Beginning and Intermediate Algebra Combined

This course covers the topics outlined below and is available for use with integrated, interactive eBooks. You can customize the scope and sequence of this course to meet your curricular needs.

Curriculum (599 topics + 366 additional topics)

- Arithmetic Readiness (89 topics)
  - Whole Numbers (15 topics)
    ◊ Writing expressions using exponents
    ◊ Introduction to exponents
    ◊ Power of 10: Positive exponent
    ◊ Order of operations with whole numbers
    ◊ Order of operations with whole numbers and grouping symbols
    ◊ Order of operations with whole numbers and exponents: Basic
    ◊ Order of operations with whole numbers and exponents: Advanced
    ◊ Evaluating an algebraic expression: Whole numbers with two operations
    ◊ Evaluating an algebraic expression: Whole number operations and exponents
    ◊ Prime numbers
    ◊ Prime factorization
    ◊ Greatest common factor of 2 numbers
    ◊ Least common multiple of 2 numbers
    ◊ Least common multiple of 3 numbers
    ◊ Solving a word problem on proportions using a unit rate
  - Fractions (21 topics)
    ◊ Equivalent fractions
    ◊ Simplifying a fraction
    ◊ Addition or subtraction of fractions with the same denominator
    ◊ Addition or subtraction of fractions with the same denominator and simplification
    ◊ Finding the LCD of two fractions
    ◊ 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
    ◊ 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
    ◊ Exponents and fractions
    ◊ Word problem involving fractions and multiplication
    ◊ The reciprocal of a number
    ◊ Division involving a whole number and a fraction
    ◊ Fraction division
    ◊ Word problem involving fractions and division
    ◊ Order of operations with fractions: Problem type 1
- Mixed Numbers (13 topics)
• Writing an improper fraction as a mixed number
• Writing a mixed number as an improper fraction
• 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
• 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

♦ Decimals (24 topics)
• Decimal place value: Tenths and hundredths
• Rounding decimals
• Converting a decimal to a proper fraction in simplest form: Basic
• Converting a decimal to a proper fraction in simplest form: Advanced
• Decimal addition with 3 numbers
• Decimal subtraction: Basic
• Decimal subtraction: Advanced
• Decimal addition and subtraction with 3 or more numbers
• 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
• Multiplying a decimal by a whole number
• Decimal multiplication: Problem type 1
• Multiplication of a decimal by a power of ten
• Word problem with multiplication of two decimals
• Word problem with decimal addition and multiplication
• Division of a decimal by a whole number
• Division of a decimal by a 1-digit decimal
• Division of a decimal by a 2-digit decimal
• Division of a decimal by a power of ten
• Word problem with division of two decimals
• Word problem with decimal subtraction and division
• Converting a fraction to a terminating decimal: Basic
• Converting a fraction to a terminating decimal: Advanced
• Converting a fraction to a repeating decimal: Basic

♦ Converting Between Fractions, Decimals, and Percentages (9 topics)
• Converting a fraction with a denominator of 100 to a percentage
• Converting a percentage to a fraction with a denominator of 100
• Introduction to converting a percentage to a decimal
• Introduction to converting a decimal to a percentage
• Converting between percentages and decimals
• Converting a percentage to a fraction in simplest form
• 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

♦ Geometry (7 topics)
• Perimeter of a polygon
• Perimeter of a square or a rectangle
• Area of a square or a rectangle
• Area of a triangle
- Circumference of a circle
- Circumference and area of a circle
- Volume of a rectangular prism

- Real Numbers and Algebraic Expressions (51 topics)
  - Plotting and Ordering (7 topics)
    - Plotting integers on a number line
    - Writing a signed number for a real-world situation
    - Introduction to ordering decimals
    - Ordering integers
    - Square root of a perfect square
    - Using a calculator to approximate a square root
    - Absolute value of a number
  - Operations with Rational Numbers (25 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
    - Addition and subtraction with 4 or 5 integers
    - Word problem with addition or subtraction of integers
    - Integer multiplication and division
    - Multiplication of 3 or 4 integers
    - Division involving zero
    - Identifying numbers as integers or non-integers
    - Identifying numbers as rational or irrational
    - Signed fraction addition or subtraction: Basic
    - Signed fraction subtraction involving double negation
    - Signed fraction addition or subtraction: Advanced
    - Addition and subtraction of 3 fractions involving signs
    - Signed fraction multiplication: Basic
    - Signed fraction multiplication: Advanced
    - Signed fraction division
    - Signed decimal addition and subtraction
    - Signed decimal addition and subtraction with 3 numbers
    - Signed decimal multiplication
    - Signed decimal division
    - Operations with absolute value: Problem type 2
  - Exponents and Order of Operations (5 topics)
    - Exponents and integers: Problem type 1
    - Exponents and integers: Problem type 2
    - Exponents and signed fractions
    - Order of operations with integers
    - Order of operations with integers and exponents
  - Evaluating Expressions (2 topics)
    - Evaluating a linear expression: Integer multiplication with addition or subtraction
    - Evaluating a quadratic expression: Integers
  - Properties of Real Numbers (12 topics)
    - Combining like terms: Whole number coefficients
    - Combining like terms: Integer coefficients
    - Introduction to properties of addition
    - Properties of addition
    - Multiplying a constant and a linear monomial
Distributive property: Whole number coefficients
Distributive property: Integer coefficients
Introduction to properties of multiplication
Properties of real numbers
Using distribution and combining like terms to simplify: Univariate
Using distribution with double negation and combining like terms to simplify: Multivariate
Combining like terms in a quadratic expression

Linear Equations and Inequalities (114 topics)

One−Step Linear Equations (9 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 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 (20 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
Solving a multi−step equation given in fractional form
Solving a two−step equation with signed decimals
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
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 both sides and distribution
Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
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 \( x/a = b/c \)
Solving a proportion of the form \( (x+a)/b = c/d \)

Solving Formulas for a Variable (7 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 addition or subtraction: Advanced
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
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
♦ Writing Expressions and Equations (5 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
  ◊ Translating a sentence into a multi−step equation

♦ Applications (15 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
  ◊ Solving a decimal word problem using a linear equation with the variable on both sides
  ◊ Solving a word problem involving consecutive integers
  ◊ Solving a value mixture problem using a linear equation
  ◊ Solving a one−step word problem using the formula d = rt
  ◊ Solving a word problem involving rates and time conversion
  ◊ Solving a distance, rate, time problem using a linear equation
  ◊ Converting between temperatures in Fahrenheit and Celsius
  ◊ Finding the side length of a rectangle given its perimeter or area
  ◊ Finding a side length given the perimeter and side lengths with variables
  ◊ Finding the perimeter or area of a rectangle given one of these values
  ◊ Finding an angle measure of a triangle given two angles
  ◊ Finding angle measures of a triangle given angles with variables

♦ Applications Involving Percentages (21 topics)
  ◊ Finding a percentage of a whole number
  ◊ 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 1
  ◊ Applying the percent equation: Problem type 2
  ◊ 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
  ◊ Finding the total amount given the percentage of a partial amount
  ◊ 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
  ◊ 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
  ◊ Computing a percent mixture
  ◊ Solving a percent mixture problem using a linear equation
  ◊ Finding a percentage of a total amount in a circle graph
  ◊ Finding simple interest without a calculator

♦ Writing and Graphing Inequalities (10 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
  ◊ 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
  ◊ Set−builder notation
Set–builder and interval notation
Union and intersection of finite sets

Linear Inequalities and Applications (16 topics)
- Identifying solutions to a two–step linear inequality in one variable
- Additive property of inequality with whole numbers
- Additive property of inequality with integers
- Additive property of inequality with signed fractions
- Additive property of inequality with signed decimals
- Multiplicative property of inequality with integers
- Multiplicative property of inequality with signed fractions
- Solving a two–step linear inequality: Problem type 1
- Solving a two–step linear inequality: Problem type 2
- 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
- Solving a linear inequality with multiple occurrences of the variable: Problem type 3
- Solving a compound linear inequality: Graph solution, basic
- Solving a compound linear inequality: Interval notation
- Solving a decimal word problem using a two–step linear inequality

Absolute Value Equations (6 topics)
- Introduction to solving an absolute value equation
- Solving an absolute value equation: Problem type 1
- Solving an absolute value equation: Problem type 2
- Solving an absolute value equation: Problem type 3
- Solving an absolute value equation: Problem type 4
- Solving an absolute value equation of the form |ax+b| = |cx+d|

Absolute Value Inequalities (5 topics)
- Solving an absolute value inequality: Problem type 1
- Solving an absolute value inequality: Problem type 2
- Solving an absolute value inequality: Problem type 3
- Solving an absolute value inequality: Problem type 4
- Solving an absolute value inequality: Problem type 5

Lines and Functions (61 topics)
- Ordered Pairs (5 topics)
  - Reading a point in the coordinate plane
  - Plotting a point in the coordinate plane
  - 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 and Intercepts (10 topics)
  - 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 given the graph of a line on a grid
  - Finding x– and y–intercepts of a line given the equation: Basic
  - 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

- Slope (6 topics)
  - Classifying slopes given graphs of lines
  - Finding slope given the graph of a line on a grid
Finding slope given two points on the line
Finding the slope 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

Equations of Lines (14 topics)
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
Graphing a line by first finding its slope and y−intercept
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 an equation in point−slope form given the slope and a point
Writing an equation of a line given the y−intercept and another point
Writing the equation of the line through two given points
Writing the equations of vertical and horizontal lines through a given point
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

Applications (5 topics)
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
Interpreting the parameters of a linear function that models a real−world situation
Application problem with a linear function: Finding a coordinate given the slope and a point
Application problem with a linear function: Finding a coordinate given two points

Identifying Functions, Domain, and Range (3 topics)
Identifying functions from relations
Vertical line test
Domain and range from ordered pairs

Function Evaluation and Applications (6 topics)
Table for a linear function
Evaluating functions: Linear and quadratic or cubic
Variable expressions as inputs of functions: Problem type 1
Finding outputs of a one−step function that models a real−world situation: Function notation
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 (12 topics)
Finding an output of a function from its graph
Finding inputs and outputs of a function from its graph
Domain and range from the graph of a discrete relation
Domain and range from the graph of a continuous function
Finding intercepts of a nonlinear function given its graph
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 an absolute value equation of the form y = A|x|
Graphing a parabola of the form y = ax^2
Graphing a parabola of the form y = ax^2 + c
Graphing a function of the form f(x) = ax^2
Graphing a function of the form f(x) = ax^2 + c

Systems of Linear Equations (21 topics)
Systems of Linear Equations (9 topics)
Identifying solutions to a system of linear equations
Classifying systems of linear equations from graphs
Graphically solving a system of linear equations
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
Solving a system of linear equations with fractional coefficients
Solving a system of linear equations with decimal coefficients
Solving a 2x2 system of linear equations that is inconsistent or consistent dependent

Applications (7 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 $Ax + By = C$
- 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

Graphing Linear Inequalities (4 topics)
- 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

Systems of Linear Inequalities (1 topic)
- Graphing a system of two linear inequalities: Basic

Exponents and Polynomials (100 topics)

Product, Power, and Quotient Rules (16 topics)
- Understanding the product rule of exponents
- Introduction to the product rule of exponents
- Product rule with positive exponents: Univariate
- Product rule with positive exponents: Multivariate
- Understanding the power rules of exponents
- 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
- Power and product rules with positive exponents
- Simplifying a ratio of multivariate monomials: Basic
- Introduction to the quotient rule of exponents
- 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

Negative Exponents (15 topics)
- Evaluating expressions with exponents of zero
- Power of 10: Negative exponent
- 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
- Rewriting an algebraic expression without a negative exponent
- Introduction to the product rule with negative exponents
- Product rule with negative exponents
- Quotient rule with negative exponents: Problem type 1

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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

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 scientific notation: Advanced
Dividing numbers written in scientific notation: Basic
Dividing numbers written in scientific notation: Advanced

Polynomial Addition, Subtraction, and Multiplication (17 topics)
Degree and leading coefficient of a univariate polynomial
Simplifying a sum or difference of two univariate polynomials
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 positive coefficient
Multiplying a univariate polynomial by a monomial with a negative coefficient
Multiplying a multivariate polynomial by a monomial
Multiplying binomials with leading coefficients of 1
Multiplying binomials with leading coefficients greater than 1
Multiplying binomials in two variables
Multiplying conjugate binomials: Univariate
Multiplying conjugate binomials: Multivariate
Squaring a binomial: Univariate
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

Polynomial Division (4 topics)
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

Factoring Using the GCF (6 topics)
Factoring a linear binomial
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 by Grouping (5 topics)
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 Quadratic Trinomials (9 topics)
Factoring a quadratic with leading coefficient 1
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 1
Factoring a quadratic with leading coefficient greater than 1: Problem type 2
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 Special Products (10 topics)
◊ Factoring a perfect square trinomial with leading coefficient 1
◊ 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 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

♦ Solving Quadratic Equations by Factoring (7 topics)
◊ Solving an equation written in factored form
◊ Finding the roots of a quadratic equation of the form \( ax^2 + bx = 0 \)
◊ 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 quadratic equation needing simplification
◊ Solving a word problem using a quadratic equation with rational roots
◊ Roots of a product of polynomials

♦ Pythagorean Theorem (4 topics)
◊ Introduction to the Pythagorean Theorem
◊ Pythagorean Theorem
◊ Word problem involving the Pythagorean Theorem
◊ Using the Pythagorean Theorem and a quadratic equation to find side lengths of a right triangle

• Rational Expressions (71 topics)
♦ Simplifying Rational Expressions (11 topics)
◊ Restriction on a variable in a denominator: Linear
◊ Restriction on a variable in a denominator: Quadratic
◊ Evaluating a rational function: Problem type 1
◊ Evaluating a rational function: Problem type 2
◊ Domain of a rational function: Excluded values
◊ Simplifying a ratio of factored polynomials: Linear factors
◊ Simplifying a ratio of polynomials using GCF factoring
◊ Simplifying a ratio of linear polynomials: 1, –1, and no simplification
◊ Simplifying a ratio of polynomials by factoring a quadratic with leading coefficient 1
◊ Simplifying a ratio of polynomials: Problem type 1
◊ Simplifying a ratio of polynomials: Problem type 2

♦ Multiplication and Division (6 topics)
◊ Multiplying rational expressions involving multivariate monomials
◊ Multiplying rational expressions made up of linear expressions
◊ Multiplying rational expressions involving quadratics with leading coefficients of 1
◊ Dividing rational expressions involving multivariate monomials
◊ Dividing rational expressions involving linear expressions
◊ Dividing rational expressions involving quadratics with leading coefficients of 1

♦ Addition and Subtraction (23 topics)
◊ Introduction to the LCM of two monomials
◊ Least common multiple of two monomials
◊ Finding the LCD of rational expressions with linear denominators: Relatively prime
◊ Finding the LCD of rational expressions with linear denominators: Common factors
◊ Finding the LCD of rational expressions with quadratic denominators
◊ Writing equivalent rational expressions with monomial denominators
◊ Writing equivalent rational expressions with polynomial denominators
◊ Writing equivalent rational expressions involving opposite factors
◊ Introduction to adding fractions with variables and common denominators
◊ Adding rational expressions with common denominators and monomial numerators
◊ Adding rational expressions with common denominators and binomial numerators
◊ Adding rational expressions with common denominators and GCF factoring
◊ Adding rational expressions with common denominators and quadratic factoring
◊ Adding rational expressions with different denominators and a single occurrence of a variable
◊ Adding rational expressions with denominators ax and bx: Basic
◊ Adding rational expressions with denominators ax and bx: Advanced
◊ Adding rational expressions with denominators ax^n and bx^m
◊ Adding rational expressions with linear denominators without common factors: Basic
◊ Adding rational expressions with linear denominators without common factors: Advanced
◊ Adding rational expressions with linear denominators with common factors: Basic
◊ Adding rational expressions with linear denominators with common factors: Advanced
◊ Adding rational expressions with denominators ax−b and b−ax
◊ Adding rational expressions involving different quadratic denominators

♦ Complex Fractions (11 topics)
◊ Complex fraction without variables: Problem type 1
◊ Complex fraction without variables: Problem type 2
◊ Complex fraction involving univariate monomials
◊ Complex fraction involving multivariate monomials
◊ Complex fraction: GCF factoring
◊ Complex fraction: Quadratic factoring
◊ Complex fraction made of sums involving rational expressions: Problem type 1
◊ Complex fraction made of sums involving rational expressions: Problem type 2
◊ Complex fraction made of sums involving rational expressions: Problem type 3
◊ Complex fraction made of sums involving rational expressions: Problem type 4
◊ Complex fraction made of sums involving rational expressions: Problem type 6

♦ Rational Equations (13 topics)
◊ Solving a proportion of the form a/(x+b) = c/x
◊ Solving a rational equation that simplifies to linear: Denominator x
◊ Solving a rational equation that simplifies to linear: Denominator x+a
◊ Solving a rational equation that simplifies to linear: Denominators a, x, or ax
◊ Solving a rational equation that simplifies to linear: Like binomial denominators
◊ Solving a rational equation that simplifies to linear: Unlike binomial denominators
◊ Solving a rational equation that simplifies to linear: Factorable quadratic denominator
◊ Solving a rational equation that simplifies to quadratic: Proportional form, basic
◊ Solving a rational equation that simplifies to quadratic: Denominator x
◊ Solving a rational equation that simplifies to quadratic: Binomial denominators, constant numerators
◊ Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators
◊ Solving a rational equation that simplifies to quadratic: Factorable quadratic denominator

♦ Applications (7 topics)
◊ Solving for a variable in terms of other variables in a rational equation: Problem type 1
◊ Solving for a variable in terms of other variables in a rational equation: Problem type 2
◊ Solving for a variable in terms of other variables in a rational equation: Problem type 3
◊ Word problem on proportions: Problem type 1
◊ Word problem involving multiple rates
◊ Solving a work problem using a rational equation
◊ Solving a distance, rate, time problem using a rational equation

- Radicals (73 topics)
  - Roots of Perfect Powers (9 topics)
    ◊ Finding all square roots of a number
    ◊ Square root of a rational perfect square
    ◊ Square roots of perfect squares with signs
    ◊ Introduction to simplifying a radical expression with an even exponent
    ◊ Square root of a perfect square monomial
    ◊ Cube root of an integer
    ◊ Finding $n^{th}$ roots of perfect $n^{th}$ powers with signs
    ◊ Finding the $n^{th}$ root of a perfect $n^{th}$ power fraction
    ◊ Finding the $n^{th}$ root of a perfect $n^{th}$ power monomial
  - Radical Functions (4 topics)
    ◊ Table for a square root function
    ◊ Domain of a square root function: Basic
    ◊ Domain of a square root function: Advanced
    ◊ Graphing a square root function: Problem type 1
  - Rational Exponents (10 topics)
    ◊ 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
    ◊ Rational exponents: Product rule
    ◊ Rational exponents: Quotient rule
    ◊ Rational exponents: Products and quotients with negative exponents
    ◊ Rational exponents: Power of a power rule
    ◊ Rational exponents: Powers of powers with negative exponents
  - Simplifying Expressions (10 topics)
    ◊ Simplifying the square root of a whole number less than 100
    ◊ Simplifying the square root of a whole number greater than 100
    ◊ Simplifying a radical expression with an even exponent
    ◊ Introduction to simplifying a radical expression with an odd exponent
    ◊ Simplifying a radical expression with an odd exponent
    ◊ Simplifying a radical expression with two variables
    ◊ Simplifying a higher root of a whole number
    ◊ Introduction to simplifying a higher radical expression
    ◊ Simplifying a higher radical expression: Univariate
    ◊ Simplifying a higher radical expression: Multivariate
  - Addition and Subtraction (5 topics)
    ◊ Introduction to square root addition or subtraction
    ◊ Square root addition or subtraction
    ◊ Square root addition or subtraction with three terms
    ◊ Introduction to simplifying a sum or difference of radical expressions: Univariate
    ◊ Simplifying a sum or difference of radical expressions: Univariate
  - Multiplication (9 topics)
    ◊ Introduction to square root multiplication
    ◊ Square root multiplication: Basic
    ◊ Square root multiplication: Advanced
    ◊ Introduction to simplifying a product of radical expressions: Univariate
    ◊ Simplifying a product of radical expressions: Univariate
◊ Introduction to simplifying a product involving square roots using the distributive property
◊ Simplifying a product involving square roots using the distributive property: Basic
◊ Simplifying a product involving square roots using the distributive property: Advanced
◊ Special products of radical expressions: Conjugates and squaring

♦ Division and Rationalization (8 topics)
◊ Simplifying a quotient of square roots
◊ Simplifying a quotient involving a sum or difference with a square root
◊ Rationalizing a denominator: Quotient involving square roots
◊ Rationalizing a denominator: Square root of a fraction
◊ Rationalizing a denominator: Quotient involving a monomial
◊ Rationalizing a denominator using conjugates: Integer numerator
◊ Rationalizing a denominator using conjugates: Square root in numerator
◊ Rationalizing a denominator using conjugates: Variable in denominator

♦ Radical Equations (12 topics)
◊ Introduction to solving a radical equation
◊ Solving a radical equation that simplifies to a linear equation: One radical, basic
◊ Solving a radical equation that simplifies to a linear equation: One radical, advanced
◊ Solving a radical equation that simplifies to a linear equation: Two radicals
◊ Solving a radical equation with two radicals that simplifies to sqrt(x) = a
◊ Solving a radical equation that simplifies to a quadratic equation: One radical, basic
◊ Solving a radical equation that simplifies to a quadratic equation: One radical, advanced
◊ Solving a radical equation with a quadratic expression under the radical
◊ Solving a radical equation that simplifies to a quadratic equation: Two radicals
◊ Algebraic symbol manipulation with radicals
◊ Word problem involving radical equations: Basic
◊ Word problem involving radical equations: Advanced

♦ Complex Numbers (6 topics)
◊ Using i to rewrite square roots of negative numbers
◊ Simplifying a product and quotient involving square roots of negative numbers
◊ Adding or subtracting complex numbers
◊ Multiplying complex numbers
◊ Dividing complex numbers
◊ Simplifying a power of i

♦ Quadratic Equations and Functions (19 topics)

♦ Quadratic Equations (11 topics)
◊ 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
◊ Applying the quadratic formula: Exact answers
◊ Applying the quadratic formula: Decimal answers
◊ Solving a quadratic equation with complex roots
◊ Discriminant of a quadratic equation
◊ Solving a word problem using a quadratic equation with irrational roots
◊ Solving an equation that can be written in quadratic form: Problem type 1

♦ Quadratic Functions (8 topics)
◊ Finding the vertex, intercepts, and axis of symmetry from the graph of a parabola
◊ Graphing a parabola of the form y = (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
◊ Finding the x−intercept(s) and the vertex of a parabola
◊ Rewriting a quadratic function to find the vertex of its graph
Finding the maximum or minimum of a quadratic function
Word problem involving the maximum or minimum of a quadratic function

• Other Topics Available(*) (366 additional topics)
  ◆ Arithmetic Readiness (59 topics)
    ◆ Factors
    ◆ Word problem with common multiples
    ◆ Addition and subtraction of 3 fractions with different denominators
    ◆ Fractional part of a circle
    ◆ Multi–step word problem involving fractions and multiplication
    ◆ Order of operations with fractions: Problem type 2
    ◆ Order of operations with fractions: Problem type 3
    ◆ Addition and subtraction of 3 mixed numbers with different denominators
    ◆ 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
    ◆ Estimating a decimal sum or difference
    ◆ Estimating a product of decimals
    ◆ Squaring decimal bases: Products greater than 0.1
    ◆ Exponents and decimals: Products less than 0.1
    ◆ 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
    ◆ Order of operations with decimals: Problem type 1
    ◆ Order of operations with decimals: Problem type 2
    ◆ Order of operations with decimals: Problem type 3
    ◆ Converting a mixed number percentage to a decimal
    ◆ Converting between percentages and decimals in a real–world situation
    ◆ Converting a decimal percentage to a fraction
    ◆ Converting a fraction to a percentage in a real–world situation
    ◆ Mode of a data set
    ◆ Average of two numbers
    ◆ Mean of a data set
    ◆ Mean and median of a data set
    ◆ Weighted mean
    ◆ Interpreting a bar graph
    ◆ Interpreting a line graph
    ◆ Perimeter of a polygon involving mixed numbers and fractions
    ◆ Sides of polygons having the same perimeter
    ◆ Distinguishing between the area and perimeter of a rectangle
    ◆ Area of a rectangle involving fractions
    ◆ Area of a rectangle involving mixed numbers and fractions
    ◆ Finding the missing length in a figure
    ◆ Area of a piecewise rectangular figure
    ◆ Word problem involving the area between two rectangles
    ◆ Area of a parallelogram
    ◆ Area of a trapezoid
    ◆ Perimeter involving rectangles and circles
    ◆ Area involving rectangles and circles
    ◆ Word problem involving the area between two concentric circles
    ◆ Area involving inscribed figures
    ◆ Volume of a triangular prism
    ◆ Volume of a pyramid
♦ Volume of a cylinder
♦ Word problem involving the rate of filling or emptying a cylinder
♦ Volume of a cone
♦ Volume of a sphere
♦ Surface area of a cube or a rectangular prism
♦ Surface area of a triangular prism
♦ Surface area of a cylinder
♦ Surface area of a sphere
♦ Acute, obtuse, and right angles
♦ Finding supplementary and complementary angles
♦ Acute, obtuse, and right triangles
♦ Classifying scalene, isosceles, and equilateral triangles by side lengths or angles

♦ Real Numbers and Algebraic Expressions (14 topics)
♦ Fractional position on a number line
♦ Reading decimal position on a number line: Tenths
♦ Reading decimal position on a number line: Hundredths
♦ Plotting rational numbers on a number line
♦ Using a common denominator to order fractions
♦ Ordering decimals
♦ Ordering fractions and decimals
♦ Estimating a square root
♦ Ordering real numbers
♦ Computing distances between decimals on the number line
♦ 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
♦ Understanding the distributive property

♦ Linear Equations and Inequalities (25 topics)
♦ Additive property of equality with fractions and mixed numbers
♦ Solving an equation to find the value of an expression
♦ Identifying properties used to solve a linear equation
♦ Writing a multi-step equation for a real-world situation
♦ 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
♦ Finding the radius or the diameter of a circle given its circumference
♦ Solving equations involving vertical angles
♦ Finding angle measures of a right or isosceles triangle given angles with variables
♦ Finding an angle measure given extended triangles
♦ Finding an angle measure given a triangle and parallel lines
♦ Finding the value for a new score that will yield a given mean
♦ Estimating a tip without a calculator
♦ Computing a percentage from a table of values
♦ Finding the multiplier to give a final amount after a percentage increase or decrease
♦ Finding the original amount given the result of a percentage increase or decrease
♦ Finding the absolute error and percent error of a measurement
♦ Interpreting a circle graph or pie chart
♦ Computations from a circle graph
♦ Translating a sentence into a multi-step inequality
♦ Writing a compound inequality given a graph on the number line
♦ Union and intersection of intervals
♦ Solving inequalities with no solution or all real numbers as solutions
♦ Solving a decimal word problem using a linear inequality with the variable on both sides
♦ Writing an absolute value inequality given a graph on the number line
Lines and Functions (29 topics)

◊ Finding the coordinate that yields a given slope
◊ Identifying linear equations: Advanced
◊ Identifying linear functions given ordered pairs
◊ Writing an equation and graphing a line given its slope and y–intercept
◊ Graphing a line given its equation in point–slope form
◊ Writing a function rule given a table of ordered pairs: One–step rules
◊ Writing a function rule given a table of ordered pairs: Two–step rules
◊ Combining functions to write a new function that models a real–world situation
◊ Comparing properties of linear functions given in different forms
◊ Identifying independent and dependent variables from equations or real–world situations
◊ Solving a linear equation by graphing
◊ 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
◊ Computing residuals
◊ Interpreting residual plots
◊ Linear relationship and the correlation coefficient
◊ Identifying correlation and causation
◊ Evaluating a piecewise–defined function
◊ Domain and range of a linear function that models a real–world situation
◊ Domain and range from the graph of a piecewise function
◊ 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: Basic
◊ Choosing a graph to fit a narrative: Advanced
◊ Graphing an integer function and finding its range for a given domain
◊ Graphing a cubic function of the form y = ax^3
◊ Graphing a piecewise–defined function: Problem type 1

Systems of Linear Equations (20 topics)

◊ Creating an inconsistent system of linear equations
◊ Identifying the operations used to create equivalent systems of equations
◊ Solving a 3x3 system of linear equations: Problem type 1
◊ Solving a word problem using a system of linear equations of the form y = mx + b
◊ Solving a word problem using a 3x3 system of linear equations: Problem type 1
◊ 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
◊ Solving a word problem using a system of linear inequalities: Problem type 1
◊ Linear programming
◊ Solving a word problem using linear programming
◊ Scalar multiplication of a matrix
◊ Addition or subtraction of matrices
◊ Linear combination of matrices
◊ Finding the determinant of a 2x2 matrix
◊ Finding the determinant of a 3x3 matrix
◊ Using Cramer's rule to solve a 2x2 system of linear equations
◊ Using Cramer's rule to solve a 3x3 system of linear equations
◊ Gauss–Jordan elimination with a 2x2 matrix
◊ Solving a system of linear equations given its augmented matrix

Exponents and Polynomials (9 topics)

◊ Ordering numbers with positive exponents
Identifying direct and inverse variation from ordered pairs and writing equations
Word problem on inverse variation
Word problem on inverse proportions
Writing an equation that models variation
Word problem on combined variation
Finding the asymptotes of a rational function: Constant over linear
Finding the asymptotes of a rational function: Linear over linear
Graphing a rational function: Constant over linear
Graphing a rational function: Linear over linear

Radicals (24 topics)

Square roots of integers raised to even exponents
Using absolute value to simplify square roots of perfect square monomials
Using absolute value to simplify higher radical expressions
Evaluating a cube root function
Domains of higher root functions
Graphing a square root function: Problem type 2
Graphing a square root function: Problem type 3
Graphing a cube root function
Simplifying a sum or difference of radical expressions: Multivariate
Simplifying a sum or difference of higher roots
Simplifying a sum or difference of higher radical expressions
Simplifying a product of radical expressions: Multivariate
Simplifying a product of radical expressions: Multivariate, fractional expressions
Introduction to simplifying a product of higher roots
Simplifying a product of higher radical expressions
Classifying sums and products as rational or irrational
Rationalizing a denominator: Quotient involving a higher radical
Rationalizing a denominator: Quotient involving higher radicals and monomials
Simplifying products or quotients of higher radicals with different indices: Univariate
Simplifying products or quotients of higher radicals with different indices: Multivariate
Solving an equation with a root index greater than 2: Problem type 1
Solving an equation with a root index greater than 2: Problem type 2
Solving an equation with exponent 1/a: Problem type 1
Solving an equation with exponent 1/a: Problem type 2

Quadratic Equations and Functions (19 topics)

Discriminant of a quadratic equation with parameter
Solving an equation using the odd−root property: Problem type 1
Solving an equation using the odd−root property: Problem type 2
Solving an equation that can be written in quadratic form: Problem type 2
Solving an equation with positive rational exponent
Solving an equation with negative rational exponent
Graphing a parabola of the form $y = ax^2 + bx + c$: Rational coefficients
Domain and range from the graph of a parabola
Range of a quadratic function
Writing the equation of a quadratic function given its graph
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
Solving a quadratic inequality written in factored form
Solving a quadratic inequality
Solving a polynomial inequality
Solving a rational inequality: Problem type 1
◊ Solving a rational inequality: Problem type 2

◆ Function Operations and Inverses (22 topics)
  ◊ Translating the graph of a parabola: One step
  ◊ 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 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
  ◊ Writing an equation for a function after a vertical translation
  ◊ Writing an equation for a function after a vertical and horizontal translation
  ◊ Sum, difference, and product of two functions
  ◊ Quotient of two functions: Basic
  ◊ Combining functions: Advanced
  ◊ Composition of two functions: Basic
  ◊ Expressing a function as a composition of two functions
  ◊ Composition of two functions: Domain and range
  ◊ Composition of two functions: Advanced
  ◊ Determining whether an equation defines a function: Basic
  ◊ Determining whether an equation defines a function: Advanced
  ◊ Horizontal line test
  ◊ Determining whether two functions are inverses of each other
  ◊ Inverse functions: Linear, discrete
  ◊ Inverse functions: Rational
  ◊ Inverse functions: Quadratic, cubic, radical

◆ Exponential and Logarithmic Functions (42 topics)
  ◊ Table for an exponential function
  ◊ Graphing an exponential function: \( f(x) = a^x \)
  ◊ Graphing an exponential function: \( f(x) = a(b)^x \)
  ◊ Graphing an exponential function and its asymptote: \( f(x) = a(b)^x \)
  ◊ Translating the graph of an exponential function
  ◊ The graph, domain, and range of an exponential function
  ◊ Graphing an exponential function and its asymptote: \( f(x) = a(e)^{x-b} + c \)
  ◊ Evaluating an exponential function that models a real-world situation
  ◊ Evaluating an exponential function with base e that models a real-world situation
  ◊ Introduction to compound interest
  ◊ Finding a final amount in a word problem on exponential growth or decay
  ◊ Finding the final amount in a word problem on compound interest
  ◊ Finding the initial amount and rate of change given an exponential function
  ◊ Writing an equation that models exponential growth or decay
  ◊ Writing an exponential function rule given a table of ordered pairs
  ◊ Comparing linear, polynomial, and exponential functions
  ◊ Converting between logarithmic and exponential equations
  ◊ Converting between natural logarithmic and exponential equations
  ◊ Evaluating a logarithmic expression
  ◊ Solving an equation of the form \( \log_b a = c \)
  ◊ Translating the graph of a logarithmic function
  ◊ Graphing a logarithmic function: Basic
  ◊ The graph, domain, and range of a logarithmic function
  ◊ Graphing a logarithmic function: Advanced
  ◊ Basic properties of logarithms
  ◊ Expanding a logarithmic expression: Problem type 1
  ◊ Expanding a logarithmic expression: Problem type 2
  ◊ Writing an expression as a single logarithm
Change of base for logarithms: Problem type 1
Change of base for logarithms: Problem type 2
Solving a multi-step equation involving a single logarithm
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 finding common bases: Linear exponents
Solving an exponential equation by finding common bases: Linear and quadratic exponents
Solving an exponential equation by using logarithms: Decimal answers, basic
Solving an exponential equation by using natural logarithms: Decimal answers
Solving an exponential equation by using logarithms: Exact answers in logarithmic form
Finding the time to reach a limit in a word problem on exponential growth or decay
Finding the initial or final amount in a word problem on exponential growth or decay
Finding the rate or time in a word problem on continuous exponential growth or decay

Conic Sections and Sequences (50 topics)
Midpoint of a line segment in the plane
Finding an endpoint of a line segment given the other endpoint and the midpoint
Distance between two points in the plane: Exact answers
Graphing a parabola of the form $ay^2 + by + cx + d = 0$ or $ax^2 + bx + cy + d = 0$
Writing an equation of a parabola given the vertex and the focus
Finding the focus of a parabola of the form $ay^2 + by + cx + d = 0$ or $ax^2 + bx + cy + d = 0$
Graphing a circle given its equation in standard form
Graphing a circle given its equation in general form: Basic
Graphing a circle given its equation in general form: Advanced
Writing an equation of a circle given its center and a point on the circle
Writing an equation of a circle given the endpoints of a diameter
Graphing an ellipse given its equation in standard form
Graphing an ellipse centered at the origin: $Ax^2 + By^2 = C$
Graphing an ellipse given its equation in general form
Graphing a hyperbola given its equation in standard form
Graphing a hyperbola centered at the origin: $Ax^2 + By^2 = C$
Graphing a hyperbola given its equation in general form
Classifying conics given their equations
Graphically solving a system of linear and quadratic equations
Solving a system of linear and quadratic equations
Solving a system of nonlinear equations: Problem type 1
Graphing a quadratic inequality: Problem type 1
Graphing a quadratic inequality: Problem type 2
Graphing a system of nonlinear inequalities: Problem type 1
Graphing a system of nonlinear inequalities: Problem type 2
Finding the first terms of an arithmetic sequence using an explicit rule
Finding the first terms of a geometric sequence using an explicit rule
Finding the first terms of a sequence using an explicit rule with multiple occurrences of $n$
Finding the next terms of an arithmetic sequence with integers
Finding the first terms of a sequence using a recursive rule
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
Finding a specified term of an arithmetic sequence given two terms of the sequence
Writing an explicit rule for an arithmetic sequence
Writing a recursive rule for an arithmetic sequence
Sum of the first $n$ terms of an arithmetic sequence
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
◊ Finding a specified term of a geometric sequence given two terms of the sequence
◊ Arithmetic and geometric sequences: Identifying and writing an explicit rule
◊ Writing recursive rules for arithmetic and geometric sequences
◊ Sum of the first $n$ terms of a geometric sequence
◊ Sum of an infinite geometric series
◊ Identifying linear, quadratic, and exponential functions given ordered pairs
◊ Factorial expressions
◊ Binomial formula

*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.