ALEKS®

High School Preparation for Algebra 1

This course covers the topics shown below.
Students navigate learning paths based on their level of readiness.
Institutional users may customize the scope and sequence to meet curricular needs.

Curriculum (166 topics + 379 additional topics)

- Whole Numbers (5 topics)
  - Division (1 topics)
    - Division involving zero
  - Ordering and Estimation (1 topics)
    - Rounding to hundreds or thousands
  - Exponents and Order of Operations (3 topics)
    - Introduction to exponents
    - Order of operations with whole numbers
    - Order of operations with whole numbers and exponents: Basic
- Fractions (8 topics)
  - Equivalent Fractions (2 topics)
    - Equivalent fractions
    - Simplifying a fraction
  - Multiplication and Division with Fractions (6 topics)
    - Product of a unit fraction and a whole number
    - Product of a fraction and a whole number: Problem type 1
    - Product of a fraction and a whole number: Problem type 2
    - Introduction to fraction multiplication
    - Fraction multiplication
    - Exponents and fractions
- Decimals and Percents (13 topics)
  - Place Value and Ordering (1 topics)
    - Rounding decimals
  - Addition and Subtraction with Decimals (3 topics)
    - Decimal subtraction: Basic
    - Word problem with addition or subtraction of 2 decimals
    - Word problem with subtraction of a whole number and a decimal: Regrouping with zeros
  - Multiplication and Division with Decimals (4 topics)
    - Multiplication of a decimal by a power of ten
    - Multiplying a decimal by a whole number
    - Word problem with multiple decimal operations: Problem type 1
    - Division of a decimal by a whole number
  - Ratios and Unit Rates (1 topics)
    - Solving a word problem on proportions using a unit rate
  - Percents, Decimals, and Fractions (1 topics)
    - Converting between percentages and decimals
  - Units of Measurement (3 topics)
    - U.S. Customary length conversion with whole number values
    - Time unit conversion with whole number values
    - Converting between metric and U.S. Customary unit systems
- Real Numbers (30 topics)
  - Plotting and Ordering (3 topics)
    - Plotting integers on a number line
    - Ordering integers
    - Absolute value of a number
  - Operations with Integers (12 topics)
    - Integer addition: Problem type 1

        - Integer addition: Problem type 2
        - Integer subtraction: Problem type 1
        - Integer subtraction: Problem type 2
        - Integer subtraction: Problem type 3
        - Addition and subtraction with 3 integers
        - Operations with absolute value: Problem type 1
        - Computing the distance between two integers on a number line
        - Integer multiplication and division
        - Multiplication of 3 or 4 integers
        - Exponents and integers: Problem type 1
        - Order of operations with integers

    - Operations with Signed Fractions and Decimals (3 topics)
        - Signed fraction addition or subtraction: Basic
        - Signed fraction multiplication: Basic
        - Signed decimal addition and subtraction

    - Evaluating Expressions (4 topics)
        - 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

    - Radicals (1 topics)
        - Square root of a perfect square

    - Properties of Operations (7 topics)
        - 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
        - Factoring a linear binomial
        - Using distribution and combining like terms to simplify: Univariate
- Linear Equations (39 topics)

    - One-Step Linear Equations (11 topics)
        - Identifying solutions to a one-step linear equation: Problem type 1
        - Identifying solutions to a one-step linear equation: Problem type 2
        - Additive property of equality with whole numbers
        - Additive property of equality with decimals
        - Additive property of equality with integers
        - Additive property of equality with signed fractions
        - Multiplicative property of equality with whole numbers
        - 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 (16 topics)
        - Identifying solutions to a linear equation in one variable: Two-step equations
        - Using two steps to solve an equation with whole numbers
        - Additive property of equality with a negative coefficient
        - 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
        - Solving a two-step equation with signed decimals
        - 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 equations with zero, one, or infinitely many solutions

    - Writing Expressions and Equations (6 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
        - Writing an equation to represent a proportional relationship
        - Translating a sentence into a multi-step equation

- Applications of Linear Equations (3 topics)
  - Writing and solving a one-step equation with decimals that models a real-world situation
  - Writing an equation of the form Ax + B = C to solve a word problem
  - Solving a decimal word problem using a linear equation of the form Ax + B = C
- Solving for a Variable and Dimensional Analysis (2 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
- Proportions (1 topics)
  - Solving a proportion of the form x/a=b/c: Basic

- Linear Inequalities (15 topics)
  - Writing and Graphing Inequalities (5 topics)
    - Translating a sentence by using an inequality symbol
    - Translating a sentence into a one-step inequality
    - Introduction to identifying solutions to an inequality
    - Writing an inequality for a real-world situation
    - Graphing a linear inequality on the number line
  - One-Step Linear Inequalities (4 topics)
    - Additive property of inequality with whole numbers
    - Additive property of inequality with integers
    - Multiplicative property of inequality with whole numbers
    - Multiplicative property of inequality with integers
  - Multi-Step Linear Inequalities (3 topics)
    - Solving a two-step linear inequality with whole numbers
    - Solving a two-step linear inequality: Problem type 1
    - Solving a two-step linear inequality: Problem type 2
  - Applications (3 topics)
    - Solving a word problem using a one-step linear inequality
    - Solving a word problem using a two-step linear inequality
    - Solving a decimal word problem using a two-step linear inequality

- Functions and Lines (30 topics)
  - Ordered Pairs (3 topics)
    - Reading a point in the coordinate plane
    - Plotting a point in the coordinate plane
    - Finding distances between points that share a common coordinate given the graph
  - Tables and Graphs of Lines (8 topics)
    - Function tables with two-step rules
    - Table for a linear equation
    - Writing a function rule given a table of ordered pairs: One-step rules
    - 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
    - Finding x- and y-intercepts given the graph of a line on a grid
  - Slope (3 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 a line
  - Equations of Lines (5 topics)
    - 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
    - Writing the equation of a line given the y-intercept and another point
  - Applications of Linear Equations with Two Variables (6 topics)
    - Finding outputs of a one-step function that models a real-world situation: Two variable equation
    - Writing and evaluating a function that models a real-world situation: Basic
    - 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 two points for a linear function
    - Interpreting the parameters of a linear function that models a real-world situation
  - Scatter Plots and Lines of Best Fit (2 topics)

        - Sketching the line of best fit
        - Scatter plots and correlation

    - Introduction to Functions (1 topics)
        - Identifying functions from relations

    - Arithmetic Sequences (1 topics)
        - Finding the next terms of an arithmetic sequence with whole numbers

    - Graphs of Functions (1 topics)
        - Finding where a function is increasing, decreasing, or constant given the graph
- Systems of Linear Equations and Inequalities (10 topics)

    - Graphing Systems of Equations (4 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
        - Graphically solving a system of linear equations

    - Substitution and Elimination Method (4 topics)
        - 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 (2 topics)
        - Solving a word problem involving a sum and another basic relationship using a system of linear equations
        - Solving a value mixture problem using a system of linear equations

- Exponents (10 topics)

    - Product, Power, and Quotient Rules (3 topics)
        - Introduction to the product rule of exponents
        - Product rule with positive exponents: Univariate
        - Introduction to the quotient rule of exponents

    - Negative Exponents (4 topics)
        - Evaluating an expression with a negative exponent: Whole number base
        - Evaluating an expression with a negative exponent: Positive fraction base
        - Evaluating an expression with a negative exponent: Negative integer base
        - Quotient rule with negative exponents: Problem type 1

    - Higher Roots and Nonlinear Equations (2 topics)
        - Solving an equation of the form $x^2 = a$ using the square root property
        - Cube root of an integer

    - Geometric Sequences (1 topics)
        - Finding the next terms of a geometric sequence with whole numbers

- Geometry (4 topics)

    - Perimeter and Area of Polygons (2 topics)
        - Writing algebraic expressions for the area of a figure
        - Finding side lengths of rectangles given one dimension and an area or a perimeter

    - Finding Angle Measures (1 topics)
        - Finding an angle measure of a triangle given two angles

    - Volume and Surface Area (1 topics)
        - Volume of a rectangular prism

- Data Analysis and Probability (2 topics)

    - Measures of Center and Spread (2 topics)
        - Range of a data set
        - Mean and median of a data set

- Other Topics Available(*) (379 additional topics)

    - Whole Numbers (57 topics)
        - One-digit addition with regrouping
        - Adding 2-digit numbers without regrouping
        - Adding a 2-digit number and a 1-digit number with regrouping

- Adding 2-digit numbers with regrouping a ten
- Adding multiples of 10 and 100
- Adding 2-digit numbers with regrouping a hundred
- Adding 3 or 4 numbers with two-digits with regrouping
- Adding 3-digit numbers with regrouping
- Adding 3 numbers with two, three, and four-digits
- Subtracting a 1-digit number from a 2-digit number
- Subtraction of 2-digit numbers without regrouping
- Subtracting multiples of 10 and 100
- Subtraction involving 3-digit numbers without regrouping
- Subtraction of 2-digit numbers with regrouping
- Subtraction with multiple regrouping steps involving 3-digit numbers
- Addition or subtraction with 10, 100, or 1000
- Subtraction with multiple regrouping steps involving 4-digit numbers
- Subtraction and regrouping with zeros
- Word problem with addition or subtraction of whole numbers
- Describing an increasing or decreasing pattern from a table of values
- Multiplying a 1-digit number by 6, 7, 8, or 9
- Rewriting a repeated addition as a multiplication sentence
- Using multiplication to find the number of squares in an array
- Multiplying a 1-digit number by 10, 100, or 1,000
- Multiplying 2-digit and 1-digit numbers without regrouping
- Understanding multiplication of a 1-digit number by a multiple of 10
- Multiplying a 1-digit number by a multiple of 100 or 1,000
- Multiplying 2-digit and 1-digit numbers with regrouping: Digits up to 9
- Multiplying multi-digit and 1-digit numbers with regrouping
- Introduction to multiplication of large numbers
- Multiplication of large numbers
- Multiplication with trailing zeros: Problem type 2
- Finding multiples of 2, 5, or 10
- Finding multiples of 3, 4, 6, 7, 8, or 9
- Completing division facts: Divisors 6-9
- Division of whole numbers given in fractional form
- Division without regrouping
- Division with regrouping: 1-digit divisor, 2-digit dividend
- Whole number division: 2-digit by 2-digit, no remainder
- Solving a word problem with multiplication or division: Up to 2-digit numbers
- 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
- Division with trailing zeros: Problem type 1
- Division with regrouping: 1-digit divisor, 3-digit or 4-digit dividend
- Division with trailing zeros: Problem type 2
- Whole number division: 3-digit by 2-digit, no remainder
- Whole number place value: Problem type 1
- Introduction to inequalities
- Ordering large numbers
- Estimating a product
- Writing expressions using exponents
- Power of 10: Positive exponent
- Introduction to parentheses
- Introduction to order of operations
- Even and odd numbers
- Factors
- Greatest common factor of 2 numbers

- Fractions (18 topics)
  - Understanding non-unit fractions
  - Expressing whole numbers as fractions
  - Introduction to finding equivalent fractions: Multiplying
  - Introduction to finding equivalent fractions: Dividing
  - Introduction to simplifying a fraction
  - Comparing fractions with the same denominator
  - Addition or subtraction of fractions with the same denominator
  - Addition or subtraction of fractions with the same denominator and simplification
  - Introduction to addition or subtraction of fractions with different denominators
  - Addition or subtraction of fractions with different denominators
  - Word problem involving addition or subtraction of fractions with different denominators
  - Writing an improper fraction as a mixed number
  - Writing a mixed number as an improper fraction
  - Multiplication of 3 fractions
  - Word problem involving fractions and multiplication
  - The reciprocal of a number
  - Division involving a whole number and a fraction
  - Fraction division

- Decimals and Percents (49 topics)
  - Writing a decimal and a fraction for a shaded region
  - Reading decimal position on a number line: Tenths
  - Reading decimal position on a number line: Hundredths
  - Introduction to ordering decimals
  - Ordering decimals
  - Converting a decimal to a proper fraction without simplifying: Basic
  - Converting a decimal to a proper fraction in simplest form: Basic
  - Addition of aligned decimals
  - Decimal addition with 2 numbers
  - Decimal addition with 3 numbers
  - Subtraction of aligned decimals
  - Decimal subtraction: Advanced
  - Decimal addition and subtraction with 3 or more numbers
  - Word problem with addition of 3 or 4 decimals and whole numbers
  - Multiplying a decimal less than 1 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 0.1
  - Word problem with multiplication of a decimal and a whole number
  - Division of a decimal by a power of ten
  - Whole number division with decimal answers
  - Word problem with division of a decimal and a whole number
  - 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
  - Using tables to compare ratios
  - Finding missing values in a table expressing a constant rate
  - Finding a unit price
  - Computing unit prices to find the better buy
  - Word problem on unit rates associated with ratios of whole numbers: Decimal answers
  - Converting a fraction with a denominator of 100 to a percentage
  - Finding the percentage of a grid that is shaded
  - Representing benchmark percentages on a grid
  - Introduction to converting a percentage to a decimal
  - Introduction to converting a decimal to a percentage
  - Converting a fraction to a percentage: Denominator of 4, 5, or 10
  - Converting a fraction to a percentage in a real-world situation
  - Finding a percentage of a whole number without a calculator: Basic
  - 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
  - Writing a ratio as a percentage without a calculator
  - U.S. Customary length conversions involving rounding decimals
  - U.S. Customary volume conversion with whole number values
  - U.S. Customary weight conversions with whole number values
  - Metric distance conversion with whole number values

- Real Numbers (24 topics)
  - Plotting opposite integers on a number line
  - Writing a signed number for a real-world situation
  - Signed fraction subtraction involving double negation
  - Signed fraction division
  - Signed decimal multiplication
  - Evaluating an algebraic expression: Whole number addition or subtraction
  - Evaluating an algebraic expression: Whole number multiplication or division
  - Evaluating a quadratic expression: Integers
  - Converting between temperatures in Fahrenheit and Celsius
  - Evaluating a linear expression: Signed decimal multiplication with addition or subtraction
  - Using a calculator to approximate a square root
  - Square root of a rational perfect square
  - Square roots of perfect squares with signs
  - Approximating the location of irrational numbers on a number line
  - Ordering real numbers
  - Identifying rational decimal numbers
  - Identifying numbers as rational or irrational
  - Introduction to properties of addition
  - Combining like terms: Decimal coefficients
  - Introduction to properties of multiplication
  - Identifying parts in an algebraic expression
  - Identifying equivalent algebraic expressions

- Identifying properties used to simplify an algebraic expression
- Combining like terms in a quadratic expression

- Linear Equations (28 topics)
  - Writing an equation and solving a multiplicative comparison word problem
  - Multiplicative property of equality with whole numbers: Fractional answers
  - Introduction to solving an absolute value equation
  - Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
  - Solving a two-step equation with signed fractions
  - Choosing stories that can be represented by given one-step equations
  - Comparing arithmetic and algebraic solutions to a word problem
  - Choosing stories that can be represented by given two-step equations
  - Solving a word problem with two unknowns using a linear equation
  - Writing an equation to represent a real-world problem: Variable on both sides
  - Writing and solving a real-world problem given an equation with the variable on both sides
  - Solving a one-step word problem using the formula d = rt
  - Solving for a variable in terms of other variables using addition or subtraction: Advanced
  - Solving for a variable in terms of other variables using addition or subtraction with division
  - 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
  - U.S. Customary length conversions involving dimensional analysis
  - Word problem involving U.S. Customary length conversions using dimensional analysis
  - Solving a proportion of the form x/a = b/c
  - Solving a proportion of the form (x+a)/b = c/d
  - Writing a proportion to solve a problem involving rates
  - Writing and solving a proportion to convert between metric and U.S. Customary units
  - Word problem on proportions: Problem type 1
  - Writing a proportion to solve a multi-step problem involving percentages
  - Finding the sale price given the original price and percent discount
  - Finding the sale price without a calculator given the original price and percent discount
  - Finding simple interest without a calculator
  - Finding the interest and future value of a simple interest loan or investment

- Linear Inequalities (11 topics)
  - 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
  - Identifying solutions to a one-step linear inequality
  - 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 a fractional coefficient
  - Solving a linear inequality with multiple occurrences of the variable: Problem type 1
  - Solving a linear inequality with multiple occurrences of the variable: Problem type 2
  - Writing, solving, and graphing the solution to a one-step inequality that models a real-world situation
  - Translating a sentence into a multi-step inequality

- Functions and Lines (70 topics)
  - Reading a point in quadrant 1
  - Plotting a point in quadrant 1
  - Identifying solutions to a linear equation in two variables
  - Finding a solution to a linear equation in two variables
  - Graphing a line in quadrant 1
  - Graphing a vertical or horizontal line
  - Finding x- and y-intercepts of a line given the equation: Basic
  - Graphing a line given its x- and y-intercepts
  - Graphing a line by first finding its x- and y-intercepts
  - Identifying parallel and perpendicular lines
  - Interpreting a line graph
  - Making a table and plotting points given a unit rate
  - Identifying proportional relationships in equations
  - Writing an equation and describing a proportional relationship given a graph or table
  - Classifying slopes given graphs of lines
  - Finding the slopes of horizontal and vertical lines
  - Graphing a line given its slope and y-intercept
  - Graphing a line through a given point with a given slope
  - Writing a direct variation equation
  - Word problem on direct variation
  - Interpreting direct variation from a graph
  - Identifying linear equations: Basic
  - 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 and y-intercept given a table for a linear function
  - Finding the slope, y-intercept, and equation for a linear function given a table of values

- Finding the slope and a point on a line given its equation in point-slope form
- Writing the equation of a line in point-slope form given the slope and a point
- Writing the equation of a line through two given points
- Writing the equations of vertical and horizontal lines through a given point
- Writing the equation and finding the slope of a line parallel or perpendicular to a vertical or horizontal line
- Comparing linear functions to the parent function y = x
- 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
- Writing equations of lines parallel and perpendicular to a given line through a point
- Finding outputs of a two-step function with decimals that models a real-world situation: Two variable equation
- Writing and evaluating a function that models a real-world situation: Advanced
- 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 linear equation that models a real-world situation given a graph or a table of values
- Finding the initial amount and rate of change given a table for a linear function
- Comparing properties of linear functions given in different forms
- Application problem with a linear function: Finding a coordinate given two points
- Identifying independent and dependent quantities from tables and graphs
- Constructing a scatter plot
- Predictions from the line of best fit
- Approximating the equation of a line of best fit and making predictions
- Using technology to fit a linear regression model to data and to make a prediction
- Classifying linear and nonlinear relationships from scatter plots
- Linear relationship and the correlation coefficient
- Identifying outliers and clustering in scatter plots
- Vertical line test
- Domain and range from ordered pairs
- Table for a linear function
- Finding outputs of a one-step function 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
- Domain and range of a linear function that models a real-world situation
- 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 domain and range from a linear graph in context
- Interpreting the domain and range of a linear function in context
- Choosing a graph to fit a narrative: Basic
- Choosing a graph to fit a narrative: Advanced
- Drawing a graph to fit a narrative
- Determining if a function is linear given its graph

- Systems of Linear Equations and Inequalities (7 topics)
  - Graphing a system of linear equations and estimating a solution
  - Solving systems of linear equations with 0, 1, or infinitely many solutions
  - Interpreting the graphs of two functions
  - 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
  - Graphing a linear inequality in the plane: Vertical or horizontal line
  - Graphing a linear inequality in the plane: Slope-intercept form

- Exponents (27 topics)
  - Introduction to the product rule with positive exponents: Whole number base
  - Product rule with positive exponents: Multivariate
  - Introduction to the power of a power rule with positive exponents: Whole number base
  - Introduction to the power of a power rule of exponents
  - Introduction to the power of a product rule of exponents
  - Power rules with positive exponents: Multivariate products
  - Power rules with positive exponents: Multivariate quotients
  - 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
  - Factoring out a monomial from a polynomial: Univariate
  - Evaluating expressions with exponents of zero
  - Rewriting an algebraic expression without a negative exponent
  - Introduction to the product rule with negative exponents
  - Power of a power rule with negative exponents
  - Introduction to scientific notation with positive exponents
  - Scientific notation with a positive exponent
  - Introduction to scientific notation with negative exponents

- Scientific notation with a negative exponent
- Finding the scale factor between numbers given in scientific notation in a real-world situation
- 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
- Arithmetic and geometric sequences: Identifying and writing an explicit rule

- Geometry (32 topics)
  - Finding the perimeter of a polygon
  - Perimeter of a square or a rectangle
  - Area of a square or a rectangle
  - Finding the missing side length of a rectilinear figure
  - Finding the area of a rectilinear figure made from 2 rectangles
  - Finding the area of a rectilinear figure made from 2 or 3 rectangles
  - Area between two rectangles
  - Solving a two-step word problem involving the area of a rectangle
  - Finding the dimensions of a rectangle given its perimeter and a relationship between sides
  - Finding the perimeter or area of a rectangle in the coordinate plane
  - Area of a triangle
  - Introduction to the Pythagorean Theorem
  - Pythagorean Theorem
  - Word problem involving the Pythagorean Theorem
  - Measuring an angle with the protractor
  - Introduction to angle addition
  - Finding an angle measure in a figure with a right or straight angle
  - Solving an equation involving complementary or supplementary angles
  - Writing and solving an equation involving complementary or supplementary angles
  - Writing an equation to find angle measures of a triangle given angles with variables
  - Circumference of a circle
  - Area of a circle
  - Circumference and area of a circle
  - Area involving rectangles and circles
  - Area involving inscribed figures
  - Word problem involving the volume of a rectangular prism
  - Volume of a triangular prism
  - Volume of a cylinder
  - Word problem involving the volume of a cylinder
  - Volume of a pyramid
  - Surface area of a cube or a rectangular prism
  - Surface area of a triangular prism

- Data Analysis and Probability (56 topics)
  - Identifying statistical questions
  - Choosing an appropriate method for gathering data: Problem type 1
  - Choosing an appropriate method for gathering data: Problem type 2
  - Introduction to expectation
  - Constructing a frequency distribution for grouped data
  - Constructing a two-way frequency table: Basic
  - Constructing a two-way frequency table: Advanced
  - Computing a percentage from a table of values
  - Making an inference using a two-way frequency table
  - Calculating relative frequencies in a contingency table
  - Representing data on a dot plot
  - Representing data with fractional values on a dot plot
  - Representing data on a bar graph
  - Interpreting data in a bar graph with up to six categories
  - Constructing a frequency distribution and a histogram
  - Interpreting a histogram
  - Interpreting a stem-and-leaf plot
  - Interpreting a circle graph or pie chart
  - Finding a percentage of a total amount in a circle graph
  - Angle measure in a circle graph
  - Constructing a percent bar graph
  - Mode of a data set
  - Finding the mode and range from a dot plot (line plot)
  - How changing a value affects the range and IQR
  - Mean of a data set
  - Finding the mean of a symmetric distribution
  - How changing a value affects the mean and median
  - Choosing the best measure to describe data
  - Identifying peaks, symmetry, gaps, and clusters in a dot plot (line plot)
  - Identifying the center, spread, and shape of a data set
  - Computing mean absolute deviation from a list of numerical values

- Assessing the degree of overlap of two distributions
- Comparing measures of center and variation
- Finding sample size and comparing samples for estimating the mean
- Five-number summary and interquartile range
- Interpreting a box-and-whisker plot: Problem type 1
- Interpreting a box-and-whisker plot: Problem type 2
- Constructing a box-and-whisker plot
- Using box-and-whisker plots to compare data sets
- Interpreting a tree diagram
- Introduction to the counting principle
- Determining a sample space and outcomes for an event: Experiment involving a single selection
- 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
- Experimental and theoretical probability
- Determining a sample space and outcomes for an event: Experiment involving multiple selections
- Outcomes and event probability
- Probabilities involving two rolls of a die
- Probability of independent events
- Probability of dependent events
- Identifying outcomes in a random number table used to simulate a simple event
- Using a random number table 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 random samples from a population with known characteristics

*__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.