



Correlation to 8th Grade Core Content for Assessment

	Mathematics Curriculum Framework	I CAN Learn® Lesson Number	I CAN Learn® Lesson Title
NUMBER AND COMPUTATION			
M.8.1.1.K1	Knows, explains, and uses equivalent representations for rational numbers and simple algebraic expressions including integers, fractions, decimals, percents, and ratios; rational number bases with integer exponents; rational numbers written in scientific notation with integer exponents; time; and money.	MPA-013	Using Powers and Exponents in Expressions
		MPA-021	Converting Between Standard and Scientific Notation
		MPA-029	Converting Fractions and Decimals
		MPA-032	Converting Improper Fractions and Mixed Numbers
		MPA-041	Writing Simple Algebraic Expressions from Phrases
		MPA-043	Reading and Writing Integers
		MPA-078	Expressing Ratios as Fractions and Determining Equivalency
		MPA-081	Converting Fractions, Decimals, and Percents I
		MPA-082	Converting Fractions, Decimals, and Percents II
		HA1-075	Simplifying Algebraic Expressions by Combining Like Terms
		HA1-076	Basic Distributive Property
		HA1-085	Simplifying Expressions Using the Properties of Real Numbers
		HA1-860	Using the Laws of Exponents
		Throughout	
M.8.1.1.K2	Compares and orders rational numbers, the irrational number pi, and algebraic expressions, e.g., which expression is greater $-3n$ or $3n$? It depends on the value of n . If n is positive, $3n$ is greater. If n is negative, $-3n$ is greater. If n is zero, they are equal.	MPA-016	Comparing and Ordering Decimals
		MPA-031	Comparing and Ordering Fractions and Decimals
		MPA-045	Comparing and Ordering Integers
		HA1-025	Comparing and Ordering Real Numbers
M.8.1.1.K3	Explains the relative magnitude between rational numbers, the irrational number pi, and algebraic expressions.	Throughout	
M.8.1.1.K4	Recognizes and describes irrational numbers, e.g., $\sqrt{2}$ is a non-repeating, non-terminating decimal; or π (pi) is a non-terminating decimal.	MPA-124	Classifying Numbers in the Real Number System
		HA1-020	Classifying Numbers into Subsets of Real Numbers
M.8.1.1.K5	Knows and explains what happens to the product or quotient when: a. a positive number is multiplied or divided by a rational number greater than zero and less than one, e.g., if 24 is divided by $1/3$, will the answer be larger than 24 or smaller than 24? Explain.	MPA-019	Multiplying Decimals
		MPA-036	Multiplying Fractions and Mixed Numbers and Simplifying
		MPA-037	Dividing Fractions and Mixed Numbers and Simplifying

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		MPA-051	Multiplying Integers with Like and Unlike Signs
		MPA-052	Dividing Integers with Like and Unlike Signs
		HA1-050	Multiplying Real Numbers
		HA1-055	Dividing Real Numbers
	b. a positive number is multiplied or divided by a rational number greater than one.	MPA-019	Multiplying Decimals
		MPA-036	Multiplying Fractions and Mixed Numbers and Simplifying
		MPA-037	Dividing Fractions and Mixed Numbers and Simplifying
		MPA-051	Multiplying Integers with Like and Unlike Signs
		MPA-052	Dividing Integers with Like and Unlike Signs
		HA1-050	Multiplying Real Numbers
		HA1-055	Dividing Real Numbers
	c. a nonzero real number is multiplied or divided by zero, (For purposes of assessment, an explanation of division by zero will not be expected.)	MPA-019	Multiplying Decimals
		MPA-036	Multiplying Fractions and Mixed Numbers and Simplifying
		MPA-037	Dividing Fractions and Mixed Numbers and Simplifying
		MPA-051	Multiplying Integers with Like and Unlike Signs
		MPA-052	Dividing Integers with Like and Unlike Signs
		HA1-050	Multiplying Real Numbers
		HA1-055	Dividing Real Numbers
M.8.1.2.K6	Explains and determines the absolute value of real numbers.	HA1-030	Using Opposites and Absolute Values
M.8.1.2.K1	Explains and illustrates the relationship between the subsets of the real number system [natural (counting) numbers, whole numbers, integers, rational numbers, irrational numbers] using mathematical models, e.g., number lines or Venn diagrams.	MPA-124	Classifying Numbers in the Real Number System
		HA1-020	Classifying Numbers into Subsets of Real Numbers
M.8.1.2.K2	Identifies all the subsets of the real number system [natural (counting) numbers, whole numbers, integers, rational numbers, irrational numbers] to which a given number belongs. (For the purpose of assessment, irrational numbers will not be included.)	MPA-124	Classifying Numbers in the Real Number System
		HA1-020	Classifying Numbers into Subsets of Real Numbers
M.8.1.2.K3	Names, uses, and describes these properties with the rational number system and demonstrates their meaning including the use of concrete objects.		
	a. commutative, associative, distributive, and substitution properties [commutative: $a + b = b + a$ and $ab = ba$; associative: $a + (b + c) = (a + b) + c$ and $a(bc) = (ab)c$; distributive: $a(b + c) = ab + ac$; substitution: if $a = 2$, then $3a = 3 \times 2 = 6$];	MPA-002	Adding, Subtracting, Multiplying, and Dividing Whole Numbers
		MPA-014	Evaluating Expressions for Given Variables
		HA1-005	Evaluating Algebraic Expressions
		HA1-076	Basic Distributive Property
		HA1-085	Simplifying Expressions Using the Properties of Real Numbers
		HA1-130	Identifying Postulates, Theorems, and Properties
	b. identity properties for addition and multiplication and inverse properties of addition and multiplication (additive identity: $a + 0 = a$, multiplicative identity: $a \cdot 1 = a$, additive inverse: $+5 + -5 = 0$, multiplicative inverse: $8 \times 1/8 = 1$);	MPA-002	Adding, Subtracting, Multiplying, and Dividing Whole Numbers
		HA1-050	Multiplying Real Numbers
		HA1-055	Dividing Real Numbers
		HA1-130	Identifying Postulates, Theorems, and Properties
	c. symmetric property of equality, e.g., $7 + 2 = 9$ has the same meaning as $9 = 7 + 2$;	HA1-085	Simplifying Expressions Using the Properties of Real Numbers

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		HA1-130	Identifying Postulates, Theorems, and Properties
	d. addition and multiplication properties of equalities, e.g., if $a = b$, then $a + c = b + c$;	MPA-010	Solving One-Step Equations of Whole Numbers Using Addition and Subtraction
		MPA-011	Solving One-Step Equations of Whole Numbers Using Multiplication and Division
		HA1-115	Using the Addition and Subtraction Properties for Equations
		HA1-120	Using the Multiplication and Division Properties for Equations
	e. addition property of inequalities, e.g., if $a > b$, then $a + c > b + c$;	MPA-109	Solving and Graphing Linear Inequalities on a Number Line
		HA1-185	Solving Inequalities Using the Addition and Subtraction Properties
	f. zero product property, e.g., if $ab = 0$, then $a = 0$ and/or $b = 0$.	HA1-050	Multiplying Real Numbers
		HA1-130	Identifying Postulates, Theorems, and Properties
M.8.1.3.K1	Estimates real number quantities using various computational methods including mental math, paper and pencil, concrete objects, and/or appropriate technology.	Throughout	
M.8.1.3.K2	Uses various estimation strategies and explains how they were used to estimate real number quantities and simple algebraic expressions.	MPA-004	Using Rounding to Estimate
		MPA-005	Estimating Products and Quotients Using Patterns
		Throughout	
M.8.1.3.K3	Knows and explains why a decimal representation of the irrational number pi is an approximate value.	MPA-070	Finding the Circumference of a Circle
		MPA-071	Finding the Area of a Circle
M.8.1.3.K4	Knows and explains between which two consecutive integers an irrational number lies.	MPA-065	Estimating Square Roots
		HA1-480	Finding the Square Roots of Rational Numbers
M.8.1.4.K1	Computes with efficiency and accuracy using various computational methods including mental math, paper and pencil, concrete objects, and appropriate technology.	Throughout	
M.8.1.4.K2	Performs and explains these computational procedures with rational numbers.		
	a. addition, subtraction, multiplication, and division of integers	MPA-034	Adding and Subtracting Fractions
		MPA-035	Adding and Subtracting Mixed Numbers with Unlike Denominators
		MPA-036	Multiplying Fractions and Mixed Numbers and Simplifying
		MPA-037	Dividing Fractions and Mixed Numbers and Simplifying
		MPA-123	Modeling Multiplication and Division of Fractions
	b. order of operations (evaluates within grouping symbols, evaluates powers to the second or third power, multiplies or divides in order from left to right, then adds or subtracts in order from left to right);	MPA-008	Order of Operations
		HA1-003	Order of Operations
		HA1-060	Evaluating Expressions Using the Order of Operations
	c. approximation of roots of numbers using calculators;	MPA-065	Estimating Square Roots
	d. multiplication or division to find:		
	i. a percent of a number, e.g., what is 0.5% of 10?	MPA-083	Finding Number Given Percent and Total
	ii. percent of increase and decrease, e.g., if two coins are removed from ten coins, what is the percent of decrease?	MPA-087	Finding Percent Increase and Decrease
		HA1-170	Solving Percent of Change Problems
	iii. percent one number is of another number, e.g., what percent of 80 is 120?	MPA-084	Finding Percent Given Number and Total
	iv. a number when a percent of the number is given, e.g., 15% of what number is 30?	MPA-085	Finding Total Given Number and Percent
	e. addition of polynomials, e.g., $(3x - 5) + (2x + 8)$.	HA1-245	Adding and Subtracting Polynomials

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	f. simplifies algebraic expressions in one variable by combining like terms or using the distributive property, e.g., $-3(x - 4)$ is the same as $-3x + 12$.	HA1-085	Simplifying Expressions Using the Properties of Real Numbers
		HA1-075	Simplifying Algebraic Expressions by Combining Like Terms
		HA1-076	Basic Distributive Property
		HA1-090	Simplifying Expressions Using the Property of -1
M.8.1.4.K3	Finds factors and common factors of simple monomial expressions, e.g., given the monomials $10m^2n^3$ and $15a^2mn^2$ some common factors would be $5m$, $5mn^2$, and n^2 .	HA1-270	Factoring the Greatest Common Monomial Factor from a Polynomial
ALGEBRA			
M.8.2.1.K1	Identifies, states, and continues a pattern presented in various formats including numeric (list or table), algebraic (symbolic notation), visual (picture, table, or graph), verbal (oral description), kinesthetic (action), and written using these attributes:		
	a. counting numbers including perfect squares, cubes, and factors and multiples with positive rational numbers (number theory).	MPA-026	Using Prime Factorization
		MPA-027	Finding the Greatest Common Factor
		MPA-030	Finding Least Common Multiple of Two or More Numbers
		MPA-064	Finding Square Roots of Perfect Squares
		HA1-492	Simplifying Simple Square and Cube Roots
	b. rational numbers including arithmetic and geometric sequences (arithmetic: sequence of numbers in which the difference of two consecutive numbers is the same, geometric: a sequence of numbers in which each succeeding term is obtained by multiplying the preceding term by the same number), e.g., $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, ...;	MPA-104	Recognizing Patterns
		HA1-447	Identifying Number Patterns
	c. geometric figures ;	Throughout	
	d. measurements;	Throughout	
	e. things related to daily life;	Throughout	
	f. variables and simple expressions, e.g., $1 - x$, $2 - x$, $3 - x$, $4 - x$, ...; or x , x^2 , x^3 , ...	HA1-447	Identifying Number Patterns
		HA1-448	Finding the nth Term of a Pattern
M.8.2.1.K2	Generates and explains a pattern.	MPA-104	Recognizing Patterns
		HA1-447	Identifying Number Patterns
M.8.2.1.K3	Generates a pattern limited to two operations (addition, subtraction, multiplication, division, exponents) when given the rule for the nth term, e.g., the nth term is n^2+1 , find the first 4 terms beginning with $n = 1$; the terms are 2, 5, 10, and 17.	MPA-104	Recognizing Patterns
		HA1-447	Identifying Number Patterns
		HA1-448	Finding the nth Term of a Pattern
M.8.2.1.K4	States the rule to find the nth term of a pattern using explicit symbolic notation, e.g., given 2, 5, 8, 11, ...; find the rule for the nth term, the rule is $3n - 1$.	MPA-104	Recognizing Patterns
		HA1-448	Finding the nth Term of a Pattern
M.8.2.1.K5	Describes the pattern when given a table of linear values and plots the ordered pairs on a coordinate plane, e.g., in the table below, the pattern could be described as the x-coordinates are increasing by three, while the y-coordinates are increasing by 6, or the x is doubled and one is added to find the y.	HA1-448	Finding the nth Term of a Pattern
M.8.2.2.K1	Identifies independent and dependent variables within a given situation.	HA1-438	Finding the Domain and Range of Functions

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		HA1-439	Using Function Notation
		HA1-441	Applications of Functions and Relations Involving Distance, Rate, and Time
M.8.2.2.K2	Simplifies algebraic expressions in one variable by combining like terms or using the distributive property, e.g., $-3(x - 4)$ is the same as $-3x + 12$.	HA1-085	Simplifying Expressions Using the Properties of Real Numbers
		HA1-075	Simplifying Algebraic Expressions by Combining Like Terms
		HA1-076	Basic Distributive Property
		HA1-090	Simplifying Expressions Using the Property of -1
M.8.2.2.K3	Solves:		
	a. one- and two-step linear equations in one variable with rational number coefficients and constants intuitively and/or analytically;	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	Solving Equations by Combining Like Terms
	b. one-step linear inequalities in one variable with rational number coefficients and constants intuitively, analytically, and graphically;	MPA-109	Solving and Graphing Linear Inequalities on a Number Line
		HA1-185	Solving Inequalities Using the Addition and Subtraction Properties
		HA1-190	Solving Inequalities Using the Multiplication and Division Properties
	c. systems of given linear equations with whole number coefficients and constants graphically.	HA1-455	Solving Systems of Linear Equations by Graphing
		HA1-806	Solving Systems of Linear Equations Using the Graphing Calculator
M.8.2.2.K4	Knows and describes the mathematical relationship between ratios, proportions, and percents and how to solve for a missing monomial or binomial term in a proportion, e.g., $2/5 = 1/(x + 2)$.	MM1-360	Expressing Percent as a Ratio
		MPA-078	Expressing Ratios as Fractions and Determining Equivalency
		MPA-080	Solving Proportions
		HA1-360	Expressing Ratios in Simplest Form and Solving Equations Involving Proportions
M.8.2.2.K5	Represents and solves algebraically:		
	a. the number when a percent and a number are given,	MPA-083	Finding Number Given Percent and Total
		MPA-085	Finding Total Given Number and Percent
	b. what percent one number is of another number,	MPA-084	Finding Percent Given Number and Total
	c. percent of increase or decrease, e.g., the price of a loaf of bread is \$2.00. With a coupon, the cost is \$1.00. What is the percent of decrease?	MPA-087	Finding Percent Increase and Decrease
		HA1-170	Solving Percent of Change Problems
M.8.2.2.K6	Evaluates formulas using substitution.	MPA-077	Solving Problems Using a Formula
		HA1-070	Evaluating Formulas for Given Values of the Variables
		HA1-135	Evaluating Formulas
M.8.2.3.K1	Recognizes and examines constant, linear, and nonlinear relationships using various methods including mental math, paper and pencil, concrete objects, and graphing utilities or appropriate technology.	MPA-102	Graphing Equations by Plotting Points
		HA1-380	Graphing Linear Equations
		HA1-892	Data Analysis Using the Graphing Calculator
		HA1-965	Determining the Best-Fitting Line
		Throughout	
M.8.2.3.K2	Knows and describes the difference between constant, linear, and nonlinear relationships.	MPA-102	Graphing Equations by Plotting Points
		HA1-380	Graphing Linear Equations
		HA1-892	Data Analysis Using the Graphing Calculator
		HA1-965	Determining the Best-Fitting Line
		Throughout	
M.8.2.3.K3	Explains the concepts of slope and x- and y-intercepts of a line.	HA1-380	Graphing Linear Equations

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		HA1-385	Finding the Slope of a Line from its Graph or from the Coordinates of Two Points
M.8.2.3.K4	Recognizes and identifies the graphs of constant and linear functions.	MPA-102	Graphing Equations by Plotting Points
		HA1-380	Graphing Linear Equations
		HA1-892	Data Analysis Using the Graphing Calculator
		HA1-965	Determining the Best-Fitting Line
		Throughout	
M.8.2.3.K5	Identifies ordered pairs from a graph, and/or plots ordered pairs using a variety of scales for the x- and y-axis.	MPA-046	Graphing Points on a Coordinate Plane
		HA1-370	Graphing Ordered Pairs on a Coordinate Plane
M.8.2.4.K1	Knows, explains, and uses mathematical models to represent and explain mathematical concepts, procedures, and relationships.		
	Mathematical models include:		
	a. process models (concrete objects, pictures, diagrams, number lines, hundred charts, measurement tools, multiplication arrays, division sets, or coordinate grids) to model computational procedures, algebraic relationships, and mathematical relationships and to solve equations;	Throughout	
	b. place value models (place value mats, hundred charts, base ten blocks, or unifix cubes) to compare, order, and represent numerical quantities and to model computational procedures;	MPA-001	Identifying, Comparing, and Ordering Whole Numbers Through Billions
		MPA-015	Identifying the Place Value of Decimals Through Thousandths
		MPA-016	Comparing and Ordering Decimals
	c. fraction and mixed number models (fraction strips or pattern blocks) and decimal and money models (base ten blocks or coins) to compare, order, and represent numerical quantities;	MPA-122	Modeling Multiplication and Division of Decimals
		MPA-123	Modeling Multiplication and Division of Fractions
	d. factor trees to model least common multiple, greatest common factor, and prime factorization;	MPA-026	Using Prime Factorization
	e. equations and inequalities to model numerical relationships;	Throughout	
	f. function tables to model numerical and algebraic relationships;	MPA-102	Graphing Equations by Plotting Points
		HA1-380	Graphing Linear Equations
		HA1-437	Identifying Relations as Functions
	g. coordinate planes to model relationships between ordered pairs and linear equations and inequalities;	MPA-046	Graphing Points on a Coordinate Plane
		MPA-102	Graphing Equations by Plotting Points
		HA1-370	Graphing Ordered Pairs on a Coordinate Plane
		HA1-380	Graphing Linear Equations
		HA1-385	Finding the Slope of a Line from its Graph or from the Coordinates of Two Points
		HA1-395	Drawing a Line Using Slope-Intercept and Determining if Two Lines are Parallel
		HA1-398	Graphing Linear Equations Using Slope and y-Intercept or Slope and a Point
		HA1-401	How Variations of "m" and "b" Affect the Graph of $y = mx + b$
		HA1-415	Graphing Linear Inequalities with Two Variables
		HA1-416	Graphing Linear Inequalities with Two Variables Using the Graphing Calculator
		Throughout	
	h. two- and three-dimensional geometric models (geoboards, dot paper, nets, or solids) and real-world objects to model perimeter, area, volume, surface area, and properties of two-and three-dimensional figures;	MPA-106	Identifying a Solid Figure From a Net
		MPA-107	Constructing Three-Dimensional Figures and Examining Their Dimensions
		MPA-115	Finding the Volumes of Prisms, Cylinders, Pyramids, and Cones Using Models
		HA1-890	Using Models to Derive Formulas for Two-Dimensional Geometric Figures
		HA1-891	Using Models to Derive Formulas for Three-Dimensional Solids
	i. scale drawings to model large and small real-world objects;	MPA-110	Solving Problems Using Proportions, Scale Drawings, Models, and Maps

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	j. geometric models (spinners, targets, or number cubes), process models (coins, pictures, or diagrams), and tree diagrams to model probability;	MPA-089	Using Tree Diagrams
		MPA-091	Finding the Number of Combinations of a Set of Objects
		MPA-090	Finding the Probability of Simple Real-Life 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
		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
	k. frequency tables, bar graphs, line graphs, circle graphs, Venn diagrams, charts, tables, single and double stem-and-leaf plots, scatter plots, box-and-whisker plots, and histograms to organize and display data;	MPA-092	Reading and Interpreting Bar, Line, and Circle Graphs
		MPA-096	Constructing Stem-and-Leaf Plots
		MPA-097	Constructing Box-and-Whisker Plots
		MPA-129	Choosing Appropriate Scales and Intervals for Data (an Introduction)
		MPA-131	Interpreting and Creating Histograms
		MPA-132	Interpreting and Creating Scatter Plots
		HA1-545	Making a Frequency Distribution Table
		HA1-877	Drawing Inferences and Making Predictions from Tables and Graphs
		HA1-885	Histograms and the Normal Distribution
		HA1-886	Unions and Intersections of Sets Using Venn Diagrams
		HA1-965	Determining the Best-Fitting Line
	l. Venn diagrams to sort data and to show relationships	HA1-886	Unions and Intersections of Sets Using Venn Diagrams
GEOMETRY			
M.8.3.1.K1	Recognizes and compares properties of two- and three-dimensional figures using concrete objects, constructions, drawings, appropriate terminology, and appropriate technology.	MPA-058	Identifying Polygons
		MPA-059	Classifying Triangles and Quadrilaterals
		MPA-060	Determining Which Figures Tessellate
		MPA-072	Identifying 3-D Figures
		MPA-106	Identifying a Solid Figure From a Net
		MPA-107	Constructing Three-Dimensional Figures and Examining Their Dimensions
M.8.3.1.K2	Discusses properties of triangles and quadrilaterals related to:		
	a. sum of the interior angles of any triangle is 180° ;	MPA-059	Classifying Triangles and Quadrilaterals
	b. sum of the interior angles of any quadrilateral is 360° ;	MPA-059	Classifying Triangles and Quadrilaterals
	c. parallelograms have opposite sides that are parallel and congruent, opposite angles are congruent;	MPA-059	Classifying Triangles and Quadrilaterals
	d. rectangles have angles of 90° , sides may or may not be equal;	MPA-059	Classifying Triangles and Quadrilaterals
	e. rhombi have all sides equal in length, angles may or may not be equal;	MPA-059	Classifying Triangles and Quadrilaterals
	f. squares have angles of 90° , all sides congruent;	MPA-059	Classifying Triangles and Quadrilaterals
	g. trapezoids have one pair of opposite sides parallel and the other pair of opposite sides are not parallel;	MPA-059	Classifying Triangles and Quadrilaterals
	h. kites have two distinct pairs of adjacent congruent sides.	MPA-059	Classifying Triangles and Quadrilaterals
M.8.3.1.K3	Recognizes and describes the rotational symmetries and line symmetries that exist in two-dimensional figures, e.g., draw a picture with a line of symmetry in it. Explain why it is a line of symmetry.	HGM-142	Investigating Symmetry of Polygons (Future Release)
M.8.3.1.K4	Recognizes and uses properties of corresponding parts of similar and congruent triangles and quadrilaterals to find side or angle measures using standard notation for similarity and congruence .	MPA-058	Identifying Polygons

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		MPA-059	Classifying Triangles and Quadrilaterals
		MPA-121	Identifying Similar and Congruent Polygons Using Proportions
M.8.3.1.K5	Knows and describes Triangle Inequality Theorem to determine if a triangle exists.	HGM-160	Investigating Inequalities Involving One Triangle (Future Release)
M.8.3.1.K6	Uses the Pythagorean theorem to: a. determine if a triangle is a right triangle, b. find a missing side of a right triangle where the lengths of all three sides are whole numbers.	HA1-516 MPA-066	Applications of the Pythagorean Theorem Solving Problems Using the Pythagorean Theorem
		HA1-515	Using the Pythagorean Theorem
		HA1-516	Applications of the Pythagorean Theorem
M.8.3.1.K7	Recognizes and compares the concepts of a point, line, and plane.	MM1-455 HGM-005	Identifying Basic Terms Used in Geometry Applying Postulates and Undefined Terms (Future Release)
M.8.3.1.K8	Describes the intersection of plane figures, e.g., two circles could intersect at no point, one point, two points, or all points.	HGM-412	Proving Statements Using Properties of Circles (Future Release)
M.8.3.1.K9	Describes and explains angle relationships: a. when two lines intersect including vertical and supplementary angles; b. when formed by parallel lines cut by a transversal including corresponding, alternate interior, and alternate exterior angles.	MPA-057 MPA-105 MPA-105	Identifying and Applying Supplementary and Complementary Angles Determining the Measure of Angles Made by Parallel Lines and a Transversal Determining the Measure of Angles Made by Parallel Lines and a Transversal
M.8.3.1.K10	Recognizes and describes arcs and semicircles as parts of a circle and uses the standard notation for arc and circle.	HGM-385	Finding Measures of Inscribed Angles and Arcs (Future Release)
M.8.3.2.K1	Determines and uses rational number approximations (estimations) for length, width, weight, volume, temperature, time, perimeter, area, and surface area using standard and nonstandard units of measure.	MPA-130	Developing a Sense of Relative Sizes of Measures
		Throughout	
M.8.3.2.K2	Selects and uses measurement tools, units of measure, and level of precision appropriate for a given situation to find accurate real number representations for length, weight, volume, temperature, time, perimeter, area, surface area, and angle measurements.	MPA-130	Developing a Sense of Relative Sizes of Measures
		Throughout	
M.8.3.2.K3	Converts within the customary system and within the metric system.	MPA-062	Converting Units in Customary System
		MPA-061	Converting Metric Units of Length, Capacity, and Mass
M.8.3.2.K4	Estimates the measure of a concrete object in one system given the measure of that object in another system and the approximate conversion factor., e.g., a mile is about 2.2 kilometers; how far is 2 miles?	MPA-063	Converting Units Between Metric and Customary System
M.8.3.2.K5	Uses given measurement formulas to find: a. area of parallelograms and trapezoids; b. surface area of rectangular prisms, triangular prisms, and cylinders; c. volume of rectangular prisms, triangular prisms, and cylinders.	MPA-067 MPA-069 MPA-073 MPA-074 HA1-890 MPA-075 MPA-076 MPA-115 HA1-891	Finding the Area of Rectangles and Parallelograms Finding the Area of Triangles and Trapezoids Finding the Surface Area of Rectangular Prisms Finding the Surface Area of Cylinders Using Models to Derive Formulas for Two-Dimensional Geometric Figures Finding the Volume of Rectangular Prisms Finding the Volume of Cylinders Finding the Volumes of Prisms, Cylinders, Pyramids, and Cones Using Models Using Models to Derive Formulas for Three-Dimensional Solids
M.8.3.2.K6	Recognizes how ratios and proportions can be used to measure inaccessible objects, e.g., using shadows to measure the height of a flagpole.	MPA-066	Solving Problems Using the Pythagorean Theorem
		HA1-515	Using the Pythagorean Theorem
		HA1-516	Applications of the Pythagorean Theorem

	Mathematics Curriculum Framework	I CAN Learn® Lesson Number	I CAN Learn® Lesson Title
M.8.3.2.K7	Calculates rates of change, e.g., speed or population growth.	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
		HA1-441	Applications of Functions and Relations Involving Distance, Rate, and Time
		HA1-960	Real-World Applications of Linear Functions
M.8.3.3.K1	Identifies, describes, and performs single and multiple transformations [reflection, rotation, translation, reduction (contraction/shrinking), enlargement (magnification/growing)] on a two-dimensional figure.	MM1-500	Using Translations, Rotations and Reflections to Transform Shapes
		MPA-108	Graphing Translations and Reflections on the Coordinate Plane
		MPA-120	Applying Dilations in the Coordinate Plane
M.8.3.3.K2	Describes a reflection of a given two-dimensional figure that moves it from its initial placement (preimage) to its final placement (image) in the coordinate plane over the x- and y-axis.	MPA-108	Graphing Translations and Reflections on the Coordinate Plane
M.8.3.3.K3	Draws:		
	a. three-dimensional figures from a variety of perspectives (top, bottom, sides, corners);	HA1-893	Constructing Solids from Different Perspectives
	b. a scale drawing of a two-dimensional figure;	MPA-110	Solving Problems Using Proportions, Scale Drawings, Models, and Maps
		MPA-120	Applying Dilations in the Coordinate Plane
	c. a two-dimensional drawing of a three-dimensional figure.	MPA-106	Identifying a Solid Figure From a Net
M.8.3.3.K4	Determines where and how an object or a shape can be tessellated using single or multiple transformations.	MPA-060	Determining Which Figures Tessellate
M.8.3.4.K1	Uses the coordinate plane to:		
	a. list several ordered pairs on the graph of a line and find the slope of the line;	MPA-102	Graphing Equations by Plotting Points
		HA1-375	Identifying Solutions of Equations in Two Variables
		HA1-380	Graphing Linear Equations
		HA1-385	Finding the Slope of a Line from its Graph or from the Coordinates of Two Points
		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
	b. recognize that ordered pairs that lie on the graph of an equation are solutions to that equation;	HA1-375	Identifying Solutions of Equations in Two Variables
	c. recognize that points that do not lie on the graph of an equation are not solutions to that equation;	HA1-375	Identifying Solutions of Equations in Two Variables
	d. determine the length of a side of a figure drawn on a coordinate plane with vertices having the same x- or y-coordinates;	HA1-520	Finding the Distance Between Two Points on a Coordinate Plane
		HA1-876	Applying Length, Midpoint and Slope of a Segment on a Cartesian Plane
	e. solve simple systems of linear equations.	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
M.8.3.4.K2	Uses a given linear equation with integer coefficients and constants and an integer solution to find the ordered pairs, organizes the ordered pairs using a T-table, and plots the ordered pairs on a coordinate plane.	MPA-102	Graphing Equations by Plotting Points
		HA1-380	Graphing Linear Equations
M.8.3.4.K3	Examines characteristics of two-dimensional figures on a coordinate plane using various methods including mental math, paper and pencil, concrete objects, and graphing utilities or other appropriate technology.	HA1-520	Finding the Distance Between Two Points on a Coordinate Plane
		HA1-876	Applying Length, Midpoint and Slope of a Segment on a Cartesian Plane
		HGM-080	Finding the Midpoint of a Segment
		HGM-085	HGM-085 Finding the Distance Between Two Points

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DATA			
M.8.4.1.K1	Knows and explains the difference between independent and dependent events in an experiment, simulation, or situation.	MPA-090	Finding the Probability of Simple Real-Life Events
		HA1-565	Solving Problems Involving Independent, Dependent, and Mutually Exclusive and Inclusive Events
M.8.4.1.K2	Identifies situations with independent or dependent events in an experiment, simulation, or situation, e.g., there are three marbles in a bag. If you draw one marble and give it to your brother, and another marble and give it to your sister, are these independent events or dependent events?	MPA-090	Finding the Probability of Simple Real-Life Events
		HA1-565	Solving Problems Involving Independent, Dependent, and Mutually Exclusive and Inclusive Events
M.8.4.1.K3	Finds the probability of a compound event composed of two independent events in an experiment, simulation, or situation, e.g., what is the probability of getting two heads, if you toss a dime and a quarter?	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
		HA1-565	Solving Problems Involving Independent, Dependent, and Mutually Exclusive and Inclusive Events
M.8.4.1.K4	Finds the probability of simple and/or compound events using geometric models (spinners or dartboards).	MPA-090	Finding the Probability of Simple Real-Life 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
		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.8.4.1.K5	Finds the odds of a desired outcome in an experiment or simulation and expresses the answer as a ratio (2/3 or 2:3 or 2 to 3).	MPA-114	Finding the Odds of Events and Experimental Probability from a Math Model
		HA1-560	Determining Probability of an Event and Complementary Event from a Random Experiment
M.8.4.1.K6	Describes the difference between probability and odds.	MPA-114	Finding the Odds of Events and Experimental Probability from a Math Model
		HA1-560	Determining Probability of an Event and Complementary Event from a Random Experiment
M.8.4.2.K1	Organizes, displays and reads quantitative (numerical) and qualitative (non-numerical) data in a clear, organized, and accurate manner including a title, labels, categories, and rational number intervals using these data displays:		
	a. frequency tables and line plots;	MPA-094	Interpreting and Constructing Line Plots
		HA1-545	Making a Frequency Distribution Table
	b. bar, line, and circle graphs;	MPA-092	Reading and Interpreting Bar, Line, and Circle Graphs
	c. Venn diagrams or other pictorial displays;	MM1-435	Using Pictographs, Bar Graphs and Line Graphs to Solve Problems
		HA1-886	Unions and Intersections of Sets Using Venn Diagrams
	d. charts and tables;	MM1-425	Classifying Information from a Mathematical Story
		MM1-430	Using Graphs to Solve Story Problems
		MPA-129	Choosing Appropriate Scales and Intervals for Data
	e. stem-and-leaf plots (single);	MPA-096	Constructing Stem-and-Leaf Plots
	f. scatter plots;	MPA-132	Interpreting and Creating Scatter Plots
		HA1-877	Drawing Inferences and Making Predictions from Tables and Graphs
		HA1-965	Determining the Best-Fitting Line
	g. box-and-whiskers plots.	MPA-097	Constructing Box-and-Whisker Plots
	h. histograms.	MPA-131	Interpreting and Creating Histograms
		HA1-885	Histograms and the Normal Distribution
M.8.4.2.K2	Recognizes valid and invalid data collection and sampling techniques.		

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M.8.4.2.K3	Determines and explains the measures of central tendency (mode, median, mean) for a rational number data set.	MPA-095	Find the Mean, Median, and Mode
		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
M.8.4.2.K4	Determines and explains the range, quartiles, and interquartile range for a rational number data set.	MPA-097	Constructing Box-and-Whisker Plots
M.8.4.2.K5	Explains the effects of outliers on the median, mean, and range of a rational number data set.	MPA-097	Constructing Box-and-Whisker Plots
		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
M.8.4.2.K6	Makes a scatter plot and draws a line that approximately represents the data, determines whether a correlation exists, and if that correlation is positive, negative, or that no correlation exists.	MPA-132	Interpreting and Creating Scatter Plots
		HA1-965	Determining the Best-Fitting Line

MM1-Fundamentals of Mathematics

MPA- Pre-Algebra

HA1-Algebra 1

Note: Standards were taken from the Kansas Curricular Standards for Mathematics Education for Grade 8 document adopted by the Kansas State Board of Education in July 2003 and updated in July 2004