ◇ Finding outputs of a two–step function with decimals that models a real–world situation: Function notation
 - ◇ Finding inputs and outputs of a two–step function that models a real–world situation: Function notation
 - ◆ Graphs of Functions (3 topics)

- ◇ Finding an output of a function from its graph
- ◇ Finding where a function is increasing, decreasing, or constant given the graph
- ◇ Choosing a graph to fit a narrative: Basic
- Systems (12 topics)
 - ◆ Systems of Linear Equations (7 topics)
 - ◇ Identifying solutions to a system of linear equations
 - ◇ Identifying the solution of systems of linear equations from graphs
 - ◇ Graphically solving a system of linear equations both of the form $y=mx+b$
 - ◇ Solving a system of linear equations of the form $y = mx + b$
 - ◇ Solving a system of linear equations using substitution
 - ◇ Solving a system of linear equations using elimination with addition
 - ◇ Solving a system of linear equations using elimination with multiplication and addition
 - ◆ Applications (5 topics)
 - ◇ Interpreting the graphs of two functions
 - ◇ Solving a word problem involving a sum and another basic relationship using a system of linear equations
 - ◇ Solving a word problem using a system of linear equations of the form $Ax + By = C$
 - ◇ Writing and solving a system of two linear equations given a table of values
 - ◇ Solving a word problem using a system of linear equations of the form $y = mx + b$
- Exponents and Polynomials (26 topics)
 - ◆ Product, Power, and Quotient Rules (6 topics)
 - ◇ Understanding the product rule of exponents
 - ◇ Introduction to the product rule of exponents
 - ◇ Product rule with positive exponents: Univariate
 - ◇ Introduction to the power of a power rule of exponents
 - ◇ Introduction to the power of a product rule of exponents
 - ◇ Introduction to the quotient rule of exponents
 - ◆ Negative Exponents (3 topics)
 - ◇ Evaluating an expression with a negative exponent: Whole number base
 - ◇ Evaluating an expression with a negative exponent: Positive fraction base
 - ◇ Introduction to the product rule with negative exponents
 - ◆ Scientific Notation (7 topics)
 - ◇ Scientific notation with positive exponent
 - ◇ Scientific notation with negative exponent
 - ◇ Converting between scientific notation and standard form in a real–world situation
 - ◇ Multiplying numbers written in scientific notation: Basic
 - ◇ Multiplying numbers written in decimal form or scientific notation in a real–world situation
 - ◇ Dividing numbers written in scientific notation: Basic
 - ◇ Finding the scale factor between numbers given in scientific notation in a real–world situation
 - ◆ Operations with Polynomials (5 topics)
 - ◇ Simplifying a sum or difference of two univariate polynomials
 - ◇ Multiplying a univariate polynomial by a monomial with a positive coefficient
 - ◇ Multiplying binomials with leading coefficients of 1
 - ◇ Multiplying binomials with leading coefficients greater than 1
 - ◇ Squaring a binomial: Univariate
 - ◆ Factoring Using the GCF (1 topics)
 - ◇ Factoring a linear binomial
 - ◆ Factoring Quadratic Trinomials (3 topics)
 - ◇ Factoring a quadratic with leading coefficient 1
 - ◇ Factoring a quadratic with leading coefficient greater than 1: Problem type 1
 - ◇ Factoring a quadratic with leading coefficient greater than 1: Problem type 2
 - ◆ Factoring Special Products (1 topics)
 - ◇ Factoring a perfect square trinomial with leading coefficient 1

- Nonlinear Functions (25 topics)
 - ◆ The Pythagorean Theorem and Distance Formula (4 topics)
 - ◇ Introduction to the Pythagorean Theorem
 - ◇ Pythagorean Theorem
 - ◇ Word problem involving the Pythagorean Theorem
 - ◇ Distance between two points in the plane: Decimal answers
 - ◆ Quadratic Equations (7 topics)
 - ◇ Solving an equation written in factored form
 - ◇ Finding the roots of a quadratic equation with leading coefficient 1
 - ◇ Finding the roots of a quadratic equation with leading coefficient greater than 1
 - ◇ Solving a word problem using a quadratic equation with rational roots
 - ◇ Applying the quadratic formula: Exact answers
 - ◇ Applying the quadratic formula: Decimal answers
 - ◇ Solving a word problem using a quadratic equation with irrational roots
 - ◆ Quadratic Functions (3 topics)
 - ◇ Finding the vertex, intercepts, and axis of symmetry from the graph of a parabola
 - ◇ Graphing a parabola of the form $y = ax^2$
 - ◇ Finding the x -intercept(s) and the vertex of a parabola
 - ◆ Exponential Functions (8 topics)
 - ◇ Table for an exponential function
 - ◇ Evaluating an exponential function that models a real-world situation
 - ◇ Finding a final amount in a word problem on exponential growth or decay
 - ◇ Finding the time to reach a limit in a word problem on exponential growth or decay
 - ◇ Finding the initial amount and rate of change given an exponential function
 - ◇ Writing an equation that models exponential growth or decay
 - ◇ Graphing an exponential function: $f(x) = a^x$
 - ◇ Finding the initial amount and asymptote given a graph of an exponential function
 - ◆ Logarithmic Functions (3 topics)
 - ◇ Converting between logarithmic and exponential equations
 - ◇ Evaluating logarithmic expressions
 - ◇ Solving an equation of the form $\log_b a = c$
- Other Topics Available(*) (788 additional topics)
 - ◆ Arithmetic Readiness (114 topics)
 - ◇ Numeral translation: Problem type 1
 - ◇ Numeral translation: Problem type 2
 - ◇ Expanded form with zeros
 - ◇ Ordering large numbers
 - ◇ Division involving zero
 - ◇ Word problem with division of whole numbers and rounding: Problem type 1
 - ◇ Examining a savings plan for college
 - ◇ Calculations involving paying for college
 - ◇ Rounding to thousands, ten thousands, or hundred thousands
 - ◇ Estimating a difference of whole numbers: Problem type 2
 - ◇ Estimating a product or quotient of whole numbers
 - ◇ Power of 10: Positive exponent
 - ◇ Comparing numerical expressions with parentheses
 - ◇ Expanded forms of numbers less than 10,000 using powers of ten
 - ◇ Expanded forms of numbers greater than 10,000 using powers of ten
 - ◇ Divisibility rules for 3 and 9
 - ◇ Prime factorization
 - ◇ Greatest common factor of 3 numbers

- ◇ Least common multiple of 3 numbers
- ◇ Word problem involving the least common multiple of 2 numbers
- ◇ Word problem with common multiples
- ◇ Constructing a two–way frequency table: Advanced
- ◇ Describing an increasing or decreasing pattern from a table of values
- ◇ Finding the next terms of a geometric sequence with whole numbers
- ◇ Plotting opposite integers on a number line
- ◇ Using a number line to compare integers
- ◇ Comparing signed numbers relating to a real–world situation
- ◇ Finding opposites of integers
- ◇ Finding all numbers with a given absolute value
- ◇ Identifying a sum as a point located a given distance from another point
- ◇ Addition and subtraction with 4 or 5 integers
- ◇ Operations with absolute value: Problem type 1
- ◇ Operations with absolute value: Problem type 2
- ◇ Computing the distance between two integers on a number line
- ◇ Computing and understanding distances between integers on a number line
- ◇ Identifying solutions to a one–step linear equation: Problem type 1
- ◇ Identifying solutions to a one–step linear equation: Problem type 2
- ◇ Writing an equation and solving a multiplicative comparison word problem
- ◇ Perimeter of a rectangle on a grid
- ◇ Word problem on finding the perimeter of a rectangle
- ◇ Area of a rectangle on a grid
- ◇ Word problem involving the area of a rectangle: Problem type 2
- ◇ Understanding equivalent fractions
- ◇ Modeling and writing equivalent fractions
- ◇ Fractional position on a number line
- ◇ Ordering fractions with the same denominator
- ◇ Ordering fractions with the same numerator
- ◇ Modeling multiplication of proper fractions
- ◇ Word problem involving multiplying a fraction and a whole number
- ◇ Multi–step word problem involving fractions and multiplication
- ◇ Determining if a quantity is increased or decreased when multiplied by a fraction
- ◇ Division involving a whole number and a fraction
- ◇ Fraction division
- ◇ Modeling division of a whole number by a fraction
- ◇ Word problem involving fractions and division
- ◇ Addition or subtraction of fractions with the same denominator
- ◇ Introduction to adding fractions with variables and common denominators
- ◇ Decomposing a fraction into a sum of fractions with the same denominator
- ◇ Word problem involving addition or subtraction of fractions with the same denominator
- ◇ Addition or subtraction of unit fractions
- ◇ Addition and subtraction of 3 fractions with different denominators
- ◇ Word problem involving addition or subtraction of fractions with different denominators
- ◇ Fractional part of a circle
- ◇ Complex fraction without variables: Problem type 1
- ◇ Writing a mixed number and an improper fraction for a shaded region
- ◇ Writing an improper fraction as a mixed number
- ◇ Writing a mixed number as an improper fraction
- ◇ Addition or subtraction of mixed numbers with the same denominator
- ◇ Mixed number addition with the same denominator and renaming
- ◇ Mixed number subtraction with the same denominator and renaming
- ◇ Addition or subtraction of mixed numbers with different denominators without renaming

- ◇ Addition of mixed numbers with different denominators and renaming
- ◇ Subtraction of mixed numbers with different denominators and renaming
- ◇ Addition and subtraction of 3 mixed numbers with different denominators
- ◇ Word problem involving addition or subtraction of mixed numbers with different denominators
- ◇ Mixed number multiplication
- ◇ Multiplication of a mixed number and a whole number
- ◇ Division with a mixed number and a whole number
- ◇ Mixed number division
- ◇ Word problem involving multiplication or division with mixed numbers
- ◇ Writing a decimal and a fraction for a shaded region
- ◇ Decimal place value: Hundreds to ten thousandths
- ◇ Writing a decimal number less than 1 given its name
- ◇ Writing a decimal number greater than 1 given its name
- ◇ Writing a decimal number given its name: Advanced
- ◇ Reading decimal position on a number line: Tenths
- ◇ Reading decimal position on a number line: Hundredths
- ◇ Understanding decimal position on a number line using zoom: Hundredths
- ◇ Understanding decimal position on a number line using zoom: Thousandths
- ◇ Decimal addition and subtraction with 3 or more numbers
- ◇ Average of two numbers
- ◇ Word problem with subtraction of a whole number and a decimal: Regrouping with zeros
- ◇ Decimal multiplication: Problem type 2
- ◇ Multiplying decimals less than 1: Problem type 2
- ◇ Word problem with multiplication of two decimals
- ◇ Division of a decimal by a 2–digit decimal
- ◇ Division of a decimal by a power of 0.1
- ◇ Decimal division with rounding
- ◇ Word problem with division of two decimals
- ◇ Converting a decimal to a proper fraction without simplifying: Advanced
- ◇ Converting a decimal to a proper fraction in simplest form: Advanced
- ◇ Converting a decimal to a mixed number and an improper fraction without simplifying
- ◇ Converting a decimal to a mixed number and an improper fraction in simplest form: Basic
- ◇ Converting a decimal to a mixed number and an improper fraction in simplest form: Advanced
- ◇ Converting a fraction with a denominator of 100 or 1000 to a decimal
- ◇ Converting a mixed number with a denominator of 2, 4, or 5 to a decimal
- ◇ Converting a fraction to a terminating decimal: Advanced
- ◇ Converting a fraction to a repeating decimal: Advanced
- ◇ Converting a mixed number to a terminating decimal: Basic
- ◇ Converting a mixed number to a terminating decimal: Advanced
- ◇ Converting a fraction or mixed number to a rounded decimal
- ◇ Ordering fractions and decimals
- ◇ Addition or subtraction with a decimal and a mixed number
- ◇ Multiplication with a decimal and a fraction
- ◆ Ratios, Proportions, and Percents (42 topics)
 - ◇ Writing ratios for real–world situations
 - ◇ Identifying statements that describe a ratio
 - ◇ Simplifying a ratio of decimals
 - ◇ Word problem on unit rates associated with ratios of fractions
 - ◇ Word problem on unit rates associated with ratios of whole numbers: Decimal answers
 - ◇ Word problem on proportions: Problem type 2
 - ◇ Word problem with powers of ten
 - ◇ Using a scale drawing to find actual area
 - ◇ Reproducing a scale drawing at a different scale

- ◇ Identifying congruent shapes on a grid
- ◇ Identifying similar or congruent shapes on a grid
- ◇ Finding a missing side length given two similar triangles
- ◇ Similar polygons
- ◇ Similar right triangles
- ◇ Indirect measurement
- ◇ Investigating the effects on the area for non-proportional and proportional figures
- ◇ Finding the percentage of a grid that is shaded
- ◇ Converting a mixed number percentage to a decimal
- ◇ Converting between percentages and decimals in a real-world situation
- ◇ Converting a percentage to a fraction in simplest form
- ◇ Converting a decimal percentage to a fraction
- ◇ Finding benchmark fractions and percentages for a figure
- ◇ Finding a percentage of a whole number without a calculator: Basic
- ◇ Finding a percentage of a whole number without a calculator: Advanced
- ◇ Applying the percent equation: Problem type 2
- ◇ Finding the total amount given the percentage of a partial amount
- ◇ Comparing discounts
- ◇ Finding the original amount given the result of a percentage increase or decrease
- ◇ Finding the original price given the sale price and percent discount
- ◇ Gross pay with variable commission scale
- ◇ Calculating income tax using a tax bracket table
- ◇ Comparing costs of checking accounts
- ◇ Distinguishing between fixed and variable expenses
- ◇ Calculations involving purchases with debit and credit cards
- ◇ Reading a credit report
- ◇ Finding the principal, rate, or time of a simple interest loan or investment
- ◇ Finding the principal, rate, or time for a simple interest loan whose term is given in months or days
- ◇ Finding the effective annual interest rate of a loan or investment
- ◇ Calculating and comparing monthly payments using the ALEKS loan calculator
- ◇ Calculating monthly payment, total payment, and interest using the ALEKS loan calculator
- ◇ Calculating and comparing total loan payments using the ALEKS loan calculator
- ◇ Using the ALEKS periodic deposit calculator to compute savings which include periodic deposits
- ◆ Measurement (36 topics)
 - ◇ Choosing U.S. Customary measurement units
 - ◇ Measuring length to the nearest inch
 - ◇ Measuring length to the nearest quarter or half inch
 - ◇ Adding measurements in feet and inches
 - ◇ Sides of polygons having the same perimeter
 - ◇ Perimeter of a polygon involving mixed numbers and fractions
 - ◇ Perimeter of a piecewise rectangular figure
 - ◇ Area between two rectangles
 - ◇ Area of a triangle
 - ◇ Area involving rectangles and triangles
 - ◇ Circumference and area of a circle
 - ◇ Word problem involving the volume of a rectangular prism
 - ◇ Computations involving density, mass, and volume
 - ◇ Word problem on density involving the volume of a rectangular solid
 - ◇ Surface area of a cube or a rectangular prism
 - ◇ Surface area of a rectangular prism made of unit cubes
 - ◇ Word problem involving the surface area of a rectangular prism
 - ◇ Word problem on area involving conversions of U.S. Customary units: Problem type 2
 - ◇ Word problem on volume involving conversions of U.S. Customary units

- ◇ Word problem involving U.S. Customary conversions, surface area, and cost
- ◇ Unit conversions involving acres and hectares
- ◇ U.S. Customary unit conversion with whole number values: Two-step conversion
- ◇ Converting between U.S. Customary units of volume: Problem type 1
- ◇ U.S. Customary unit conversion with mixed number values: One-step conversion
- ◇ U.S. Customary unit conversion with mixed number values: Two-step conversion
- ◇ Measuring length to the nearest centimeter
- ◇ Measuring length to the nearest millimeter
- ◇ Metric distance conversions between the base unit m and dm, dam, hm
- ◇ Metric conversion with decimal values: Two-step problem
- ◇ Metric area unit conversion with decimal values
- ◇ Converting between metric units of volume and capacity
- ◇ Word problem on area involving conversions between systems
- ◇ Word problem involving a conversion between U.S. Customary units of weight and metric units of mass
- ◇ Adding time
- ◇ Elapsed time
- ◇ Reading the temperature from a thermometer
- ◆ Real Numbers (48 topics)
 - ◇ Plotting rational numbers on a number line
 - ◇ Ordering real numbers
 - ◇ Using numerical methods to approximate a square root to the nearest tenth
 - ◇ Using numerical methods to approximate a square root to the nearest hundredth
 - ◇ Approximating the location of irrational numbers on a number line
 - ◇ Constructing a Venn diagram to classify rational numbers
 - ◇ Constructing a Venn diagram to describe relationships between sets of rational numbers
 - ◇ Constructing a Venn diagram to describe relationships between sets of real numbers
 - ◇ Identifying equivalent signed fractions
 - ◇ Signed fraction subtraction involving double negation
 - ◇ Signed fraction addition or subtraction: Advanced
 - ◇ Addition and subtraction of 3 fractions involving signs
 - ◇ Signed fraction multiplication: Advanced
 - ◇ Signed fraction division
 - ◇ Signed decimal addition and subtraction with 3 numbers
 - ◇ Signed decimal multiplication
 - ◇ Signed decimal division
 - ◇ Computing distances between decimals on a number line
 - ◇ Finding a point on a number line given the length of a segment and another point
 - ◇ Order of operations with whole numbers and grouping symbols
 - ◇ Order of operations with whole numbers and exponents: Advanced
 - ◇ Order of operations with fractions: Problem type 1
 - ◇ Order of operations with fractions: Problem type 2
 - ◇ Order of operations with fractions: Problem type 3
 - ◇ Squaring decimal bases: Products greater than 0.1
 - ◇ Exponents and decimals: Products less than 0.1
 - ◇ Order of operations with decimals: Problem type 1
 - ◇ Order of operations with decimals: Problem type 2
 - ◇ Order of operations with decimals: Problem type 3
 - ◇ Exponents and integers: Problem type 2
 - ◇ Exponents and signed fractions
 - ◇ Order of operations with integers and exponents
 - ◇ Evaluating a linear expression: Signed fraction multiplication with addition or subtraction
 - ◇ Evaluating a linear expression: Signed decimal addition and subtraction

- ◇ Evaluating a linear expression: Signed decimal multiplication with addition or subtraction
- ◇ Evaluating an algebraic expression: Whole number operations and exponents
- ◇ Combining like terms: Fractional coefficients
- ◇ Combining like terms: Decimal coefficients
- ◇ Introduction to the distributive property
- ◇ Understanding the distributive property
- ◇ Introduction to factoring with numbers
- ◇ Distributive property: Fractional coefficients
- ◇ Properties of addition
- ◇ Properties of real numbers
- ◇ Using algebra tiles to determine if two expressions are equivalent
- ◇ Identifying parts in an algebraic expression
- ◇ Using distribution with double negation and combining like terms to simplify: Multivariate
- ◇ Adding rational expressions with different denominators and a single occurrence of a variable
- ◆ Linear Equations and Inequalities (78 topics)
 - ◇ Additive property of equality with fractions and mixed numbers
 - ◇ Plotting the solution for a one–step equation on a number line
 - ◇ Additive property of equality with signed fractions
 - ◇ Multiplicative property of equality with whole numbers: Fractional answers
 - ◇ Additive property of equality with a negative coefficient
 - ◇ Solving an equation to find the value of an expression
 - ◇ Solving a two–step equation with signed decimals
 - ◇ Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
 - ◇ Clearing fractions in an equation
 - ◇ Solving a linear equation with several occurrences of the variable: Fractional forms with monomial numerators
 - ◇ Solving a two–step equation with signed fractions
 - ◇ Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
 - ◇ Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
 - ◇ Solving equations with zero, one, or infinitely many solutions
 - ◇ Solving a proportion of the form $(x+a)/b = c/d$
 - ◇ Introduction to solving an absolute value equation
 - ◇ Solving an absolute value equation: Problem type 1
 - ◇ Solving for a variable in terms of other variables using addition or subtraction: Advanced
 - ◇ Solving for a variable inside parentheses in terms of other variables
 - ◇ Solving for a variable in terms of other variables in a linear equation with fractions
 - ◇ Translating a sentence into a multi–step equation
 - ◇ Writing an equation of the form $Ax + B = C$ to solve a word problem
 - ◇ Comparing arithmetic and algebraic solutions to a word problem
 - ◇ Writing an equation of the form $A(x + B) = C$ to solve a word problem
 - ◇ Writing a multi–step equation for a real–world situation
 - ◇ Writing and solving a real–world problem given an equation with the variable on both sides
 - ◇ Solving a fraction word problem using a linear equation with the variable on both sides
 - ◇ Solving a word problem with three unknowns using a linear equation
 - ◇ Solving a word problem involving consecutive integers
 - ◇ Solving a value mixture problem using a linear equation
 - ◇ Solving a word problem involving rates and time conversion
 - ◇ Solving a distance, rate, time problem using a linear equation
 - ◇ Computing a percent mixture
 - ◇ Solving a percent mixture problem using a linear equation

- ◇ Writing algebraic expressions for the perimeter of a figure
- ◇ Finding a side length given the perimeter and side lengths with variables
- ◇ Finding side lengths of squares given an area and a perimeter
- ◇ Finding the perimeter or area of a rectangle given one of these values
- ◇ Converting a repeating decimal to a fraction
- ◇ Introduction to identifying solutions to an inequality
- ◇ Writing an inequality given a graph on the number line
- ◇ Translating a sentence into a compound inequality
- ◇ Graphing a compound inequality on the number line
- ◇ Writing a compound inequality given a graph on the number line
- ◇ Set-builder and interval notation
- ◇ Identifying solutions to a one-step linear inequality
- ◇ Additive property of inequality with whole numbers
- ◇ Additive property of inequality with signed fractions
- ◇ Multiplicative property of inequality with whole numbers
- ◇ Multiplicative property of inequality with signed fractions
- ◇ Identifying solutions to a two-step linear inequality in one variable
- ◇ Solving a two-step linear inequality with whole numbers
- ◇ Solving a two-step linear inequality with a fractional coefficient
- ◇ Solving a linear inequality with multiple occurrences of the variable: Problem type 2
- ◇ Solving a linear inequality with multiple occurrences of the variable: Problem type 3
- ◇ Solving inequalities with no solution or all real numbers as solutions
- ◇ Solving a compound linear inequality: Graph solution, basic
- ◇ Solving a compound linear inequality: Interval notation
- ◇ Solving an absolute value inequality: Problem type 1
- ◇ Solving a word problem using a one-step linear inequality
- ◇ Translating a sentence into a multi-step inequality
- ◇ Solving a word problem using a two-step linear inequality and describing the solution
- ◇ Writing sets of numbers using set-builder and roster forms
- ◇ Writing sets for a real-world situation using descriptive and roster forms
- ◇ Writing sets of integers using set-builder and roster forms
- ◇ Unions, intersections, and complements involving 2 sets
- ◇ Unions and intersections involving the empty set or universal set
- ◇ Constructing a Venn diagram with 3 sets
- ◇ Constructing a Venn diagram with 3 sets to solve a word problem
- ◇ Introduction to shading a Venn diagram with 2 sets
- ◇ Shading a Venn diagram with 2 sets: Unions, intersections, and complements
- ◇ Venn diagram with 2 sets: Unions, intersections, and complements
- ◇ Venn diagram with 2 sets: Unions, intersections, and complements for a real-world situation
- ◇ Naming the quadrant or axis of a point given its graph
- ◇ Naming the quadrant or axis of a point given its coordinates
- ◇ Naming the quadrant or axis of a point given the signs of its coordinates
- ◇ Finding distances between points that share a common coordinate given the graph
- ◇ Finding distances between points that share a common coordinate given their coordinates
- ◆ Probability and Statistics (79 topics)
 - ◇ Counting principle with repetition allowed
 - ◇ Counting principle involving a specified arrangement
 - ◇ Counting arrangements of objects that are not all distinct
 - ◇ Permutations and combinations: Problem type 1
 - ◇ Permutations and combinations: Problem type 2
 - ◇ Permutations and combinations: Problem type 3
 - ◇ Counting using combinations and addition
 - ◇ Counting using combinations and a complement

- ◇ Counting five-card hands from a standard deck
- ◇ Probability of selecting one card from a standard deck
- ◇ Experimental and theoretical probability for compound events
- ◇ Probabilities of a permutation and a combination
- ◇ Area as probability
- ◇ Converting between probability and odds
- ◇ Finding odds in favor and against drawing a card from a standard deck
- ◇ Making predictions using experimental data for compound events
- ◇ Computing expected value in a business application
- ◇ Making reasonable inferences based on proportion statistics
- ◇ Identifying independent events given descriptions of experiments
- ◇ Probabilities involving two rolls of a die: Decimal answers
- ◇ Probability of independent events involving a standard deck of cards
- ◇ Probability of dependent events involving a standard deck of cards
- ◇ Probability of dependent events involving a survey
- ◇ Probabilities of draws with replacement
- ◇ Probabilities of draws without replacement
- ◇ Using a Venn diagram to understand the multiplication rule for probability
- ◇ Outcomes and event probability: Conditional probability
- ◇ Identifying independent events given values of probabilities
- ◇ Conditional probability: Basic
- ◇ Outcomes and event probability: Addition rule
- ◇ Using a Venn diagram to understand the addition rule for probability
- ◇ Word problem involving the probability of a union
- ◇ Probability of intersection or union: Word problems
- ◇ Computing probability involving the addition rule using a two-way frequency table
- ◇ Computing conditional probability using a large two-way frequency table
- ◇ Probability of the union of two events
- ◇ Choosing an appropriate method for gathering data: Problem type 1
- ◇ Classifying samples
- ◇ Interpreting a tally table
- ◇ Interpreting a pictograph table
- ◇ Interpreting a pie chart
- ◇ Computations from pie charts
- ◇ Constructing a percent bar graph
- ◇ Constructing a line plot
- ◇ Constructing a relative frequency distribution for grouped data
- ◇ Constructing a frequency distribution and a frequency polygon
- ◇ Finding if a question can be answered by the data
- ◇ Using a model to find the mean
- ◇ Understanding the mean graphically: Two bars
- ◇ Understanding the mean graphically: Four or more bars
- ◇ Finding the mean of a symmetric distribution
- ◇ Summation of indexed data
- ◇ Approximating the mean of a data set given a frequency distribution
- ◇ Approximating the mean of a data set given a histogram
- ◇ Comparing means without calculation
- ◇ Finding the mode and range from a line plot
- ◇ Identifying the center, spread, and shape of a data set
- ◇ Comparing sample means
- ◇ Comparing standard deviations without calculation
- ◇ Sample standard deviation
- ◇ Computing mean absolute deviation from a list of numerical values

- ◇ Percentiles
- ◇ Five–number summary and interquartile range
- ◇ Box–and–whisker plots
- ◇ Using box–and–whisker plots to compare data sets
- ◇ Using the graph of a distribution to find probabilities: Advanced
- ◇ Shading a region and finding its standard normal probability
- ◇ Normal versus standard normal density curves
- ◇ Computing standard normal probabilities
- ◇ Finding a probability given a normal distribution: Basic
- ◇ Finding a probability given a normal distribution: Advanced
- ◇ Identifying outcomes in a random number table used to simulate a simple event
- ◇ Using a random number table to simulate a simple event
- ◇ Generating a random number table with technology to simulate a simple event
- ◇ Identifying outcomes in a random number table used to simulate a compound event
- ◇ Using a random number table to simulate a compound event
- ◇ Generating a random number table with technology to simulate a compound event
- ◇ Generating random samples from a population with known characteristics
- ◇ Using a random number table to make a fair decision
- ◆ Lines (50 topics)
 - ◇ Finding x– and y–intercepts of a line given the equation: Advanced
 - ◇ Graphing a line given its x– and y–intercepts
 - ◇ Graphing a line by first finding its x– and y–intercepts
 - ◇ Identifying proportional relationships in tables by calculating unit rates: Fractions
 - ◇ Identifying proportional relationships in graphs: Basic
 - ◇ Identifying proportional relationships in graphs: Advanced
 - ◇ Classifying slopes given graphs of lines
 - ◇ Finding the slope of horizontal and vertical lines
 - ◇ Finding the coordinate that yields a given slope
 - ◇ Using right triangles to find the slope of a line
 - ◇ Graphing a line through a given point with a given slope
 - ◇ Identifying linear equations: Basic
 - ◇ Identifying linear equations: Advanced
 - ◇ Identifying linear functions given ordered pairs
 - ◇ Graphing a line by first finding its slope and y–intercept
 - ◇ Writing an equation and graphing a line given its slope and y–intercept
 - ◇ Finding the slope, y–intercept, and equation for a linear function given a table of values
 - ◇ Writing an equation in point–slope form given the slope and a point
 - ◇ Writing the equations of vertical and horizontal lines through a given point
 - ◇ Identifying parallel and perpendicular lines
 - ◇ Finding slopes of lines parallel and perpendicular to a line given in slope–intercept form
 - ◇ Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
 - ◇ Identifying parallel and perpendicular lines from equations
 - ◇ Writing equations of lines parallel and perpendicular to a given line through a point
 - ◇ Identifying parallel and perpendicular lines from coordinates
 - ◇ Finding outputs of a one–step function that models a real–world situation: Two variable equation
 - ◇ Graphing ordered pairs and writing an equation from a table of values in context
 - ◇ Writing an equation and drawing its graph to model a real–world situation: Basic
 - ◇ Writing a function rule given a table of ordered pairs: Two–step rules
 - ◇ Comparing properties of linear functions given in different forms
 - ◇ Application problem with a linear function: Finding a coordinate given the slope and a point
 - ◇ Solving a linear equation by graphing
 - ◇ Translating the graph of an absolute value function: One step
 - ◇ Translating the graph of an absolute value function: Two steps

- ◇ Graphing an absolute value equation of the form $y = A|x|$
- ◇ Graphing an absolute value equation in the plane: Basic
- ◇ Graphing an absolute value equation in the plane: Advanced
- ◇ How the leading coefficient affects the graph of an absolute value function
- ◇ Constructing a scatter plot
- ◇ Computing residuals
- ◇ Interpreting residual plots
- ◇ Identifying correlation and causation
- ◇ Identifying direct variation equations
- ◇ Identifying direct variation from ordered pairs and writing equations
- ◇ Writing a direct variation equation
- ◇ Writing an inverse variation equation
- ◇ Identifying direct and inverse variation equations
- ◇ Identifying direct and inverse variation from ordered pairs and writing equations
- ◇ Word problem on inverse proportions
- ◇ Word problem on combined variation
- ◆ Functions (32 topics)
 - ◇ Identifying functions from relations
 - ◇ Vertical line test
 - ◇ Domain and range from ordered pairs
 - ◇ Variable expressions as inputs of functions: Problem type 1
 - ◇ Finding outputs of a one-step function that models a real-world situation: Function notation
 - ◇ Domain and range of a linear function that models a real-world situation
 - ◇ Finding inputs and outputs of a function from its graph
 - ◇ Domain and range from the graph of a discrete relation
 - ◇ Finding domain and range from a linear graph in context
 - ◇ Finding intercepts of a nonlinear function given its graph
 - ◇ Finding where a function is increasing, decreasing, or constant given the graph: Interval notation
 - ◇ Finding local maxima and minima of a function given the graph
 - ◇ Choosing a graph to fit a narrative: Advanced
 - ◇ Graphing an integer function and finding its range for a given domain
 - ◇ Domain and range from the graph of a continuous function
 - ◇ Graphing a function of the form $f(x) = ax + b$: Integer slope
 - ◇ Graphing a function of the form $f(x) = ax + b$: Fractional slope
 - ◇ Graphing a function of the form $f(x) = ax^2$
 - ◇ Graphing a function of the form $f(x) = ax^2 + c$
 - ◇ Finding the first terms of an arithmetic sequence using an explicit rule
 - ◇ Finding the next terms of an arithmetic sequence with integers
 - ◇ Identifying arithmetic sequences and finding the common difference
 - ◇ Finding a specified term of an arithmetic sequence given the first terms
 - ◇ Finding a specified term of an arithmetic sequence given the common difference and first term
 - ◇ Writing an explicit rule for an arithmetic sequence
 - ◇ Finding the first terms of a geometric sequence using an explicit rule
 - ◇ Finding the next terms of a geometric sequence with signed numbers
 - ◇ Identifying arithmetic and geometric sequences
 - ◇ Identifying geometric sequences and finding the common ratio
 - ◇ Finding a specified term of a geometric sequence given the first terms
 - ◇ Finding a specified term of a geometric sequence given the common ratio and first term
 - ◇ Arithmetic and geometric sequences: Identifying and writing an explicit rule
- ◆ Systems (24 topics)
 - ◇ Classifying systems of linear equations from graphs
 - ◇ Graphically solving a system of linear equations
 - ◇ Writing a system of linear equations given its graph

- ◇ Solving a system of linear equations with fractional coefficients
- ◇ Solving a system of linear equations with decimal coefficients
- ◇ Solving systems of linear equations with 0, 1, or infinitely many solutions
- ◇ Identifying the operations used to create equivalent systems of equations
- ◇ Introduction to solving a 3x3 system of linear equations
- ◇ Solving a 3x3 system of linear equations: Problem type 1
- ◇ Solving a value mixture problem using a system of linear equations
- ◇ Solving a percent mixture problem using a system of linear equations
- ◇ Solving a distance, rate, time problem using a system of linear equations
- ◇ Solving a tax rate or interest rate problem using a system of linear equations
- ◇ Solving a word problem using a 3x3 system of linear equations: Problem type 1
- ◇ Identifying solutions to a linear inequality in two variables
- ◇ Graphing a linear inequality in the plane: Vertical or horizontal line
- ◇ Graphing a linear inequality in the plane: Slope–intercept form
- ◇ Graphing a linear inequality in the plane: Standard form
- ◇ Graphing a system of two linear inequalities: Basic
- ◇ Graphing a system of two linear inequalities: Advanced
- ◇ Graphing a system of three linear inequalities
- ◇ Writing a multi–step inequality for a real–world situation
- ◇ Writing a linear inequality in two variables given a table of values
- ◇ Solving a word problem using a system of linear inequalities: Problem type 1
- ◆ Exponents and Polynomials (85 topics)
 - ◇ Introduction to the product rule with positive exponents: Whole number base
 - ◇ Product rule with positive exponents: Multivariate
 - ◇ Ordering numbers with positive exponents
 - ◇ Introduction to the power of a power rule with positive exponents: Whole number base
 - ◇ Understanding the power rules of exponents
 - ◇ Power rules with positive exponents: Multivariate products
 - ◇ Power rules with positive exponents: Multivariate quotients
 - ◇ Power and product rules with positive exponents
 - ◇ Simplifying a ratio of multivariate monomials: Basic
 - ◇ Introduction to the quotient rule with positive exponents: Whole number base
 - ◇ Simplifying a ratio of univariate monomials
 - ◇ Quotient of expressions involving exponents
 - ◇ Simplifying a ratio of multivariate monomials: Advanced
 - ◇ Power and quotient rules with positive exponents
 - ◇ Power of 10: Negative exponent
 - ◇ Evaluating an expression with a negative exponent: Negative integer base
 - ◇ Ordering numbers with negative exponents
 - ◇ Rewriting an algebraic expression without a negative exponent
 - ◇ Introduction to the product rule with negative exponents: Whole number base
 - ◇ Introduction to the quotient rule with negative exponents: Whole number base
 - ◇ Quotient rule with negative exponents: Problem type 1
 - ◇ Introduction to the power of a power rule with negative exponents: Whole number base
 - ◇ Product rule with negative exponents
 - ◇ Quotient rule with negative exponents: Problem type 2
 - ◇ Power of a power rule with negative exponents
 - ◇ Power rules with negative exponents
 - ◇ Power and quotient rules with negative exponents: Problem type 1
 - ◇ Power and quotient rules with negative exponents: Problem type 2
 - ◇ Power, product, and quotient rules with negative exponents
 - ◇ Introduction to scientific notation with positive exponents
 - ◇ Introduction to scientific notation with negative exponents

- ◇ Estimating numbers using scientific notation
- ◇ Choosing metric units and converting to the base unit in scientific notation
- ◇ Expressing calculator notation as scientific notation
- ◇ Multiplying numbers written in scientific notation: Advanced
- ◇ Dividing numbers written in scientific notation: Advanced
- ◇ Adding or subtracting numbers written in scientific notation: Same exponents, basic
- ◇ Adding or subtracting numbers written in scientific notation: Same exponents, advanced
- ◇ Adding or subtracting numbers written in scientific notation: Different exponents
- ◇ Estimating the sum or difference of two numbers written in scientific notation
- ◇ Degree and leading coefficient of a univariate polynomial
- ◇ Degree of a multivariate polynomial
- ◇ Simplifying a sum or difference of three univariate polynomials
- ◇ Simplifying a sum or difference of multivariate polynomials
- ◇ Multiplying a univariate polynomial by a monomial with a negative coefficient
- ◇ Multiplying a multivariate polynomial by a monomial
- ◇ Multiplying binomials in two variables
- ◇ Multiplying conjugate binomials: Univariate
- ◇ Multiplying conjugate binomials: Multivariate
- ◇ Squaring a binomial: Multivariate
- ◇ Multiplying binomials with negative coefficients
- ◇ Multiplication involving binomials and trinomials in one variable
- ◇ Multiplication involving binomials and trinomials in two variables
- ◇ Dividing a polynomial by a monomial: Univariate
- ◇ Dividing a polynomial by a monomial: Multivariate
- ◇ Polynomial long division: Problem type 1
- ◇ Polynomial long division: Problem type 2
- ◇ Polynomial long division: Problem type 3
- ◇ Closure properties of integers and polynomials
- ◇ Introduction to the GCF of two monomials
- ◇ Greatest common factor of three univariate monomials
- ◇ Greatest common factor of two multivariate monomials
- ◇ Factoring out a monomial from a polynomial: Univariate
- ◇ Factoring out a monomial from a polynomial: Multivariate
- ◇ Factoring out a binomial from a polynomial: GCF factoring, basic
- ◇ Factoring a univariate polynomial by grouping: Problem type 1
- ◇ Factoring a univariate polynomial by grouping: Problem type 2
- ◇ Factoring a multivariate polynomial by grouping: Problem type 1
- ◇ Factoring a multivariate polynomial by grouping: Problem type 2
- ◇ Factoring a quadratic in two variables with leading coefficient 1
- ◇ Factoring out a constant before factoring a quadratic
- ◇ Factoring a quadratic with leading coefficient greater than 1: Problem type 3
- ◇ Factoring a quadratic by the ac-method
- ◇ Factoring a quadratic in two variables with leading coefficient greater than 1
- ◇ Factoring a quadratic with a negative leading coefficient
- ◇ Factoring a perfect square trinomial with leading coefficient greater than 1
- ◇ Factoring a perfect square trinomial in two variables
- ◇ Factoring a difference of squares in one variable: Basic
- ◇ Factoring a difference of squares in one variable: Advanced
- ◇ Factoring a difference of squares in two variables
- ◇ Factoring a polynomial involving a GCF and a difference of squares: Univariate
- ◇ Factoring a polynomial involving a GCF and a difference of squares: Multivariate
- ◇ Factoring a product of a quadratic trinomial and a monomial
- ◇ Factoring with repeated use of the difference of squares formula

- ◇ Factoring a sum or difference of two cubes
- ◆ Nonlinear Functions (86 topics)
 - ◇ Square root of a rational perfect square
 - ◇ Square roots of perfect squares with signs
 - ◇ Simplifying the square root of a whole number less than 100
 - ◇ Simplifying the square root of a whole number greater than 100
 - ◇ Introduction to square root addition or subtraction
 - ◇ Square root addition or subtraction
 - ◇ Introduction to square root multiplication
 - ◇ Square root multiplication: Basic
 - ◇ Rationalizing a denominator: Quotient involving square roots
 - ◇ Rationalizing a denominator: Square root of a fraction
 - ◇ Cube root of an integer
 - ◇ Finding n^{th} roots of perfect n^{th} powers with signs
 - ◇ Introduction to solving a radical equation
 - ◇ Solving a radical equation that simplifies to a linear equation: One radical, basic
 - ◇ Word problem involving radical equations: Basic
 - ◇ Converting between radical form and exponent form
 - ◇ Rational exponents: Unit fraction exponents and whole number bases
 - ◇ Rational exponents: Unit fraction exponents and bases involving signs
 - ◇ Rational exponents: Non–unit fraction exponent with a whole number base
 - ◇ Rational exponents: Negative exponents and fractional bases
 - ◇ Using the Pythagorean Theorem repeatedly
 - ◇ Using the Pythagorean Theorem to find distance on a grid
 - ◇ Distance between two points in the plane: Exact answers
 - ◇ Midpoint of a line segment in the plane
 - ◇ Finding the roots of a quadratic equation of the form $ax^2 + bx = 0$
 - ◇ Solving a quadratic equation needing simplification
 - ◇ Using the Pythagorean Theorem and a quadratic equation to find side lengths of a right triangle
 - ◇ Solving an equation of the form $x^2 = a$ using the square root property
 - ◇ Solving a quadratic equation using the square root property: Exact answers, basic
 - ◇ Solving a quadratic equation using the square root property: Exact answers, advanced
 - ◇ Completing the square
 - ◇ Solving a quadratic equation by completing the square: Exact answers
 - ◇ Discriminant of a quadratic equation
 - ◇ Graphing a parabola of the form $y = ax^2 + c$
 - ◇ Translating the graph of a parabola: One step
 - ◇ Graphing a parabola of the form $y = (x-h)^2 + k$
 - ◇ Graphing a parabola of the form $y = a(x-h)^2 + k$
 - ◇ Graphing a parabola of the form $y = x^2 + bx + c$
 - ◇ Graphing a parabola of the form $y = ax^2 + bx + c$: Integer coefficients
 - ◇ Graphing a parabola of the form $y = ax^2 + bx + c$: Rational coefficients
 - ◇ Finding the maximum or minimum of a quadratic function
 - ◇ Word problem involving the maximum or minimum of a quadratic function
 - ◇ Rewriting a quadratic function to find its vertex and sketch its graph
 - ◇ Domain and range from the graph of a parabola
 - ◇ Range of a quadratic function
 - ◇ Solving a quadratic equation by graphing
 - ◇ Comparing properties of quadratic functions given in different forms
 - ◇ Classifying the graph of a function
 - ◇ How the leading coefficient affects the shape of a parabola
 - ◇ Choosing a quadratic model and using it to make a prediction
 - ◇ Using a calculator to evaluate exponential expressions involving base e

- ◇ Evaluating an exponential function with base e that models a real–world situation
- ◇ Solving an exponential equation by finding common bases: Linear exponents
- ◇ Graphing an exponential function: $f(x) = a(b)^x$
- ◇ Graphing an exponential function and its asymptote: $f(x)=b^x$
- ◇ Graphing an exponential function and its asymptote: $f(x) = a(b)^x$
- ◇ Graphing an exponential function and its asymptote: $f(x)=b^{-x}$ or $f(x)=-b^{ax}$
- ◇ Writing an exponential function rule given a table of ordered pairs
- ◇ Finding domain and range from the graph of an exponential function
- ◇ Comparing linear, polynomial, and exponential functions
- ◇ Identifying linear, quadratic, and exponential functions given ordered pairs
- ◇ Choosing an exponential model and using it to make a prediction
- ◇ Using a calculator to evaluate natural and common logarithmic expressions
- ◇ Converting between natural logarithmic and exponential equations
- ◇ Graphing a logarithmic function: Basic
- ◇ Basic properties of logarithms
- ◇ Using properties of logarithms to evaluate expressions
- ◇ Expanding a logarithmic expression: Problem type 1
- ◇ Expanding a logarithmic expression: Problem type 2
- ◇ Expanding a logarithmic expression: Problem type 3
- ◇ Writing an expression as a single logarithm
- ◇ Change of base for logarithms: Problem type 1
- ◇ Solving a multi–step equation involving a single logarithm: Problem type 1
- ◇ Solving a multi–step equation involving a single logarithm: Problem type 2
- ◇ Solving a multi–step equation involving natural logarithms
- ◇ Solving an equation involving logarithms on both sides: Problem type 1
- ◇ Solving an equation involving logarithms on both sides: Problem type 2
- ◇ Solving an exponential equation by using logarithms: Decimal answers, basic
- ◇ Solving an exponential equation by using natural logarithms: Decimal answers
- ◇ Finding the time required for an investment earning compound interest
- ◇ Finding the time given an exponential function with base e that models a real–world situation
- ◇ Finding the final amount of a loan or investment earning continuous compound interest
- ◇ Finding the initial amount of an investment earning continuous compound interest
- ◇ Finding the final amount in a word problem on continuous exponential growth or decay
- ◇ Finding the rate or time in a word problem on continuous exponential growth or decay
- ◇ Finding half–life or doubling time
- ◆ Geometry (114 topics)
 - ◇ Naming segments, rays, and lines
 - ◇ Drawing an angle with the protractor
 - ◇ Acute, obtuse, and right angles
 - ◇ Naming angles, sides of angles, and vertices
 - ◇ Finding supplementary and complementary angles
 - ◇ Finding the complement or supplement of an angle given a figure
 - ◇ Solving an equation involving complementary or supplementary angles
 - ◇ Writing and solving an equation involving complementary or supplementary angles
 - ◇ Identifying supplementary and vertical angles
 - ◇ Finding angle measures given two intersecting lines
 - ◇ Solving equations involving vertical angles
 - ◇ Identifying corresponding and alternate angles
 - ◇ Finding angle measures given two parallel lines cut by a transversal
 - ◇ Solving equations involving angles and a pair of parallel lines
 - ◇ Acute, obtuse, and right triangles
 - ◇ Classifying scalene, isosceles, and equilateral triangles by side lengths
 - ◇ Classifying scalene, isosceles, and equilateral triangles by side lengths or angles

- ◇ Finding an angle measure of a triangle given two angles
- ◇ Finding an angle measure for a triangle with an extended side
- ◇ Finding an angle measure given extended triangles
- ◇ Finding an angle measure given a triangle and parallel lines
- ◇ Finding angle measures of a triangle given angles with variables
- ◇ Writing an equation to find angle measures of a triangle given angles with variables
- ◇ Finding side lengths and angle measures of isosceles and equilateral triangles
- ◇ Finding angle measures of an isosceles triangle given angles with variables
- ◇ Identifying and naming congruent parts of congruent triangles
- ◇ Identifying and naming congruent triangles
- ◇ Naming polygons
- ◇ Shared attributes among categories of quadrilaterals
- ◇ Identifying parallelograms, rectangles, and squares
- ◇ Properties of quadrilaterals
- ◇ Classifying parallelograms
- ◇ Area of a rectangle involving fractions
- ◇ Area of a rectangle involving mixed numbers and fractions
- ◇ Distinguishing between the area and perimeter of a rectangle
- ◇ Areas of rectangles with the same perimeter
- ◇ Word problem on optimizing an area or perimeter
- ◇ Word problem involving the area between two rectangles
- ◇ Solving a word problem involving area using a one-step linear inequality: Area and lengths
- ◇ Area of a parallelogram
- ◇ Area of a trapezoid
- ◇ Finding counterexamples to conjectures
- ◇ Introduction to a circle: Diameter, radius, and chord
- ◇ Finding the radius or the diameter of a circle given its circumference
- ◇ Circumference ratios
- ◇ Perimeter involving rectangles and circles
- ◇ Distinguishing between the area and circumference of a circle
- ◇ Area involving rectangles and circles
- ◇ Area between two concentric circles
- ◇ Word problem involving the area between two concentric circles
- ◇ Area involving inscribed figures
- ◇ Classifying solids
- ◇ Vertices, edges, and faces of a solid
- ◇ Counting the cubes in a solid made of cubes
- ◇ Word problem involving the rate of filling or emptying a rectangular prism
- ◇ Volume of a piecewise rectangular prism
- ◇ Word problem involving the volume of a piecewise rectangular prism
- ◇ Volume of a triangular prism
- ◇ Word problem involving the volume of a triangular prism
- ◇ Volume of a pyramid
- ◇ Volume of a cylinder
- ◇ Word problem involving the volume of a cylinder
- ◇ Word problem involving the rate of filling or emptying a cylinder
- ◇ Word problem on density involving the volume of a cylindrical solid
- ◇ Volume of a cone
- ◇ Word problem involving the volume of a cone
- ◇ Volume of a sphere
- ◇ Word problem involving the volume of a sphere
- ◇ Ratio of volumes
- ◇ Nets of solids

- ◇ Side views of a solid made of cubes
- ◇ Distinguishing between surface area and volume
- ◇ Surface area of a piecewise rectangular prism made of unit cubes
- ◇ Surface area of a triangular prism
- ◇ Surface area of a cylinder
- ◇ Word problem involving the surface area of a cylinder
- ◇ Surface area of a sphere
- ◇ Word problem involving the surface area of rectangular prisms and cylinders
- ◇ Word problem involving the surface area of rectangular prisms and pyramids
- ◇ Computing ratios of side lengths, surface areas, and volumes for similar solids
- ◇ Identifying transformations
- ◇ Translating a point and giving its coordinates: Two steps
- ◇ Translating a polygon
- ◇ Determining if figures are related by a translation
- ◇ Reflecting a point across an axis and giving its coordinates
- ◇ Reflecting a polygon across the x -axis or y -axis
- ◇ Reflecting a polygon over a vertical or horizontal line
- ◇ Determining if figures are related by a reflection
- ◇ Drawing lines of symmetry
- ◇ Rotating a point and giving its coordinates
- ◇ Rotating a figure about the origin
- ◇ Determining if figures are related by a rotation
- ◇ Determining if figures are congruent and related by a transformation
- ◇ Finding an angle of rotation
- ◇ Identifying rotational symmetry and angles of rotation
- ◇ Dilating a segment and giving the coordinates of its endpoints
- ◇ Dilating a figure
- ◇ Determining if figures are related by a dilation
- ◇ Special right triangles: Exact answers
- ◇ Sine, cosine, and tangent ratios: Numbers for side lengths
- ◇ Sine, cosine, and tangent ratios: Variables for side lengths
- ◇ Using the Pythagorean Theorem to find a trigonometric ratio
- ◇ Using a calculator to approximate sine, cosine, and tangent values
- ◇ Finding trigonometric ratios given a right triangle
- ◇ Understanding trigonometric ratios through similar right triangles
- ◇ Relationship between the sines and cosines of complementary angles
- ◇ Using a trigonometric ratio to find a side length in a right triangle
- ◇ Using trigonometry to find a length in a word problem with one right triangle
- ◇ Using a trigonometric ratio to find an angle measure in a right triangle
- ◇ Using trigonometry to find the area of a right triangle
- ◇ Using trigonometry to find angles of elevation or depression in a word problem
- ◇ Solving a right triangle
- ◇ Using trigonometry to find a length in a word problem with two right triangles
- ◇ Simplifying trigonometric expressions

***Other Topics Available** *By default, these topics are NOT included in the course, but can be added using the content editor in the Teacher Module.*