



8th Grade GPS Correlation

	Georgia Performance Standards	I CAN Learn® Lesson #	I CAN Learn® Lesson Title
M8N.	NUMBER AND OPERATIONS		
M8N1.	Students will understand different representations of numbers including square roots, exponents, and scientific notation.		
	a. Find square roots of perfect squares.	MPA-064 HA1-480	Finding Square Roots of Perfect Squares Finding the Square Roots of Rational Numbers
	b. Recognize the (positive) square root of a number as a length of a side of a square with a given area.	MPA-064	Finding Square Roots of Perfect Squares
	c. Recognize square roots as points and as lengths on a number line.	MPA-065	Estimating Square Roots
	d. Understand that the square root of 0 is 0 and that every positive number has two square roots that are opposite in sign.	MPA-064	Finding Square Roots of Perfect Squares
	e. Recognize and use the radical symbol to denote the positive square root of a positive number.	MPA-064	Finding Square Roots of Perfect Squares
	f. Estimate square roots of positive numbers.	MPA-065	Estimating Square Roots
	g. Simplify, add, subtract, multiply, and divide expressions containing square roots.	HA1-480	Finding the Square Roots of Rational Numbers
		HA1-490	Simplifying Square Roots
		HA1-495	Simplifying Sums and Differences of Radicals
	h. Distinguish between rational and irrational numbers.	MPA-124	Classifying Numbers in the Real Number System
	i. Simplify expressions containing integer exponents.	MPA-021	Converting Between Standard and Scientific Notation
		HA1-860	Using the Laws of Exponents
		HA1-861	Simplifying Expressions with Negative and Zero Exponents
	j. Express and use numbers in scientific notation.	MPA-021	Converting Between Standard and Scientific Notation
	k. Use appropriate technologies to solve problems involving square roots, exponents, and scientific notation.	MPA-065	Estimating Square Roots
		HA1-235	Writing, Multiplying, and Dividing Numbers Written in Scientific Notation
		<i>New Lesson</i>	<i>HA1-492 - Simplifying Square and Cube Roots</i>
M8G.	GEOMETRY		
M8G1.	Students will understand and apply the properties of parallel and perpendicular lines and understand the meaning of congruence.		
	a. Investigate characteristics of parallel and perpendicular lines both algebraically and geometrically.	MPA-105	Determining the Measure of Angles Made by Parallel Lines and a Transversal
	b. Apply properties of angle pairs formed by parallel lines cut by a transversal.	MPA-105	Determining the Measure of Angles Made by Parallel Lines and a Transversal
	c. Understand the properties of the ratio of segments of parallel lines cut by one or more transversals.	MPA-105	Determining the Measure of Angles Made by Parallel Lines and a Transversal
	d. Understand the meaning of congruence: that all corresponding angles are congruent and all corresponding sides are congruent.	MPA-121	Identifying Similar and Congruent Polygons Using Proportions

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M8G2.	Students will understand and use the Pythagorean theorem.		
	a. Apply properties of right triangles, including the Pythagorean theorem.	MPA-066	Solving Problems Using the Pythagorean Theorem
		HA1-515	Using the Pythagorean Theorem
		HA1-516	Applications of the Pythagorean Theorem
	b. Recognize and interpret the Pythagorean theorem as a statement about areas of squares on the sides of a right triangle.	MPA-066	Solving Problems Using the Pythagorean Theorem
		HA1-515	Using the Pythagorean Theorem
		HA1-516	Applications of the Pythagorean Theorem
M8A.	ALGEBRA		
M8A1.	Students will use algebra to represent, analyze, and solve problems.		
	a. Represent a given situation using algebraic expressions or equations in one variable.	MPA-125	Formulating a Possible Problem Situation Given an Equation
		HA1-104	Translating Word Statements into Equations
	b. Simplify and evaluate algebraic expressions.	HA1-005	Evaluating Algebraic Expressions
		HA1-060	Evaluating Algebraic Expressions
		HA1-065	Evaluating Expressions Containing Exponents
	c. Solve algebraic equations in one variable, including equations involving absolute values.	HA1-115	Using the Addition and Subtraction Properties for Equations
		HA1-120	Using the Multiplication and Division Properties for Equations
		HA1-125	Solving Equations Using More Than One Property
		HA1-140	Using the Addition and Subtraction Properties for Equations
		HA1-145	Using the Multiplication and Division Properties for Equations
		HA1-382	Solving Linear Equations Using the Graphing Calculator
		HA1-210	Solving Equations Involving Absolute Value
	d. Interpret solutions in problem contexts.	HA1-150	Writing an Equation to Solve Word Problems
		HA1-155	Writing an Equation to Solve Consecutive Integer Problems
		HA1-160	Writing an Equation to Solve Distance, Rate, and Time Problems
		HA1-165	Using Equations to Solve Percent Problems
		HA1-170	Solving Percent of Change Problems
		HA1-135	Evaluating Formulas
M8A2.	Students will understand and graph inequalities in one variable.		
	a. Represent a given situation using an inequality in one variable.	HA1-105	Translating Word Statements into Inequalities
	b. Use the properties of inequality to solve inequalities.	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
	c. Graph the solution of an inequality on a number line.	HA1-180	Graphing Equations and Inequalities on the Number Line
	d. Interpret solutions in problem contexts.	HA1-105	Translating Word Statements into Inequalities
		MPA-109	Solving and Graphing Linear Inequalities on a Number Line
M8A3.	Students will understand relations and linear functions.		
	a. Recognize a relation as a correspondence between varying quantities.	HA1-436	Identifying Relations
	b. Recognize a function as a correspondence between inputs and outputs where the output for each input must be unique.	HA1-437	Identifying Relations as Functions
	c. Distinguish between relations that are functions and those that are not functions.	HA1-437	Identifying Relations as Functions
	d. Recognize functions in a variety of representations and a variety of contexts.	HA1-438	Finding the Domain and Range of Functions
	e. Use tables to describe sequences recursively and with a formula in closed form.	HA1-447	Identifying Number Patterns

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	f. Understand and recognize arithmetic sequences as linear functions with whole-number input values.	HA1-448	Finding the nth Term of a Pattern
		HA1-439	Finding the Domain and Range of Functions
	h. Interpret the constant difference in an arithmetic sequence as the slope of the associated linear function.	HA1-955	Analyzing Linear Functions
	i. Identify relations and functions as linear or nonlinear.	HA1-436	Identifying Relations
		HA1-437	Identifying Relations as Functions
	j. Translate among verbal, tabular, graphic, and algebraic representations of functions.	<i>New Lesson</i>	<i>HA1-402 - Translating Among Multiple Representations of Functions</i>
M8A4.	Students will graph and analyze graphs of linear equations.		
	a. Interpret slope as a rate of change.	HA1-955	Analyzing Linear Functions
	b. Determine the meaning of the slope and y-intercept in a given situation.	HA1-380	Graphing Linear Equations
	c. Graph equations of the form $y = mx + b$.	HA1-380	Graphing Linear Equations
	d. Graph equations of the form $ax + by = c$.	HA1-394	Graphing Linear Equations
	e. Determine the equation of a line given a graph, numerical information that defines the line, or a context involving a linear relationship.	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
	f. Solve problems involving linear relationships.	HA1-441	Applications of Functions and Relations Involving Distance, Rate, and Time
		HA1-960	Real-World Applications of Linear Functions
		HA1-450	Solving Problems Involving Direct Variation
		HA1-453	Solving Problems Involving Inverse Variation
M8A5.	Students will understand systems of linear equations and use them to solve problems.		
	a. Given a problem context, write an appropriate system of linear equations.	HA1-805	Applying Algebra Concepts
	b. Solve systems of equations graphically and algebraically, using technology as appropriate.	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
	c. Interpret solutions in problem contexts.	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
M8D.	DATA ANALYSIS AND PROBABILITY		
M8D1.	Students will apply basic concepts of set theory.		
	a. Demonstrate relationships among sets through use of Venn diagrams.	HA1-886	Unions and Intersections of Sets Using Venn Diagrams
	b. Determine subsets, complements, intersection, and union of sets.	HA1-886	Unions and Intersections of Sets Using Venn Diagrams
	c. Use set notation to denote elements of a set.	HA1-886	Unions and Intersections of Sets Using Venn Diagrams
M8D2.	Students will determine the number of outcomes related to a given event.		
	a. Use tree diagrams to find the number of outcomes.	MPA-089	Using Tree Diagrams
	b. Apply the addition and multiplication principles of counting.	HA1-879	Applying Counting Techniques to Permutations and Combinations
M8D3.	Students will use the basic laws of probability.		
	a. Find the probability of simple independent events.	MPA-090	Finding the Probability of Simple Real-Life Events
	b. Find the probability of compound independent events	MPA-112	Constructing Sample Spaces for Compound Events (Dependent and Independent)
		MPA-113	Finding the Probability of Compound Events Through Experimentation
		MPA-114	Finding the Odds of Events and Experimental Probability from a Math Model

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		HA1-560	Data Analysis Using the Graphing Calculator
M8D4.	Students will organize, interpret, and make inferences from statistical data.		
	a. Gather data that can be modeled with a linear function.	<i>Lesson in Review</i>	
	b. Estimate and determine a line of best fit from a scatter plot.	HA1-892	Data Analysis Using the Graphing Calculator
		HA1-965	Data Analysis Using the Graphing Calculator
		MPA-132	Interpreting and Creating Scatterplots

MM1-Fundamentals of Mathematics

MPA- Pre-Algebra

HA1-Algebra 1

Note: Standards were taken from the Georgia Performance Standards document adopted by the Georgia State Board of Education in 2005.