



## High School Correlation to Mathematics Standards

	Mathematics Curriculum Framework	I CAN Learn <sup>®</sup> Lesson #	I CAN Learn <sup>®</sup> Lesson Title
<b>STRAND 1</b>	<b>NUMBER AND OPERATIONS</b>		
Concept 1	Number Sense		
PO 1.	Justify with examples the relation between the number system being used (natural numbers, whole numbers, integers, rational numbers and irrational numbers) and the question of whether or not an equation has a solution in that number system.	HA1-020	Classifying Numbers into Subsets of Real Numbers
		HA1-516	Applications of the Pythagorean Theorem
		HA1-520	Finding the Distance Between Two Points on a Coordinate Plane
		HA1-525	Solving Quadratic Equations Involving Perfect Square Expressions
PO 2.	Sort sets of numbers as finite or infinite, and justify the sort.	HA1-020	Classifying Numbers into Subsets of Real Numbers
PO 3.	Express that the distance between two numbers is the absolute value of their difference.	HA1-030	Using Opposites and Absolute Values
		HA1-035	Adding Real Numbers Using a Number Line
Concept 2	Numerical Operations		
PO 1.	Solve word problems involving absolute value, powers, roots, and scientific notation.	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
		HA1-235	Applying Scientific Notation
		HA1-887	Applications of Absolute Value, Step, and Constant Functions
		HA1-510	Solving Radical Equations
		HA1-515	Using the Pythagorean Theorem
		HA1-516	Applications of the Pythagorean Theorem
PO 2.	Summarize the properties of and connections between real number operations; justify manipulations of expressions using the properties of real number operations.	HA1-075	Simplifying Algebraic Expressions by Combining Like Terms
		HA1-076	Basic Distributive Property
		HA1-085	Simplifying Expressions Using the Properties of Real Numbers
		HA1-079	Using a Concrete Model to Simplify Algebraic Expressions
		HA1-090	Simplifying Expressions Using the Property of -1
		HA1-080	Simplifying and Evaluating Algebraic Expressions Containing Grouping Symbols
		HA1-130	Identifying Postulates, Theorems, and Properties
PO 3.	Calculate powers and roots of rational and irrational numbers.	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
		HA1-480	Finding the Square Roots of Rational Numbers
		HA1-490	Simplifying Square Roots
		HA1-492	Simplifying Square and Cube Roots
PO 4.	Compute using scientific notation.	HA1-235	Applying Scientific Notation

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Concept 3	Estimation		
PO 1.	Determine rational approximations of irrational numbers.	HA1-490	Simplifying Square Roots
		HA1-492	Simplifying Square and Cube Roots
PO 2.	Use estimation to determine the reasonableness of a solution.	Throughout	This standard is demonstrated throughout. For examples please see:
		HA1-890	Using Models to Derive Formulas for Two-Dimensional Geometric Figures
		HA1-891	Using Models to Derive Formulas for Three-Dimensional Solids
		HA1-455	Solving Systems of Linear Equations by Graphing
PO 3.	Determine when an estimate is more appropriate than an exact answer.	HA1-960	Real-World Applications of Linear Functions
		HA1-516	Applications of the Pythagorean Theorem
		HA1-945	Real-World Applications of Quadratic Functions
		HA1-965	Determining the Best-Fitting Line
PO 4.	Estimate the location of the rational or irrational numbers on a number line.	HA1-015	Graphing Real Numbers Using a Number Line
<b>STRAND 2</b>	<b>DATA ANALYSIS, PROBABILITY AND DISCRETE MATHEMATICS</b>		
Concept 1	Data Analysis (Statistics)		
PO 1.	Draw inferences about data sets from lists, tables, matrices, and plots.	HA1-545	Making a Frequency Distribution Table
		HA1-541	Analyzing Data Using the Measures of Central Tendency and the Range
		HA1-965	Determining the Best-Fitting Line
		HA1-877	Drawing Inferences and Making Predictions from Tables and Graphs
		HA1-840	Introduction to Matrices
PO 2.	Organize collected data into an appropriate graphical representation with or without technology.	HA1-892	Data Analysis Using the Graphing Calculator
		HA1-965	Determining the Best-Fitting Line
		HA1-886	Unions and Intersections of Sets Using Venn Diagrams
PO 3.	Display data, including paired data, as lists, tables, matrices, and plots with or without technology; make predictions and observations about patterns or departures from patterns.	HA1-892	Data Analysis Using the Graphing Calculator
		HA1-965	Determining the Best-Fitting Line
		HA1-840	Introduction to Matrices
PO 4.	Make inferences by comparing data sets using one or more summary statistics.	HA1-877	Drawing Inferences and Making Predictions from Tables and Graphs
PO 5.	Determine which measure of center is most appropriate in a given situation and explain why.	HA1-541	Analyzing Data Using the Measures of Central Tendency and the Range
PO 6.	Evaluate the reasonableness of conclusions drawn from data analysis.	HA1-892	Data Analysis Using the Graphing Calculator
		HA1-965	Determining the Best-Fitting Line
PO 7.	Identify misrepresentations and distortions in displays of data and explain why they are misrepresentations or distortions.	MPA-840	Interpreting Data
		MPA-099	Recognizing Misleading Statistics and Graphs
PO 8.	Design simple experiments or investigations and collect data to answer questions.	HA1-885	Histograms and the Normal Distribution
Concept 2	Probability		
PO 1.	Make predictions and solve problems based on theoretical probability models.	HA1-560	Determining Probability of an Event and Complementary Event from a Random Experiment
PO 2.	Determine the theoretical probability of events, estimate probabilities using experiments, and compare the two.	HA1-560	Determining Probability of an Event and Complementary Event from a Random Experiment
PO 3.	Use simulations to model situations involving independent and dependent events.	HA1-565	Solving Problems Involving Independent, Dependent, and Mutually Exclusive and Inclusive Events
PO 4.	Explain and use the law of large numbers (that experimental results tend to approach theoretical probabilities after a large number of trials).	HA1-885	Histograms and the Normal Distribution
PO 5.	Use concepts and formulas of area to calculate geometric		

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	probabilities.		
Concept 3	Systemic Listing and Counting		
PO 1.	Apply the addition and multiplication principles of counting, representing these principles algebraically using factorial notation.	HA1-879	Applying Counting Techniques to Permutations and Combinations
PO 2.	Apply appropriate means of computing the number of possible arrangements of items using permutations where order matters, and combinations where order does not matter.	HA1-879	Applying Counting Techniques to Permutations and Combinations
PO 3.	Determine the number of possible outcomes of an event.	HA1-560	Determining Probability of an Event and Complementary Event from a Random Experiment
Concept 4	Vertex-Edge Graphs		
PO 1.	Solve network problems using graphs and matrices.		
<b>STRAND 3</b>	<b>PATTERNS, ALGEBRA AND FUNCTIONS</b>		
Concept 1	Patterns		
PO 1.	Recognize, describe, and analyze sequences using tables, graphs, words, or symbols; use sequences in modeling.	HA1-447	Identifying Number Patterns
		HA1-448	Finding the nth Term of a Pattern
PO 2.	Determine a specific term of a sequence.	HA1-447	Identifying Number Patterns
		HA1-448	Finding the nth Term of a Pattern
PO 3.	Create sequences using explicit and recursive formulas involving both subscripts and function notation.	HA1-447	Identifying Number Patterns
		HA1-448	Finding the nth Term of a Pattern
Concept 2	Functions and Relationships		
PO 1.	Sketch and interpret a graph that models a given context, make connections between the graph and the context, and solve maximum and minimum problems using the graph.	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
		HA1-960	Real-World Applications of Linear Functions
		HA1-455	Solving Systems of Linear Equations by Graphing
		HA1-870	Solving Problems with Systems of Linear Equations and Inequalities
		HA1-935	Analyzing Graphs of Quadratic Functions
		HA1-940	Applications of Quadratic Equations
		HA1-945	Real-World Applications of Quadratic Functions
		HA1-820	Graphing Exponential Functions
		HA1-536	Solving Quadratic Equations Using the Graphing Calculator
		HA1-805	Applying Algebra Concepts
PO 2.	Determine if a relationship represented by an equation, graph, table, description, or set of ordered pairs is a function.	HA1-436	Identifying Relations
		HA1-437	Identifying Relations as Functions
PO 3.	Use function notation; evaluate a function at a specified value in its domain.	HA1-439	Using Function Notation
		HA1-438	Finding the Domain and Range of Functions
PO 4.	Use equations, graphs, tables, descriptions, or sets of ordered pairs to express a relationship between two variables.	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
PO 5.	Recognize and solve problems that can be modeled using a system of two equations in two variables.	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

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		HA1-806	Solving Systems of Linear Equations Using the Graphing Calculator
		HA1-870	Solving Problems with Systems of Linear Equations and Inequalities
PO 6.	Recognize and solve problems that can be modeled using a quadratic function.	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
		HA1-935	Analyzing Graphs of Quadratic Functions
		HA1-940	Applications of Quadratic Equations
		HA1-945	Real-World Applications of Quadratic Functions
PO 7.	Determine domain and range of a function from an equation, graph, table, description, or set of ordered pairs.	HA1-438	Finding the Domain and Range of Functions
Concept 3	Algebraic Representations		
PO 1.	Create and explain the need for equivalent forms of an equation or expression.	HA1-805	Applying Algebra Concepts
		HA1-889	Complementary and Supplementary Angles
		HA1-890	Using Models to Derive Formulas for Two-Dimensional Geometric Figures
		HA1-891	Using Models to Derive Formulas for Three-Dimensional Solids
		HA1-079	Using a Concrete Model to Simplify Algebraic Expressions
		HA1-144	Using a Concrete Model to Solve Equations with Variables on Both Sides
PO 2.	Solve formulas for specified variables.		
PO 3.	Write an equation given a table of values, two points on the line, the slope and a point on the line, or the graph of 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
		HA1-395	Finding the Equation of a Line Parallel or Perpendicular to a Given Line
		HA1-955	Analyzing Linear Functions
PO 4.	Determine from two linear equations whether the lines are parallel, perpendicular, coincident, or intersecting but not perpendicular.	HA1-455	Solving Systems of Linear Equations by Graphing
PO 5.	Solve linear equations and equations involving absolute value, with one variable.	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
		HA1-210	Solving Equations Involving Absolute Value
PO 6.	Solve linear inequalities in one variable.	HA1-105	Translating Word Statements into Inequalities
		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
		HA1-215	Solving Absolute Value Inequalities
PO 7.	Solve systems of two linear equations in two variables.	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

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PO 8.	Simplify and evaluate polynomials, rational expressions, expressions containing absolute value, and radicals.	HA1-085	Simplifying Expressions Using the Properties of Real Numbers
		HA1-079	Using a Concrete Model to Simplify Algebraic Expressions
		HA1-090	Simplifying Expressions Using the Property of -1
		HA1-080	Simplifying and Evaluating Algebraic Expressions Containing Grouping Symbols
		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
		HA1-320	Simplifying Rational Expressions
		HA1-492	Simplifying Square and Cube Roots
PO 9.	Multiply and divide monomial expressions with integer exponents.	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
PO 10.	Add, subtract, and multiply polynomial and rational expressions.	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
		HA1-325	Multiplying Rational Expressions
		HA1-330	Dividing Rational Expressions
		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
		HA1-350	Simplifying Complex Fractions
PO 11.	Solve square root equations involving only one radical.	HA1-510	Solving Radical Equations
		HA1-525	Solving Quadratic Equations Involving Perfect Square Expressions
PO 12.	Factor quadratic polynomials in the form of $ax^2 + bx + c$ where a, b, and c are integers.	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 Trinomial Squares
		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
PO 13.	Solve quadratic equations.	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
PO 14.	Factor higher order polynomials.	HA1-276	Factoring Sums and Differences of Cubes
PO 15.	Solve problems using operations with matrices.	HA1-845	Operations with Matrices
Concept 4	Analysis of Change		
PO 1.	Determine the slope and intercepts of the graph of a linear function, interpreting slope as a constant rate of change.	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
PO 2.	Solve problems involving rate of change.	HA1-450	Solving Problems Involving Direct Variation
		HA1-955	Analyzing Linear Functions
		HA1-960	Real-World Applications of Linear Functions
PO 3.	Solve interest problems.	MPA-128	Solving Real-World Problems Involving Simple and Compound Interest

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		HA1-855	Solving Exponential Equations
<b>STRAND 4</b>	<b>GEOMETRY AND MEASUREMENT</b>		
Concept 1	Geometric Properties		
PO 1.	Use the basic properties of a circle (relationships between angles, radii, intercepted arcs, chords, tangents, and secants) to prove basic theorems and solve problems.	Content under review	
PO 2.	Visualize solids and surfaces in 3-dimensional space when given 2-dimensional representations and create 2-dimensional representations for the surfaces of 3-dimensional objects.	HA1-893	Constructing Solids from Different Perspectives
PO 3.	Create and analyze inductive and deductive arguments concerning geometric ideas and relationships.	HA1-449	Applying Inductive and Deductive Reasoning
PO 4.	Apply properties, theorems, and constructions about parallel lines, perpendicular lines, and angles to prove theorems.	HGM-060	Examining Angle Relationships and Parallel Lines
		HGM-065	Proving Lines Parallel
		HGM-070	Identifying Relationships: Parallel Lines and Segments
		HGM-075	Examining Perpendicular Lines
PO 5.	Explore Euclid's five postulates in the plane and their limitations.		
PO 6.	Solve problems using angle and side length relationships and attributes of polygons.	HGM-145	Classifying Triangles and Applying Angle Relationships
PO 7.	Use the hierarchy of quadrilaterals in deductive reasoning.	Content under review	
PO 8.	Prove similarity and congruence of triangles.	Content under review	
PO 9.	Solve problems using the triangle inequality property.	Content under review	
PO 10.	Solve problems using right triangles, including special triangles.	HGM-215 HGM-220	Investigating Properties of the 30°-60°-90° Triangle Investigating Properties of the 45°-45°-90° Triangle
PO 11.	Solve problems using the sine, cosine, and tangent ratios of the acute angles of a right triangle.	Content under review	
Concept 2	Transformation of Shape		
PO 1.	Determine whether a transformation of a 2-dimensional figure on a coordinate plane represents a translation, reflection, rotation, or dilation and whether congruence is preserved.	Content under review	
PO 2.	Determine the new coordinates of a point when a single transformation is performed on a 2-dimensional figure.	Content under review	
PO 3.	Sketch and describe the properties of a 2-dimensional figure that is the result of two or more transformations.	Content under review	
PO 4.	Determine the effects of a single transformation on linear or area measurements of a 2-dimensional figure.	Content under review	
Concept 3	Coordinate Geometry		
PO 1.	Determine how to find the midpoint between two points in the coordinate plane.	HGM-080	Finding the Midpoint of a Segment
PO 2.	Illustrate the connection between the distance formula and the Pythagorean Theorem.	HGM-085	Finding the Distance Between Two Points
PO 3.	Determine the distance between two points in the coordinate plane.	HGM-085	Finding the Distance Between Two Points
PO 4.	Verify characteristics of a given geometric figure using coordinate formulas for distance, midpoint, and slope to confirm parallelism, perpendicularity, and congruence.	HGM-090	Examining Slopes of Parallel and Perpendicular Lines
PO 5.	Graph a linear equation or linear inequality in two variables.	HA1-380 HA1-415 HA1-416	Graphing Linear Equations Graphing Linear Inequalities with Two Variables Graphing Linear Inequalities with Two Variables Using the Graphing Calculator
PO 6.	Describe how changing the parameters of a linear function affect the shape and position of its graph.	HA1-401	How Variations of "m" and "b" Affect the Graph of $y = mx + b$
PO 7.	Determine the solution to a system of linear equations in two variables from the graphs of the equations.	HA1-455	Solving Systems of Linear Equations by Graphing

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PO 8.	Graph a quadratic function and interpret x-intercepts as zeros.	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
		HA1-935	Analyzing Graphs of Quadratic Functions
Concept 4	Measurement		
PO 1.	Use dimensional analysis to keep track of units of measure when converting.	MPA-155	Comparing and Converting Rates
PO 2.	Find the length of a circular arc; find the area of a sector of a circle.	Content under review	
PO 3.	Determine the effect that changing dimensions has on the perimeter, area, or volume of a figure.	MPA-111	Comparing Perimeters, Areas, and Volumes of Similar Geometric Figures and Solids
PO 4.	Solve problems involving similar figures using ratios and proportions.	MPA-121	Identifying Similar and Congruent Polygons Using Proportions
PO 5.	Calculate the surface area and volume of 3-dimensional figures and solve for missing measures.	HA1-891	Using Models to Derive Formulas for Three-Dimensional Solids
<b>STRAND 5</b>			
<b>STRUCTURE AND LOGIC</b>			
Concept 1	Algorithms and Algorithmic Thinking		
PO 1.	Select an algorithm that explains a particular mathematical process; determine the purpose of a simple mathematical algorithm.	Throughout	This standard is demonstrated throughout. For examples please see:
		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
		HA1-170	Solving Percent of Change Problems
		HA1-385	Finding the Slope of a Line from its Graph or from the Coordinates of Two Points
PO 2.	Analyze algorithms for validity and equivalence recognizing the purpose of the algorithm.	HA1-955	Analyzing Linear Functions
		HA1-401	How Variations of "m" and "b" Affect the Graph of $y = mx + b$
		HA1-935	Analyzing Graphs of Quadratic Functions
Concept 2	Logic, Reasoning, Problem Solving, and Proof		
PO 1.	Analyze a problem situation, determine the question(s) to be answered, organize given information, determine how to represent the problem, and identify implicit and explicit assumptions that have been made.	Throughout	This standard is demonstrated throughout. For examples please see:
		HA1-160	Writing an Equation to Solve Distance, Rate, and Time Problems
		HA1-362	Solving Work Problems
		HA1-310	The Practical Use of Polynomial Equations
		HA1-870	Solving Problems with Systems of Linear Equations and Inequalities
PO 2.	Solve problems by formulating one or more strategies, applying the strategies, verifying the solution(s), and communicating the reasoning used to obtain the solution(s).	Throughout	This standard is demonstrated throughout. For examples please see:
		HA1-889	Complementary and Supplementary Angles
		HA1-890	Using Models to Derive Formulas for Two-Dimensional Geometric Figures
		HA1-891	Using Models to Derive Formulas for Three-Dimensional Solids
PO 3.	Evaluate a solution for reasonableness and interpret the meaning of the solution in the context of the original problem.	HA1-210	Solving Equations Involving Absolute Value
		HA1-449	Applying Inductive and Deductive Reasoning
		HA1-155	Writing an Equation to Solve Consecutive Integer Problems
		HA1-290	Factoring $ax^2 + bx + c$
		HA1-310	The Practical Use of Polynomial Equations
		HA1-510	Solving Radical Equations
PO 4.	Generalize a solution strategy for a single problem to a class of related problems; explain the role of generalizations in inductive and deductive reasoning.	HA1-449	Applying Inductive and Deductive Reasoning
		HGM-035	Using Deductive Reasoning: Algebraic Proof

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		HA1-402	Translating Among Multiple Representations of Functions
		HA1-892	Data Analysis Using the Graphing Calculator
		HA1-441	Applications of Functions and Relations Involving Distance, Rate, and Time
PO 5.	Summarize and communicate mathematical ideas using formal and informal reasoning.	HA1-881	Completing and Validating Algebraic Proofs
		HGM-035	Using Deductive Reasoning: Algebraic Proof
		HGM-065	Proving Lines Parallel
PO 6.	Synthesize mathematical information from multiple sources to draw a conclusion, make inferences based on mathematical information, evaluate the conclusions of others, analyze a mathematical argument, and recognize flaws or gaps in reasoning.	HA1-881	Completing and Validating Algebraic Proofs
		HGM-035	Using Deductive Reasoning: Algebraic Proof
		HGM-065	Proving Lines Parallel
PO 7.	Find structural similarities within different algebraic expressions and geometric figures.	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
		HGM-020	Using Inductive Reasoning: Linear and Non-Linear Relationships
		MPA-111	Comparing Perimeters, Areas, and Volumes of Similar Geometric Figures and Solids
PO 8.	Use inductive reasoning to make conjectures, use deductive reasoning to analyze and prove a valid conjecture, and develop a counterexample to refute an invalid conjecture.	HA1-449	Applying Inductive and Deductive Reasoning
		HGM-020	Using Inductive Reasoning: Linear and Non-Linear Relationships
		HGM-027	Identifying Counterexamples and Using Proof by Contradiction
		HGM-030	Deductive Reasoning: Writing Conditional Statements
		HGM-035	Using Deductive Reasoning: Algebraic Proof
PO 9.	State the inverse, converse, and contrapositive of a given statement and state the relationship between the truth value of these statements and the original statement.	HA1-449	Applying Inductive and Deductive Reasoning
		HGM-020	Using Inductive Reasoning: Linear and Non-Linear Relationships
		HGM-027	Identifying Counterexamples and Using Proof by Contradiction
		HGM-030	Deductive Reasoning: Writing Conditional Statements
		HGM-035	Using Deductive Reasoning: Algebraic Proof
PO 10.	List related if... then statements in logical order.	HA1-449	Applying Inductive and Deductive Reasoning
		HGM-020	Using Inductive Reasoning: Linear and Non-Linear Relationships
		HGM-027	Identifying Counterexamples and Using Proof by Contradiction
		HGM-030	Deductive Reasoning: Writing Conditional Statements
		HGM-035	Using Deductive Reasoning: Algebraic Proof
PO 11.	Draw a simple valid conclusion from a given if...then statement and a minor premise.	HA1-449	Applying Inductive and Deductive Reasoning
		HGM-020	Using Inductive Reasoning: Linear and Non-Linear Relationships
		HGM-027	Identifying Counterexamples and Using Proof by Contradiction
		HGM-030	Deductive Reasoning: Writing Conditional Statements
		HGM-035	Using Deductive Reasoning: Algebraic Proof
PO 12.	Construct a simple formal deductive proof.	HGM-030	Deductive Reasoning: Writing Conditional Statements
		HGM-035	Using Deductive Reasoning: Algebraic Proof
PO 13.	Identify and explain the roles played by definitions, postulates, propositions and theorems in the logical structure of mathematics, including Euclidean geometry.	HA1-130	Identifying Postulates, Theorems, and Properties
		HA1-881	Completing and Validating Algebraic Proofs

MM1-Fundamentals of Mathematics

MPA- Pre-Algebra

HA1-Algebra 1

HGM - Geometry

Note: Standards were taken from the Arizona Mathematics Standards by Grade Level document adopted by the Arizona State Board of Education and published in August 2003.