

What's in Knowre's Curricula?

Algebra 1 Curriculum

Chapter	Lesson	Topics
1. Basics of Algebra	1-1 Variable Expressions	A. Review of Exponents B. Review of Variable Expressions
	1-2 Simplifying Expressions	A. The Distributive Property B. Like Terms
	1-3 Writing Equations	A. Solutions of Equations
	1-4 The Coordinate Plane	A. Review of Coordinate Planes
	1-5 Relations and Functions	A. Defining Relations B. Domain and Range of Relations C. Defining Functions D. Evaluating Functions
2. Solving Equations	2-1 Solving One-Step Equations	A. Solving One-Step Equations Using Inverse Operations
	2-2 Solving Multi-Step Equations	A. Solving Two-Step Equations B. Solving Multi-Step Equations C. Solving Equations with Variables on Both Sides D. Special Cases
	2-3 Solving Equations with Decimals and Fractions	A. Solving Equations with Decimals B. Solving Equations with Fractional Coefficients C. Solving Equations with Fractions and Decimals
	2-4 Absolute Value	A. Evaluating & Solving Absolute Value Expressions B. Writing Absolute Value Equations
	2-5 Proportions	A. Defining Proportions B. Solving Proportions
	2-6 Percent of Change	A. Amount of Change B. Percent Change
	2-7 Literal Equations	A. Solving Literal Equations B. Evaluating Formulas

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3. Solving Inequalities	3-1 Inequalities and the Number Line	A. Solving Inequalities B. Graphs of Inequalities
	3-2 Solving One-Step Inequalities	A. Solving One-Step Equations Using Inverse Operations B. Multiplying and Dividing by Negative Numbers
	3-3 Solving Multi-Step Inequalities	A. Solving Two-Step Inequalities B. Solving Multi-Step Inequalities C. Solving Inequalities with Variables on Both Sides
	3-4 Solving Inequalities with Decimals and Fractions	A. Solving Inequalities with Decimals B. Solving Inequalities with Fractional Coefficients C. Solving Inequalities with Fractions and Decimals
	3-5 Solving Compound Inequalities	A. Graphing Compound Inequalities B. Writing Compound Inequalities C. Solving Compound Inequalities
	3-6 Solving Absolute Value Inequalities	A. "Less Than" Absolute Value Inequalities B. "Greater Than" Absolute Value Inequalities C. Solving Absolute Value Inequalities
4. Linear Functions	4-1 Standard Form of a Linear Equation	A. Determining if Graphs are Linear or Nonlinear B. Identifying Standard Form of Linear Equations C. Defining x- and y-intercepts D. Graphing Linear Equations in Standard Form
	4-2 Rate of Change and Slope	A. Rate of Change B. Slope
	4-3 Direct Variation	A. Introduction to Direct Variation B. Graphs of Direct Variation C. Writing Direct Variation Equations D. Finding Values of a Direct Variation Given a Point
	4-4 Slope-Intercept Form	A. Definition of Slope-Intercept Form B. Slope-Intercept Form and Graphing
	4-5 Point-Slope Form	A. Point-Slope Form B. Writing Point-Slope Form and Graphing C. Converting to Slope-Intercept Form
	4-6 Parallel and Perpendicular Lines	A. Parallel Lines on the Coordinate Plane B. Perpendicular Lines on the Coordinate Plane
	4-7 Inverse Linear Functions	A. Introduction to Inverses B. Finding the Inverse of Linear Equations
	4-8 Linear Inequalities	A. Introduction to Linear Inequalities B. Linear Inequalities and their Graphs

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5. System of Equations and Inequalities	5-1 Solving Systems by Graphing	A. Solutions of Systems of Equations B. Solving Systems by Graphing
	5-2 Solving Systems by Substitution	A. Solving Systems by Substitution
	5-3 Solving Systems by Elimination	A. Directly Eliminating x or y B. Elimination After Scalar Multiplication
	5-4 Systems of Linear Inequalities	A. Solving Systems of Linear Inequalities
6. Exponents and Functions	6-1 Integer Exponents	A. Zero Exponents B. Negative Exponents
	6-2 Multiplication Properties of Exponents	A. Product of Powers B. Power of a Power C. Power of a Product
	6-3 Division Properties of Exponents	A. Quotient of Powers B. Power of a Quotient
	6-4 Scientific Notation	A. Introduction to Scientific Notation B. Converting to and from Scientific Notation C. Comparing D. Multiplying and Dividing
	6-5 Rational Exponents	A. Exponent of $1/2$ B. Exponents of the Form $1/n$ C. Exponents of the Form p/q D. Decimal Exponents E. Negative Rational Exponents
	6-6 Exponential Functions	A. Introduction to Exponential Functions B. Graphing Exponential Functions
	6-7 Exponential Growth and Decay	A. Exponential Growth B. Exponential Decay
	6-8 Solving Exponential Equations	A. Same Base on Both Sides B. Solving by Changing Bases C. Solving by Simplifying First

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Chapter	Lesson	Topics
7. Polynomials	7- 1 Monomials and Polynomials	A. Introduction to Polynomials B. Degree of Polynomials C. Classifying Polynomials D. Standard Form of Polynomials
	7-2 Adding and Subtracting Polynomials	A. Adding Polynomials B. Subtracting Polynomials
	7-3 Multiplying Polynomials	A. Multiplying by a Monomial B. Multiplying Two Binomials C. Multiplying Polynomials
	7-4 Multiplying Polynomials - Special Cases	A. The Square of a Binomial B. The Product of a Sum and a Difference
8. Factoring	8-1 Factoring by the GCF	A. Identifying a Factor B. Factoring a GCF
	8-2 Factoring by Grouping	A. Factoring by Grouping
	8-3 Factoring Trinomials with Lead Coefficient 1	A. Factoring Trinomials with Lead Coefficient 1
	8-4 Factoring Trinomials with Lead Coefficient not 1	A. Factoring Trinomials with Lead Coefficient not 1 B. Factoring Trinomials by Factoring a GCF First
	8-5 Factoring Polynomials - Special Cases	A. Factoring a Difference of Squares B. Factoring Perfect Square Trinomials
9. Quadratic Equations and Functions	9-1 Parabolas and Quadratic Functions	A. Introduction to the Parabola B. Graphing Quadratics Using Tables of Values
	9-2 Standard Form of Quadratic Functions	A. Definition of Standard Form of Quadratic Functions B. Standard Form and Graphing
	9-3 Solving Quadratic Equations by Graphing	A. Solutions of Quadratic Equations B. Using Graphs to Find the x-intercepts of Quadratics C. x-intercepts as the Solutions of Quadratic Equations D. Solving Quadratic Equations by Graphing
	9-4 Solving Quadratic Equations by Factoring	A. Solving Quadratic Equations by Factoring
	9-5 Solving Quadratic Equations by Completing the Square	A. Using Square Roots to Solve Quadratic Equations B. Solving Quadratic Equations by Completing the Square
	9-6 Quadratic Formula and the Discriminant	A. The Quadratic Formula B. Using the Discriminant

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Chapter	Lesson	Topics
10. Sequences	10- 1 Sequences	A. Introduction to Sequences
	10-2 Arithmetic Sequences	A. Defining Arithmetic Sequences B. Writing a Formula for the nth Term C. Finding the nth Term D. Finding the Value of n E. Graphing Arithmetic Sequences
	10-3 Geometric Sequences	A. Defining Geometric Sequences B. Writing a Formula for the nth Term C. Finding the nth Term D. Finding the Value of n E. Graphing Geometric Sequences
	10-4 Analyzing Data to Identify Functions	A. Writing Linear Equations Using Successive Differences B. Writing Exponential Equations Using Successive Ratios C. Determining the Equation that Best Represents Data
	10-5 Recursive Formula	A. Introduction to Recursive Formulas B. Recursive Formulas and Arithmetic Sequences C. Recursive Formulas and Geometric Sequences
11. Radical Functions	11-1 Square Root Functions and Their Graphs	A. Domain and Range of Square Root Functions B. Graphing Square Root Functions
	11-2 Simplifying and Multiplying Radical Expressions	A. Simplifying Square Roots B. Product Property of Square Roots
	11-3 Adding and Subtracting Radical Expressions	A. Combining Like Simplified Radicals B. Combining Like Radicals After Simplifying C. Multiplying Radical Expressions
	11-4 Dividing and Rationalizing Radical Expressions	A. Quotient Property of Square Roots B. Simplifying Square Roots by Rationalizing the Denominator
12. Rational Functions	12-1 Inverse Variations	A. Introduction to Inverse Variations B. Finding and Evaluating Inverse Variations
	12-2 Rational Functions and Their Graphs	A. Excluded Values of Rational Expressions - Linear Denominators B. Graphing Rational Functions $y=a/x$ C. Graphing Rational Functions $y=a/(x-b)+c$
	12-3 Simplifying Rational Expressions	A. Excluded Values of Rational Expressions - Quadratic Denominators B. Simplifying Rational Expressions
	12-4 Multiplying and Dividing Rational Expressions	A. Multiplying Rational Expressions B. Dividing Rational Expressions