

## Focus on High School Foundations I

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 (257 topics + 278 additional topics)

- Whole Numbers (65 topics)
  - Addition (10 topics)
    - One-digit addition with regrouping
    - Addition of 3 or 4 one-digit numbers
    - 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
  - Subtraction (12 topics)
    - 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
    - Addition or subtraction with 10 or 100
    - 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
  - Multiplication (14 topics)
    - 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
    - Multiplication by 10, 100, and 1000
    - Multiplying 2-digit and 1-digit numbers without regrouping
    - Understanding multiplication of a 1-digit number by a multiple of 10
    - Multiplication with trailing zeros: Problem type 1
    - Multiplying 2-digit and 1-digit numbers with regrouping: Problem type 2
    - 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
  - Division (15 topics)
    - Completing division facts: Divisors 6-9
    - Division of whole numbers given in fractional form
    - Division involving zero
    - Division without regrouping
    - Division with regrouping: 1-digit divisor, 2-digit dividend
    - Quotient with remainder: 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
    - Division with no remainder and a two-digit divisor: Problem type 2
  - Ordering and Estimation (5 topics)
    - Whole number place value: Problem type 1

- Introduction to inequalities
  - Ordering large numbers
  - Rounding to tens or hundreds
  - Rounding to hundreds or thousands
- Exponents and Order of Operations (6 topics)
  - 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
- Factors and Multiples (3 topics)
  - Even and odd numbers
  - Factors
  - Greatest common factor of 2 numbers
- Fractions (23 topics)
  - Equivalent Fractions (7 topics)
    - Understanding non-unit fractions
    - Conversions involving division in fractional form and whole numbers
    - Introduction to finding equivalent fractions: Multiplying
    - Introduction to finding equivalent fractions: Dividing
    - Equivalent fractions
    - Introduction to simplifying a fraction
    - Simplifying a fraction
  - Addition and Subtraction with Fractions (5 topics)
    - Addition or subtraction of fractions with the same denominator
    - Addition or subtraction of fractions with the same denominator and simplification
    - Writing unit fractions with a common denominator to add or subtract
    - Writing fractions with a common denominator to add or subtract
    - Addition or subtraction of fractions with different denominators
  - Addition and Subtraction with Mixed Numbers (2 topics)
    - Writing an improper fraction as a mixed number
    - Writing a mixed number as an improper fraction
  - Multiplication and Division with Fractions (9 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
    - The reciprocal of a number
    - Division involving a whole number and a unit fraction
    - Division involving a whole number and a fraction
    - Fraction division
- Decimals (25 topics)
  - Place Value and Ordering (3 topics)
    - Decimal place value: Tenths and hundredths
    - Introduction to ordering decimals
    - Rounding decimals
  - Addition and Subtraction (9 topics)
    - Addition of decimals: Vertically aligned
    - Decimal addition with 2 numbers
    - Decimal addition with 3 numbers
    - Subtraction of aligned decimals
    - Decimal subtraction: Basic
    - Decimal subtraction: Advanced
    - Word problem with addition or subtraction of 2 decimals
    - Word problem with addition of 3 or 4 decimals and whole numbers
    - Word problem with subtraction of a whole number and a decimal: Regrouping with zeros
  - Multiplication (6 topics)
    - Multiplication of a decimal by a power of ten
    - 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
    - Word problem with multiplication of a decimal and a whole number

- Word problem with multiple decimal operations: Problem type 1
- Division (3 topics)
  - Division of a decimal by a power of ten
  - Whole number division with decimal answers
  - Division of a decimal by a whole number
- Converting Fractions to Decimals (4 topics)
  - 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
  - Using a calculator to convert a fraction to a rounded decimal
- Ratios, Percents, and Measurement (15 topics)
  - Ratios and Unit Rates (4 topics)
    - Writing ratios for real-world situations
    - Simplifying a ratio of whole numbers: Problem type 1
    - Solving a word problem on proportions using a unit rate
    - Finding missing values in a table expressing a constant rate
  - Understanding Percents (2 topics)
    - Converting a fraction with a denominator of 100 to a percentage
    - Converting a percentage to a fraction with a denominator of 100
  - Percents, Decimals, and Fractions (6 topics)
    - 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
    - Converting a fraction to a percentage in a real-world situation
  - Introduction to Percent Applications (3 topics)
    - Finding a percentage of a whole number
    - Finding a percentage of a whole number without a calculator: Basic
    - Writing a ratio as a percentage
- Real Numbers (39 topics)
  - Plotting and Ordering (5 topics)
    - Plotting integers on a number line
    - Plotting opposite integers on a number line
    - Ordering integers
    - Writing a signed number for a real-world situation
    - Absolute value of a number
  - Operations with Integers (10 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
  - Operations with Signed Fractions and Decimals (2 topics)
    - Signed fraction addition or subtraction: Basic
    - Signed fraction multiplication: Basic
  - Exponents and Order of Operations (4 topics)
    - Exponents and integers: Problem type 1
    - Exponents and fractions
    - Exponents and signed fractions
    - Order of operations with integers
  - Evaluating Expressions (7 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
- Evaluating a quadratic expression: Integers
- Square Roots (2 topics)
  - Square root of a perfect square
  - Using a calculator to approximate a square root
- Venn Diagrams and Sets of Real Numbers (1 topics)
  - Interpreting a Venn diagram of 2 sets
- Properties of Operations (8 topics)
  - Combining like terms: Whole number coefficients
  - Combining like terms: Integer coefficients
  - Introduction to the distributive property
  - Multiplying a constant and a linear monomial
  - Distributive property: Whole number coefficients
  - Distributive property: Integer coefficients
  - Using distribution and combining like terms to simplify: Univariate
  - Combining like terms in a quadratic expression
- Equations and Inequalities (46 topics)
  - One-Step Equations (14 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
    - Introduction to solving an equation with multiplication or division
    - Writing an equation and solving a multiplicative comparison word problem
    - Multiplicative property of equality with whole numbers
    - Multiplicative property of equality with whole numbers: Fractional answers
    - Multiplicative property of equality with fractions
    - Multiplicative property of equality with integers
    - Multiplicative property of equality with signed fractions
    - 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
  - Multi-Step Equations (11 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 solving an equation with parentheses
    - 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
  - 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 sentence into a one-step equation
    - Writing an equation to represent a proportional relationship
  - 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
  - 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 Inequalities (6 topics)
    - Identifying solutions to a one-step linear inequality
    - 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

- Solving a word problem using a one-step linear inequality
- Multi-Step 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
- Graphing (21 topics)
  - Ordered Pairs (5 topics)
    - Reading a point in quadrant 1
    - Plotting a point in quadrant 1
    - 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 Equations of Lines (4 topics)
    - Function tables with two-step rules
    - Table for a linear equation
    - Finding outputs of a one-step function that models a real-world situation: Two variable equation
    - Table for a linear function
  - Graphs of Lines (7 topics)
    - Graphing a line in quadrant 1
    - 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 vertical or horizontal line
    - Finding x- and y-intercepts given the graph of a line on a grid
    - Identifying parallel and perpendicular lines
  - Slope (3 topics)
    - Classifying slopes given graphs of lines
    - Finding slope given the graph of a line on a grid
    - Finding slope given two points on a line
  - Sequences (2 topics)
    - Finding the next terms of an arithmetic sequence with whole numbers
    - Finding the next terms of a geometric sequence with whole numbers
- Exponents and Polynomials (5 topics)
  - Product, Power, and Quotient Rules (5 topics)
    - Introduction to the product rule of exponents
    - Introduction to the power of a power rule of exponents
    - Introduction to the power of a product rule of exponents
    - Simplifying a ratio of multivariate monomials: Basic
    - Introduction to the quotient rule of exponents
- Geometry and Data Analysis (18 topics)
  - Perimeter and Area of Polygons (14 topics)
    - Perimeter of a polygon
    - Perimeter of a square or a rectangle
    - Finding the missing length in a figure
    - Finding an unknown side length of a polygon given the perimeter
    - Finding the area of a rectangle on a grid
    - Area of a square or a rectangle
    - Finding the area of a rectilinear figure on a grid
    - Introduction to area of a piecewise rectangular shape
    - Distinguishing between the area and perimeter of a rectangle
    - Areas of rectangles with the same perimeter
    - Solving a two-step word problem involving the area of a rectangle
    - Finding side lengths of rectangles given one dimension and an area or a perimeter
    - Area of a triangle
    - Finding an angle measure of a triangle given two angles
  - Volume and Surface Area (1 topics)
    - Volume of a rectangular prism
  - Frequency Tables and Graphs of Data (1 topics)
    - Constructing a two-way frequency table: Basic
  - Probability (2 topics)
    - Classifying likelihood



- Introduction to the probability of an event
- Other Topics Available(\*) (278 additional topics)
  - Whole Numbers (24 topics)
    - Understanding multiplication of a one-digit number with a larger number
    - Quotient with remainder: 1-digit divisor, 3-digit or 4-digit dividend
    - Division involving quotients with intermediate zeros: Problem type 1
    - Division involving quotients with intermediate zeros: Problem type 2
    - Division with remainder involving quotients with intermediate zeros: Problem type 1
    - Division with remainder involving quotients with intermediate zeros: Problem type 2
    - Word problem on quotient and remainder
    - Word problem with division of whole numbers and rounding: Problem type 1
    - Whole number place value: Problem type 2
    - Estimating a sum of whole numbers: Problem type 1
    - Estimating a sum of whole numbers: Problem type 2
    - Estimating a difference of whole numbers: Problem type 1
    - Estimating a difference of whole numbers: Problem type 2
    - Estimating a product
    - Estimating a quotient
    - Power of 10: Positive exponent
    - Order of operations with whole numbers and grouping symbols
    - Divisibility rules for 2, 5, and 10
    - Divisibility rules for 3 and 9
    - Prime numbers
    - Prime factorization
    - Greatest common factor of 3 numbers
    - Least common multiple of 2 numbers
    - Least common multiple of 3 numbers
  - Fractions (37 topics)
    - Understanding equivalent fractions with shapes containing up to 8 equal parts
    - Understanding equivalent fractions: Problem type 2
    - Identifying a fraction on a number line
    - Plotting fractions on a number line
    - Position of mixed numbers on a number line
    - Plotting mixed numbers on a number line
    - Comparing fractions with the same denominator
    - Comparing fractions with the same numerator
    - Comparing fractions by finding a common denominator
    - Finding the LCD of two fractions
    - Word problem involving addition or subtraction of fractions with the same denominator
    - 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
    - Writing a mixed number and an improper fraction for a shaded region
    - Addition or subtraction of mixed numbers with the same denominator
    - Addition of mixed numbers with the same denominator and renaming: Problem type 1
    - Addition of mixed numbers with the same denominator and renaming: Problem type 2
    - Subtraction of mixed numbers with the same denominator and renaming: Problem type 1
    - Subtraction of mixed numbers with the same denominator and renaming: Problem type 2
    - 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
    - Word problem involving addition or subtraction of mixed numbers with different denominators
    - Word problem involving multiplying a fraction and a whole number
    - Multiplication of 3 fractions
    - Word problem involving fractions and multiplication
    - Multi-step word problem involving fractions and multiplication
    - Determining if a quantity is increased or decreased when multiplied by a fraction
    - Word problem involving fractions and division
    - Multiplying mixed numbers: Problem type 1
    - Multiplying mixed numbers: Problem type 2
    - Multiplying a mixed number and a whole number: Problem type 1
    - Multiplying a mixed number and a whole number: Problem type 2
    - Division with a mixed number and a whole number
    - Mixed number division
    - Word problem involving multiplication or division with mixed numbers
  - Decimals (29 topics)
    - Writing a decimal and a fraction for a shaded region
    - Decimal place value: Hundreds to ten thousandths
    - Reading decimal position on a number line: Tenths
    - Reading decimal position on a number line: Hundredths

- Ordering decimals
- Converting a decimal to a proper fraction without simplifying: Basic
- Converting a decimal to a proper fraction without simplifying: Advanced
- Converting a decimal to a proper fraction in simplest form: Basic
- 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
- Decimal addition and subtraction with 3 or more numbers
- Estimating a decimal sum or difference
- Decimal multiplication: Problem type 1
- Multiplication of a decimal by a power of 0.1
- Multiplying decimals less than 1: Problem type 2
- Estimating a product of decimals
- Word problem with multiplication of two decimals
- Division of a decimal by a 1-digit decimal: Problem type 1
- Division of a decimal by a 2-digit decimal
- Word problem with division of a decimal and a whole number
- Word problem with multiple decimal operations: Problem type 2
- Word problem with division of two decimals
- Converting a fraction with a denominator of 100 or 1000 to a decimal
- Converting a fraction to a terminating decimal: Advanced
- Converting a fraction to a repeating decimal: Basic
- Converting a fraction to a repeating decimal: Advanced
- Ordering fractions and decimals
- Ratios, Percents, and Measurement (31 topics)
  - Writing ratios using different notations
  - Identifying statements that describe a ratio
  - Simplifying a ratio of decimals
  - Finding a unit price
  - Using tables to compare ratios
  - Computing unit prices to find the better buy
  - Word problem on unit rates associated with ratios of whole numbers: Decimal answers
  - Finding a rate given a pictorial representation of a real-world situation
  - Using a table of equivalent ratios to find a missing quantity in a ratio
  - Finding the percentage of a grid that is shaded
  - Representing benchmark percentages on a grid
  - Converting between percentages and decimals in a real-world situation
  - Converting a percentage to a fraction in simplest form
  - Finding benchmark fractions and percentages for a figure
  - Using a calculator to convert a fraction to a rounded percentage
  - Finding a percentage of a total amount: Real-world situations
  - Finding a percentage of a total amount without a calculator: Sales tax, commission, discount
  - Writing a ratio as a percentage without a calculator
  - Finding the rate of a tax or commission
  - Choosing U.S. Customary measurement units
  - U.S. Customary length conversion with whole number values
  - 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
  - U.S. Customary length conversions involving dimensional analysis
  - Time unit conversion with whole number values
  - Simplifying a ratio of whole numbers: Problem type 2
  - Choosing metric measurement units
  - Metric distance conversion with whole number values
  - Metric distance conversion with decimal values
  - Converting between metric and U.S. Customary unit systems
- Real Numbers (50 topics)
  - Plotting rational numbers on a number line
  - Reading the temperature from a thermometer
  - Comparing integers using a number line
  - 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
  - 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
  - Identifying relative change when combining two quantities
  - Word problem with addition or subtraction of integers
  - Word problem with multiplication or division of integers
  - Identifying equivalent signed fractions
  - Signed fraction subtraction involving double negation

- Signed fraction addition or subtraction: Advanced
- Signed fraction multiplication: Advanced
- Signed decimal addition and subtraction
- Signed decimal addition and subtraction with 3 numbers
- Signed decimal multiplication
- Exponents and integers: Problem type 2
- 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
- Evaluating an algebraic expression: Whole number operations and exponents
- Converting between temperatures in Fahrenheit and Celsius
- Finding all square roots of a number
- Ordering real numbers
- Identifying numbers as integers or non-integers
- Identifying rational decimal numbers
- Identifying true statements about rational and irrational numbers
- Identifying numbers as rational or irrational
- Interpreting a Venn diagram of 3 sets
- 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 classify real numbers
- Constructing a Venn diagram to describe relationships between sets of real numbers
- Identifying like terms
- Introduction to properties of addition
- Understanding the distributive property
- Introduction to factoring with numbers
- Factoring a sum or difference of whole numbers
- Introduction to properties of multiplication
- Using algebra tiles to determine if two expressions are equivalent
- Identifying equivalent algebraic expressions
- Equations and Inequalities (30 topics)
  - Multiplicative property of equality with decimals
  - Solving a two-step equation with signed decimals
  - Translating a phrase into a two-step expression
  - Translating a sentence into a multi-step equation
  - Distinguishing between expressions and equations
  - Solving a fraction word problem using a linear equation of the form  $Ax = B$
  - 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 a word problem with two unknowns using a linear equation
  - Solving a word problem involving rates and time conversion
  - Solving a one-step word problem using the formula  $d = rt$
  - Word problem on proportions: Problem type 2
  - Applying the percent equation: Problem type 1
  - Applying the percent equation: Problem type 2
  - Finding the total amount given the percentage of a partial amount
  - 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 sale price without a calculator 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 original amount given the result of a percentage increase or decrease
  - Finding the original price given the sale price and percent discount
  - Finding the percentage increase or decrease: Basic
  - Finding the percentage increase or decrease: Advanced
  - Finding simple interest without a calculator
  - Finding the interest and future value of a simple interest loan or investment
  - Writing an inequality given a graph on the number line
  - Identifying solutions to a two-step linear inequality in one variable
  - Solving a word problem using a two-step linear inequality
- Graphing (11 topics)
  - Writing a function rule given a table of ordered pairs: One-step rules
  - Identifying solutions to a linear equation in two variables
  - Finding a solution to a linear equation in two variables
  - Finding outputs of a two-step function with decimals that models a real-world situation: Two variable equation



- Interpreting a line graph
- Interpreting the graphs of two functions
- Finding slope given the graph of a line in quadrant 1 that models a real-world situation
- Finding the slopes of horizontal and vertical lines
- Interpreting direct variation from a graph
- Finding the next terms of an arithmetic sequence with integers
- Finding the next terms of a geometric sequence with signed numbers
- Exponents and Polynomials (28 topics)
  - Introduction to the product rule with positive exponents: Whole number base
  - Understanding the product rule of exponents
  - Product rule with positive exponents: Univariate
  - Product rule with positive exponents: Multivariate
  - 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
  - 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 of 10: Negative exponent
  - Evaluating an expression with a negative exponent: Whole number base
  - Introduction to the product rule with negative exponents: Whole number base
  - Introduction to the quotient rule with negative exponents: Whole number base
  - Introduction to the power of a power rule with negative exponents: Whole number base
  - 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
  - Converting between scientific notation and standard form in a real-world situation
  - 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
  - Multiplying conjugate binomials: Univariate
  - Squaring a binomial: Univariate
- Geometry and Data Analysis (38 topics)
  - Perimeter of a rectangle on a grid
  - Perimeter of a piecewise rectangular figure
  - Area of a piecewise rectangular figure
  - Introduction to the Pythagorean Theorem
  - Pythagorean Theorem
  - Word problem involving the Pythagorean Theorem
  - Circumference of a circle
  - Area of a circle
  - Circumference and area of a circle
  - Circumference and area of a circle: Exact answers in terms of pi
  - Distinguishing between the area and circumference of a circle
  - Area involving rectangles and circles
  - Volume of a rectangular prism made of unit cubes
  - Volume of a cylinder
  - Nets of solids
  - Surface area of a rectangular prism made of unit cubes
  - Surface area of a cube or a rectangular prism
  - Distinguishing between surface area and volume
  - Constructing a frequency distribution for grouped data
  - Constructing a frequency distribution for non-grouped data
  - Computing a percentage from a table of values
  - Representing data on a dot plot
  - Representing data on a bar graph
  - Interpreting data in a bar graph with up to six categories
  - Interpreting a double bar graph
  - Constructing a frequency distribution and a histogram
  - Interpreting a histogram
  - Interpreting a circle graph or pie chart
  - Average of two numbers
  - 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
  - Mean and median of a data set
  - Mode of a data set
  - Range of a data set

- Determining a sample space and outcomes for an event: Experiment involving a single selection
- Probability involving one die or choosing from  $n$  distinct objects
- Probability involving choosing from objects that are not distinct

**\*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.