



Algebra I Correlation to Content Standards and Objectives

	Content Standards for Algebra I Mathematics	I CAN Learn® Lesson #	I CAN Learn® Lesson Title
Objectives	Students will		
M.O.A1.2.1	formulate algebraic expressions for use in equations and inequalities that require planning to accurately model real-world problems.	HA1-104	Translating Word Statements into Equations
		HA1-105	Translating Word Statements into Inequalities
M.O.A1.2.2	create and solve multi-step linear equations, absolute value equations, and linear inequalities in one variable, (with and without technology); apply skills toward solving practical problems such as distance, mixtures or motion and judge the reasonableness of solutions.	HA1-124	Using a Concrete Model to Solve One- and Two-Step Equations
		HA1-125	Solving Equations Using More Than One Property
		HA1-140	Solving Equations by Combining Like Terms
		HA1-144	Using a Concrete Model to Solve Equations with Variables on Both Sides
		HA1-145	Solving Equations with Variables on Both Sides
		HA1-360	Expressing Ratios in Simplest Form and Solving Equations Involving Proportions
		HA1-382	Solving Linear Equations Using the Graphing Calculator
		HA1-210	Solving Equations Involving Absolute Value
		HA1-180	Graphing Equations and Inequalities on the Number Line
		HA1-185	Solving Inequalities Using the Addition and Subtraction Properties
		HA1-190	Solving Inequalities Using the Multiplication and Division Properties
		HA1-195	Solving Inequalities Using More Than One Property
		HA1-200	Combined Inequalities
		HA1-205	Solving Combined Inequalities
		HA1-150	Writing an Equation to Solve Word Problems
		HA1-160	Writing an Equation to Solve Distance, Rate, and Time Problems
		HA1-362	Solving Work Problems
M.O.A1.2.3	evaluate data provided, given a real-world situation, select an appropriate literal equation and solve for a needed variable.	HA1-175	Solving Literal Equations
		HA1-135	Evaluating Formulas
M.O.A1.2.4	develop and test hypotheses to derive the laws of exponents and use them to perform operations on expressions with integral exponents.	HA1-860	Using the Laws of Exponents
		HA1-815	Simplifying Expressions with Negative and Zero Exponents
		HA1-818	Simplifying Expressions Using the Division Properties of Exponents
M.O.A1.2.5	analyze a given set of data and prove the existence of a pattern numerically, algebraically and graphically, write equations from the patterns and make inferences and predictions based on observing the pattern.	HA1-447	Identifying Number Patterns
		HA1-448	Finding the nth Term of a Pattern
		HGM-020	Using Inductive Reasoning

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M.O.A.1.2.6	determine the slope of a line through a variety of strategies (e.g. given an equation or graph).	HA1-385	Finding the Slope of a Line from its Graph or from the Coordinates of Two Points
		HA1-398	Graphing Linear Equations Using Slope and y-Intercept or Slope and a Point
M.O.A1.2.7	analyze situations and solve problems by determining the equation of a line given a graph of a line, two points on the line, the slope and a point, or the slope and y intercept.	HA1-395	Finding the Equation of a Line Parallel or Perpendicular to a Given Line
		HA1-405	Determining an Equation of a Line Given the Slope and Coordinates of One Point
		HA1-410	Determining an Equation of a Line Given the Coordinates of Two Points
M.O.A1.2.8	extrapolate data represented by graphs, tables and formulas to make inferences and predictions on rate of change (slope) and justify when communicating results within a project based investigation.	HA1-402	Translating Among Multiple Representations of Functions
		HA1-441	Applications of Functions and Relations Involving Distance, Rate, and Time
		HA1-442	Interpreting Graphs of Functions in Real-Life Situations
		HA1-955	Analyzing Linear Functions
M.O.A1.2.9	create and solve systems of linear equations graphically and numerically using the elimination method and the substitution method, given a real-world situation.	HA1-455	Solving Systems of Linear Equations by Graphing
		HA1-460	Solving Systems of Linear Equations by the Substitution Method
		HA1-465	Solving Systems of Linear Equations by the Addition/Subtraction Method
		HA1-470	Solving Systems of Linear Equations by the Multiply/Add/Subtract Method
		HA1-806	Solving Systems of Linear Equations Using the Graphing Calculator
		HA1-870	Solving Problems with Systems of Linear Equations and Inequalities
M.O.A1.2.10	simplify and evaluate algebraic expressions		
	· add and subtract polynomials	HA1-245	Adding and Subtracting Polynomials
	· multiply and divide binomials by binomials or monomials	HA1-220	Identifying and Multiplying Monomials
		HA1-225	Dividing Monomials and Simplifying Expressions Having an Exponent of Zero
		HA1-230	Raising a Monomial or Quotient of Monomials to a Power
		HA1-240	Identifying the Degree of Polynomials and Simplifying by Combining Like Terms
		HA1-920	Simplifying Algebraic Expressions Using the Distributive Property
		HA1-255	Multiplying Two Binomials Using the FOIL Method
		HA1-260	Squaring a Binomial and Finding the Product of a Sum and Difference
M.O.A1.2.11	create polynomials to represent and solve problems from real-world situations while focusing on symbolic and graphical patterns.	HA1-310	The Practical Use of Polynomial Equations
		HA1-940	Applications of Quadratic Equations
		HA1-945	Real-World Applications of Quadratic Functions
		HA1-536	Solving Quadratic Equations Using the Graphing Calculator
M.O.A1.2.12	use area models and graphical representations to develop and explain appropriate methods of factoring.	HA1-270	Factoring the Greatest Common Monomial Factor from a Polynomial
		HA1-271	Factoring Trinomials and the Differences of Squares Using Algebra Tiles
		HA1-275	Factoring the Difference Between Two Squares and Perfect Square Trinomials
		HA1-276	Factoring Sums and Differences of Cubes
		HA1-280	Factoring $x^2 + bx + c$ When c is Greater Than Zero
		HA1-285	Factoring $x^2 + bx + c$ When c is Less Than Zero
		HA1-290	Factoring $ax^2 + bx + c$
		HA1-291	Factoring Quadratic Equations Using the Graphing Calculator
		HA1-295	Factoring by Removing a Common Factor and Grouping
		HA1-300	Factoring a Polynomial Completely
M.O.A1.2.13	simplify radical expressions	HA1-480	Finding the Square Roots of Rational Numbers
		HA1-490	Simplifying Square Roots
		HA1-492	Simplifying Square and Cube Roots
	· through adding, subtracting, multiplying and dividing	HA1-495	Simplifying Sums and Differences of Radicals

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		HA1-500	Simplifying Products of Radicals
		HA1-505	Simplifying Quotients of Radicals
	· exact and approximate forms	HA1-495	Simplifying Sums and Differences of Radicals
		HA1-500	Simplifying Products of Radicals
		HA1-505	Simplifying Quotients of Radicals
M.O.A1.2.14	solve quadratic equations by		
	· graphing (with and without technology),	HA1-536	Solving Quadratic Equations Using the Graphing Calculator
		HA1-935	Analyzing Graphs of Quadratic Functions
	· factoring	HA1-525	Solving Quadratic Equations Involving Perfect Square Expressions
		HA1-530	Solving Quadratic Equations by Completing the Square
		HA1-305	Solving Polynomial Equations by Factoring
	· quadratic formula	HA1-535	Developing the Quadratic Formula and Using it to Solve Equations
	and draw reasonable conclusions about a situation being modeled.	HA1-805	Applying Algebra Concepts
		HA1-935	Analyzing Graphs of Quadratic Functions
		HA1-940	Applications of Quadratic Equations
		HA1-945	Real-World Applications of Quadratic Functions
		HA1-925	Using the Discriminant to Analyze the Solution of a Quadratic Equation
M.O.A1.2.15	describe real life situations involving exponential growth and decay equations including $y=2^x$ and $y=(\frac{1}{2})^x$; compare the equation with attributes of an associated table and graph to demonstrate an understanding of their interrelationship.	HA1-820	Graphing Exponential Functions - coming soon
		HA1-825	Exponential Growth and Decay - coming soon
M.O.A1.2.16	simplify and evaluate rational expressions	HA1-315	Defining Rational Expressions and Determining the Restricted Values
		HA1-320	Simplifying Rational Expressions
	· add, subtract, multiply and divide	HA1-335	Finding the LCD of Rational Expressions and Changing Fractions to Equivalent Fractions
		HA1-340	Adding and Subtracting Rational Expressions
		HA1-345	Adding and Subtracting Polynomials and Rational Expressions
		HA1-325	Multiplying Rational Expressions
		HA1-330	Dividing Rational Expressions
	· determine when an expression is undefined.	HA1-315	Defining Rational Expressions and Determining the Restricted Values
M.O.A1.2.17	perform a linear regression (with and without technology),	HA1-892	Data Analysis Using the Graphing Calculator
	· compare and evaluate methods of fitting lines to data.	HA1-965	Determining the Best-Fitting Line
	· identify the equation for the line of regression,	HA1-892	Data Analysis Using the Graphing Calculator
	· examine the correlation coefficient to determine how well the line fits the data	HA1-965	Determining the Best-Fitting Line
	· use the equation to predict specific values of a variable.	HA1-892	Data Analysis Using the Graphing Calculator
		HA1-965	Determining the Best-Fitting Line
		HA1-877	Drawing Inferences and Making Predictions from Tables and Graphs
M.O.A1.2.18	compute and interpret the expected value of random variables in simple cases using simulations and rules of probability (with and without technology).	HA1-560	Determining Probability of an Event and Complementary Event from a Random Experiment
		HA1-565	Solving Problems Involving Independent, Dependent, and Mutually Exclusive and Inclusive Events
M.O.A1.2.19	gather data to create histograms, box plots, scatter plots and normal distribution curves and use them to draw and support conclusions about the data.	HA1-885	Histograms and the Normal Distribution
		HA1-877	Drawing Inferences and Making Predictions from Tables and Graphs
M.O.A1.2.20	design experiments to model and solve problems using the concepts of sample space and probability distribution.	HA1-560	Determining Probability of an Event and Complementary Event from a Random Experiment

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M.O.A1.2.21	use multiple representations, such as words, graphs, tables of values and equations, to solve practical problems; describe advantages and disadvantages of the use of each representation.	Throughout	

MM1-Fundamentals of Mathematics

MPA- Pre-Algebra

HA1-Algebra 1

HGM - Geometry

Note: Standards were taken from the 21st Century Mathematics Content Standards and Objectives for West Virginia Schools - document adopted by the West Virginia State Board of Education and effective July 1, 2008.