



## Algebra I Correlation to Content Standards 2008

	HCPS III	I CAN Learn® Lesson #	I CAN Learn® Lesson Title
<b>Number and Operations</b>			
MA.AI.1.1	Recognize situations that can be represented by matrices	HA1-840	Introduction to Matrices
MA.AI.3.1	Apply arithmetic properties to operate on and simplify expressions that include radicals and other real numbers	HA1-480	Finding the Square Roots of Rational Numbers
		HA1-490	Simplifying Square Roots
		HA1-495	Simplifying Sums and Differences of Radicals
		HA1-500	Simplifying Products of Radicals
		HA1-505	Simplifying Quotients of Radicals
MA.AI.3.2	Apply the laws of exponents to perform operations on expressions with integral exponents	HA1-810	Simplifying Expressions Using the Multiplication Properties of Exponents
		HA1-815	Simplifying Expressions with Negative and Zero Exponents
		HA1-818	Simplifying Expressions Using the Division Properties of Exponents
MA.AI.3.3	Use addition, subtraction, and scalar multiplication of matrices to solve problems	HA1-845	Operations with Matrices
<b>Measurement</b>			
MA.AI.4.1	Use formulas, functions, or conversion equations to solve problems dealing with determining a measurement based on another derived or given measurement	MPA-155	Comparing and Converting Rates (Dimensional Analysis)
		HA1-135	Evaluating Formulas
		HA1-175	Solving Literal Equations
		HA1-890	Using Models to Derive Formulas for Two-Dimensional Geometric Figures
		HA1-891	Using Models to Derive Formulas for Three-Dimensional Solids
<b>Geometry and Spatial Sense</b>			
MA.AI.8.1	Graph linear equations using slope-intercept, point-slope, and x- and y-intercept techniques	HA1-380	Graphing Linear Equations
		HA1-398	Graphing Linear Equations Using Slope and y-Intercept or Slope and a Point
MA.AI.8.2	Determine the slope of a line when given the graph of a line, two points on the line, or the equation of the line	HA1-385	Finding the Slope of a Line from its Graph or from the Coordinates of Two Points
<b>Patterns, Functions, and Algebra</b>			
MA.AI.9.1	Determine if a linear pattern exists in a set of data and represent the data algebraically and graphically	HA1-442	Interpreting Graphs of Functions in Real-Life Situations
		HA1-447	Identifying Number Patterns
MA.AI.9.2	Compare and contrast the concepts of direct and inverse variation of a relation	HA1-450	Solving Problems Involving Direct Variation
		HA1-453	Solving Problems Involving Inverse Variation
MA.AI.9.3	Determine the zeros of a linear or quadratic function algebraically and graphically	HA1-955	Analyzing Linear Functions

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		HA1-382	Solving Linear Equations Using the Graphing Calculator
		HA1-935	Analyzing Graphs of Quadratic Functions
		HA1-536	Solving Quadratic Equations Using the Graphing Calculator
MA.AI.9.4	Compare and contrast the properties of linear functions and exponential functions	HA1-892	Data Analysis Using the Graphing Calculator
		HA1-820	Exponential Functions (Lesson in development)
MA.AI.10.1	Solve linear equations and inequalities in one variable using a variety of strategies (e.g., algebraically, by graphing, by using a graphing calculator)	HA1-115	Using the Addition and Subtraction Properties for Equations
		HA1-120	Using the Multiplication and Division Properties for Equations
		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
		HA1-180	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
MA.AI.10.2	Translate between verbal mathematical situations and algebraic expressions and equations	HA1-095	Translating Word Phrases into Algebraic Expressions
		HA1-104	Translating Word Statements into Equations
		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
		HA1-165	Using Equations to Solve Percent Problems
		HA1-170	Solving Percent of Change Problems
MA.AI.10.3	Justify the steps used in simplifying expressions and solving equations and inequalities	HA1-115	Using the Addition and Subtraction Properties for Equations
		HA1-120	Using the Multiplication and Division Properties for Equations
		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
		HA1-180	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
MA.AI.10.4	Determine the equation of a line when given the graph of the line, the slope and a point on the line, or two points on the 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
		HA1-394	Interchanging Linear Equations Between Standard Form and Slope-Intercept Form

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		HA1-395	Finding the Equation of a Line Parallel or Perpendicular to a Given Line
		HA1-402	Translating Among Multiple Representations of Functions
MA.AI.10.5	Solve systems of two linear equations in two variables algebraically and graphically	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
MA.AI.10.6	Factor first- and second-degree binomials and trinomials in one or two variables	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
MA.AI.10.7	Solve quadratic equations in one variable algebraically, graphically, or by using graphing technology	HA1-305	Solving Polynomial Equations by Factoring
		HA1-525	Solving Quadratic Equations Involving Perfect Square Expressions
		HA1-530	Solving Quadratic Equations by Completing the Square
		HA1-535	Developing the Quadratic Formula and Using it to Solve Equations
		HA1-536	Solving Quadratic Equations Using the Graphing Calculator
		HA1-935	Analyzing Graphs of Quadratic Functions
MA.AI.10.8	Select and use a variety of strategies (e.g., concrete objects, pictorial representations, algebraic manipulation) to perform operations on polynomials	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
		HA1-245	Adding and Subtracting Polynomials
		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
MA.AI.10.9	Analyze transformations of lines and understand how the transformation are represented in equations	HA1-401	How Variations of "m" and "b" Affect the Graph of $y = mx + b$
		HA1-927	Graphing $f(x) = ax^2$ Using Dilations
		HA1-928	Graphing $f(x) = ax^2$ Using Dilations and Reflections
		HA1-929	Graphing $f(x) = ax^2 + c$ Using Dilations, Reflections, and Vertical Translations
<b>Data Analysis, Statistics, and Probability</b>			
MA.AI.12.1	Compare data sets using statistical techniques (e.g., measures of central tendency, standard deviation, range, stem-and-leaf plots, and box-and-whisker graphs)	HA1-545	Making a Frequency Distribution Table
		HA1-540	Finding the Mean, Median, and Mode from Data and Frequency Distribution Tables
		HA1-541	Analyzing Data Using the Measures of Central Tendency and the Range
		HA1-555	Computing the Range, Variance, and Standard Deviation of a Set of Data
		MPA-096	Constructing Stem-and-Leaf Plots
		MPA-097	Constructing Box-and-Whisker Plots

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MA.AI.12.2	Display bivariate data in a scatter plot, describe its shape, and determine the line of best fit that models a trend (if a trend exists)	HA1-965	Determining the Best-Fitting Line

MM1-Fundamentals of Mathematics

MPA- Pre-Algebra

HA1-Algebra 1

HGM - Geometry (New course in development)

Note: Standards were taken from the 2007 Hawaii Content and Performance Standards for Mathematics – Algebra I document adopted by the Hawaiian State Board of Education in 2007.