



Prep for Beginning Algebra

This course covers the topics outlined below. You can customize the scope and sequence of this course to meet your curricular needs.

Curriculum (135 topics + 42 additional topics)

- Arithmetic and Geometry (53 topics)
 - ◆ Whole Numbers (10 topics)
 - ◇ Introduction to exponents
 - ◇ Writing expressions using exponents
 - ◇ Introduction to order of operations
 - ◇ Order of operations with whole numbers
 - ◇ Order of operations with whole numbers and grouping symbols
 - ◇ Order of operations with whole numbers and exponents: Basic
 - ◇ Factors
 - ◇ Greatest common factor of 2 numbers
 - ◇ Least common multiple of 2 numbers
 - ◇ Square root of a perfect square
 - ◆ Fractions (19 topics)
 - ◇ Fractional position on a number line
 - ◇ Plotting fractions on a number line
 - ◇ Equivalent fractions
 - ◇ Simplifying a fraction
 - ◇ Ordering fractions with the same denominator
 - ◇ Using a common denominator to order fractions
 - ◇ Addition or subtraction of fractions with the same denominator
 - ◇ Introduction to addition or subtraction of fractions with different denominators
 - ◇ Addition or subtraction of fractions with different denominators
 - ◇ 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
 - ◇ The reciprocal of a number
 - ◇ Division involving a whole number and a fraction
 - ◇ Fraction division
 - ◇ Mixed arithmetic operations with fractions
 - ◇ Writing an improper fraction as a mixed number
 - ◇ Writing a mixed number as an improper fraction
 - ◆ Decimals (17 topics)
 - ◇ Decimal place value: Tenths and hundredths
 - ◇ Rounding decimals
 - ◇ Ordering decimals
 - ◇ Addition of aligned decimals
 - ◇ Decimal addition with 3 numbers
 - ◇ Subtraction of aligned decimals
 - ◇ Multiplication of a decimal by a power of ten

- ◇ Multiplying a decimal by a whole number
- ◇ Decimal multiplication: Problem type 1
- ◇ Division of a decimal by a power of ten
- ◇ Division of a decimal by a whole number
- ◇ Division of a decimal by a 2–digit decimal
- ◇ Converting a fraction to a terminating decimal
- ◇ Converting a fraction to a repeating decimal
- ◇ Word problem with one decimal operation: Problem type 1
- ◇ Word problem with one decimal operation: Problem type 2
- ◇ Word problem with decimal addition and multiplication
- ◆ Geometry (7 topics)
 - ◇ Perimeter of a polygon
 - ◇ Perimeter of a square or a rectangle
 - ◇ Finding the missing length in a figure
 - ◇ Area of a square or a rectangle
 - ◇ Area of a piecewise rectangular figure
 - ◇ Circumference and area of a circle
 - ◇ Volume of a rectangular prism
- Real Numbers and Algebraic Expressions (31 topics)
 - ◆ Signed Numbers (25 topics)
 - ◇ Ordering integers
 - ◇ Writing a signed number for a real–world situation
 - ◇ Plotting integers on a number line
 - ◇ 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
 - ◇ Word problem with addition or subtraction of integers
 - ◇ Signed fraction addition or subtraction: Basic
 - ◇ Signed fraction addition or subtraction: Advanced
 - ◇ Signed decimal addition and subtraction
 - ◇ Signed decimal addition and subtraction with 3 numbers
 - ◇ Integer multiplication and division
 - ◇ Multiplication of 3 or 4 integers
 - ◇ Signed fraction multiplication: Basic
 - ◇ Signed fraction multiplication: Advanced
 - ◇ Exponents and integers: Problem type 1
 - ◇ Exponents and signed fractions
 - ◇ Order of operations with integers
 - ◇ Order of operations with integers and exponents
 - ◇ Evaluating an algebraic expression: Whole numbers with two operations
 - ◇ Evaluating a linear expression: Integer multiplication with addition or subtraction
 - ◇ Evaluating a quadratic expression: Integers
 - ◇ Absolute value of a number
 - ◆ Properties of Real Numbers (6 topics)
 - ◇ Identifying numbers as integers or non–integers
 - ◇ Properties of addition
 - ◇ Distributive property: Whole number coefficients
 - ◇ Distributive property: Integer coefficients
 - ◇ Combining like terms: Whole number coefficients
 - ◇ Combining like terms: Integer coefficients
- Linear Equations and Inequalities (30 topics)

- ◆ Linear Equations (15 topics)
 - ◇ Additive property of equality with whole numbers
 - ◇ Additive property of equality with decimals
 - ◇ Additive property of equality with integers
 - ◇ Additive property of equality with a negative coefficient
 - ◇ 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
 - ◇ Using two steps to solve an equation with whole numbers
 - ◇ Solving a two–step equation with integers
 - ◇ Solving a two–step equation with signed fractions
 - ◇ 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
 - ◇ Introduction to algebraic symbol manipulation
- ◆ Applications of Linear Equations (8 topics)
 - ◇ Writing a one–step expression for a real–world situation
 - ◇ Translating a phrase into a two–step expression
 - ◇ Translating a sentence into a one–step equation
 - ◇ 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 $Ax + B = C$
 - ◇ Finding an angle measure of a triangle given two angles
 - ◇ Finding the side length of a rectangle given its perimeter or area
- ◆ Linear Inequalities and Applications (7 topics)
 - ◇ Translating a sentence by using an inequality symbol
 - ◇ Graphing a linear inequality on the number line
 - ◇ Writing an inequality given a graph on the number line
 - ◇ Solving a linear inequality: Problem type 1
 - ◇ Solving a linear inequality: Problem type 2
 - ◇ Solving a linear inequality: Problem type 3
 - ◇ Writing an inequality for a real–world situation
- Percents and Proportions (13 topics)
 - ◆ Percents (9 topics)
 - ◇ Converting between percentages and decimals
 - ◇ Converting a percentage to a fraction in simplest form
 - ◇ Converting a fraction to a percentage: Denominator of 20, 25, or 50
 - ◇ Writing a ratio as a percentage without a calculator
 - ◇ Finding a percentage of a whole number without a calculator: Basic
 - ◇ Applying the percent equation
 - ◇ Finding the sale price without a calculator given the original price and percent discount
 - ◇ Finding the original price given the sale price and percent discount
 - ◇ Finding simple interest without a calculator
 - ◆ Proportions and Rates (4 topics)
 - ◇ Solving a proportion of the form $x/a = b/c$
 - ◇ Solving a word problem on proportions using a unit rate
 - ◇ Word problem on proportions: Problem type 1
 - ◇ Solving a one–step word problem using the formula $d = rt$
- Lines and Functions (8 topics)
 - ◆ Sets and Functions (1 topics)

- ◇ Table for a linear equation
- ◆ Graphing Lines (7 topics)
 - ◇ Reading a point in the coordinate plane
 - ◇ Plotting a point in the coordinate plane
 - ◇ Finding a solution to a linear equation in two variables
 - ◇ Graphing a line given its x - and y -intercepts
 - ◇ Graphing a line given its equation in slope–intercept form
 - ◇ Graphing a vertical or horizontal line
 - ◇ Interpreting a line graph
- Other Topics Available(*) (42 additional topics)
 - ◆ Arithmetic and Geometry (15 topics)
 - ◇ Prime numbers
 - ◇ Prime factorization
 - ◇ Fractional part of a circle
 - ◇ 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
 - ◇ Mixed number multiplication: Problem type 1
 - ◇ Mixed number division
 - ◇ Converting a mixed number to a decimal
 - ◇ Converting a decimal to a proper fraction in simplest form: Advanced
 - ◇ Area of a triangle
 - ◇ Area of a parallelogram
 - ◇ Word problem involving the area between two concentric circles
 - ◇ Area involving rectangles and circles
 - ◇ Volume of a cylinder
 - ◆ Real Numbers and Algebraic Expressions (4 topics)
 - ◇ Exponents and integers: Problem type 2
 - ◇ Operations with absolute value: Problem type 2
 - ◇ Identifying numbers as rational or irrational
 - ◇ Properties of real numbers
 - ◆ Linear Equations and Inequalities (12 topics)
 - ◇ Additive property of equality with fractions and mixed numbers
 - ◇ Solving a two–step equation with signed decimals
 - ◇ Solving an equation to find the value of an expression
 - ◇ Solving equations with zero, one, or infinitely many solutions
 - ◇ Solving a decimal word problem using a linear 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 value mixture problem using a linear equation
 - ◇ Solving equations involving vertical angles
 - ◇ Finding a side length given the perimeter and side lengths with variables
 - ◇ Solving a linear inequality: Problem type 5
 - ◇ Solving a decimal word problem using a two–step linear inequality
 - ◆ Percents and Proportions (6 topics)
 - ◇ Computing a percentage from a table of values
 - ◇ Finding the percentage increase or decrease: Advanced
 - ◇ Computations from a circle graph
 - ◇ Word problem on unit rates associated with ratios of whole numbers: Decimal answers
 - ◇ Solving a word problem involving rates and time conversion
 - ◇ Converting between metric and U.S. Customary unit systems

◆ Lines and Functions (5 topics)

- ◇ Set-builder notation
- ◇ Table for a linear function
- ◇ Writing an equation and drawing its graph to model a real-world situation: Advanced
- ◇ Finding slope given the graph of a line on a grid
- ◇ Finding slope given two points on the line

***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.*