



## Correlation to High School Core Content for Assessment

	Mathematics Curriculum Framework	I CAN Learn® Lesson Number	I CAN Learn® Lesson Title
<b>NUMBER AND COMPUTATION</b>			
M.HS.1.1.K1	Knows, explains, and uses equivalent representations for real numbers and algebraic expressions including integers, fractions, decimals, percents, ratios; rational number bases with integer exponents; rational numbers written in scientific notation; absolute value; time; and money, e.g., $-4/2 = (-2)$ ; $a^{(-2)}$ $b^{(3)} = b^3/a^2$ .	Throughout	
M.HS.1.1.K2	Compares and orders real numbers and/or algebraic expressions and explains the relative magnitude between them, e.g., will $(5n)^2$ always, sometimes, or never be larger than $5n$ ? The student might respond with $(5n)^2$ is greater than $5n$ if $n > 1$ and $(5n)^2$ is smaller than $5n$ if $0 < n < 1$ .	HA1-025	Comparing and Ordering Real Numbers
M.HS.1.1.K3	Knows and explains what happens to the product or quotient when a real number is multiplied or divided by:		
	a. a rational number greater than zero and less than one,	HA1-050	Multiplying Real Numbers
		HA1-055	Dividing Real Numbers
	b. a rational number greater than one,	HA1-050	Multiplying Real Numbers
		HA1-055	Dividing Real Numbers
	c. a rational number less than zero.	HA1-050	Multiplying Real Numbers
		HA1-055	Dividing Real Numbers
M.HS.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.	HA1-020	Classifying Numbers into Subsets of Real Numbers
M.HS.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.	HA1-020	Classifying Numbers into Subsets of Real Numbers
M.HS.1.2.K3	Names, uses, and describes these properties with the real number system and demonstrates their meaning including the use of concrete objects:		
	a. commutative ( $a + b = b + a$ and $ab = ba$ ), associative [ $a + (b + c) = (a + b) + c$ and $a(bc) = (ab)c$ ], distributive [ $a(b + c) = ab + ac$ ], and substitution properties (if $a = 2$ , then $3a = 3 \times 2 = 6$ );	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: $8 \times 1/8 = 1$ );	HA1-040	The Addition Rule for Real Numbers
		HA1-050	Multiplying Real Numbers
		HA1-130	Identifying Postulates, Theorems, and Properties
	c. symmetric property of equality (if $a = b$ , then $b = a$ );	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 equality (if $a = b$ , then $a + c = b + c$ and if $a = b$ , then $ac = bc$ ) and inequalities (if $a > b$ , then $a + c > b + c$ and if $a > b$ , and $c > 0$ then $ac > bc$ );	HA1-115	Using the Addition and Subtraction Properties for Equations
		HA1-120	Using the Multiplication and Division Properties for Equations
	e. zero product property (if $ab = 0$ , then $a = 0$ and/or $b = 0$ ).	HA1-050	Multiplying Real Numbers
		HA1-130	Identifying Postulates, Theorems, and Properties
M.HS.1.2.K4	Uses and describes these properties with the real number system:		
	a. transitive property (if $a = b$ and $b = c$ , then $a = c$ ),	HA1-085	Simplifying Expressions Using the Properties of Real Numbers
		HA1-130	Identifying Postulates, Theorems, and Properties
	b. reflexive property ( $a = a$ ).	HA1-085	Simplifying Expressions Using the Properties of Real Numbers
		HA1-130	Identifying Postulates, Theorems, and Properties
M.HS.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.HS.1.3.K2	Uses various estimation strategies and explains how they were used to estimate real number quantities and algebraic expressions.	Throughout	
M.HS.1.3.K3	Knows and explains why a decimal representation of an irrational number is an approximate value.	HA1-020	Classifying Numbers into Subsets of Real Numbers
		HA1-480	Finding the Square Roots of Rational Numbers
M.HS.1.3.K4	Knows and explains between which two consecutive integers an irrational number lies.	HA1-480	Finding the Square Roots of Rational Numbers
M.HS.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.HS.1.4.K2	Performs and explains these computational procedures.		
	a. addition, subtraction, multiplication, and division using the order of operations	HA1-003	Order of Operations
		HA1-060	Evaluating Expressions Using the Order of Operations
	b. multiplication or division to find:		
	i. a percent of a number, e.g., what is 0.5% of 10?	HA1-165	Using Equations to Solve Percent Problems
	ii. percent of increase and decrease, e.g., a college raises its tuition from \$1,320 per year to \$1,425 per year. What percent is the change in tuition?	HA1-170	Solving Percent of Change Problems
	iii. percent one number is of another number, e.g., 89 is what percent of 82?	HA1-165	Using Equations to Solve Percent Problems
	iv. a number when a percent of the number is given, e.g., 80 is 32% of what number?	HA1-165	Using Equations to Solve Percent Problems
	c. manipulation of variable quantities within an equation or inequality, e.g., $5x - 3y = 20$ could be written as $5x - 20 = 3y$ or $5x(2x + 3) = 8$ could be written as $8/(5x) = 2x + 3$ ;	HA1-075	Simplifying Algebraic Expressions by Combining Like Terms
		HA1-076	Basic Distributive Property
		HA1-080	Simplifying and Evaluating Algebraic Expressions Containing Grouping Symbols
		HA1-085	Simplifying Expressions Using the Properties of Real Numbers
		HA1-090	Simplifying Expressions Using the Property of -1
	d. simplification of radical expressions (without rationalizing denominators) including square roots of perfect square monomials and cube roots of perfect cubic monomials;	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

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		HA1-505	Simplifying Quotients of Radicals
		HA1-492	Simplifying Simple Square and Cube Roots
	e. simplification or evaluation of real numbers and algebraic monomial expressions raised to a whole number power and algebraic binomial expressions squared or cubed;	HA1-065	Evaluating Expressions Containing Exponents
		HA1-230	Raising a Monomial or Quotient of Monomials to a Power
		HA1-260	Squaring a Binomial and Finding the Product of a Sum and Difference
		Throughout	
	f. simplification of products and quotients of real number and algebraic monomial expressions using the properties of exponents;	HA1-220	Identifying and Multiplying Monomials
		HA1-225	Dividing Monomials and Simplifying Expressions Having an Exponent of Zero
		HA1-860	Using the Laws of Exponents
		HA1-861	Simplifying Expressions with Negative and Zero Exponents
		Throughout	
	g. matrix addition, e.g., when computing (with one operation) a building's expenses (data) monthly, a matrix is created to include each of the different expenses; then at the end of the year, each type of expense for the building is totaled;	HA1-845	Operations with Matrices
		HA1-851	Performing Row Operations on Matrices
	h. scalar-matrix multiplication, e.g., if a matrix is created with everyone's salary in it, and everyone gets a 10% raise in pay; to find the new salary, the matrix would be multiplied by 1.1.	HA1-845	Operations with Matrices
M.HS.1.4.K3	Finds prime factors, greatest common factor, multiples, and the least common multiple of algebraic expressions.	HA1-265	Writing a Number in Prime Factorization and Finding the Greatest Common Factor
		MPA-030	Finding Least Common Multiple of Two or More Numbers
<b>ALGEBRA</b>			
M.HS.2.1.K1	Identifies, states, and continues the following patterns using various formats including numeric (list or table), algebraic (symbolic notation), visual (picture, table, or graph), verbal (oral description), kinesthetic (action), and written		
	a. arithmetic and geometric sequences using real numbers and/or exponents; e.g., radioactive half-lives;	HA1-447	Identifying Number Patterns
	b. patterns using geometric figures;	HA1-448	Finding the nth Term of a Pattern
		MPA-104	Recognizing Patterns
	c. algebraic patterns including consecutive number patterns or equations of functions, e.g., $n, n + 1, n + 2, \dots$ or $f(n) = 2n - 1$ ;	HA1-447	Identifying Number Patterns
	d. special patterns, e.g., Pascal's triangle and the Fibonacci sequence.	HA1-448	Finding the nth Term of a Pattern
		MPA-104	Recognizing Patterns
M.HS.2.1.K2	Generates and explains a pattern.	HA1-447	Identifying Number Patterns
		HA1-448	Finding the nth Term of a Pattern
		MPA-104	Recognizing Patterns
M.HS.2.1.K3	Classify sequences as arithmetic, geometric, or neither.	HA1-447	Identifying Number Patterns
M.HS.2.1.K4	Defines:		
	a. a recursive or explicit formula for arithmetic sequences and finds any particular term,	HA1-448	Finding the nth Term of a Pattern
	b. a recursive or explicit formula for geometric sequences and finds any particular term.	HA1-448	Finding the nth Term of a Pattern
M.HS.2.2.K1	Knows and explains the use of variables as parameters for a specific variable situation, e.g., the $m$ and $b$ in $y = mx + b$ or the $h, k,$ and $r$ in $(x - h)^2 + (y - k)^2 = r^2$ .	HA1-070	Evaluating Formulas for Given Values of the Variables
		HA1-135	Evaluating Formulas

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		HA1-160	Writing an Equation to Solve Distance, Rate, and Time Problems
		HA1-175	Solving Literal Equations
		HA1-395	Finding the Equation of a Line Parallel or Perpendicular to a Given Line
		HA1-515	Using the Pythagorean Theorem
		HA1-516	Applications of the Pythagorean Theorem
		HA1-520	Finding the Distance Between Two Points on a Coordinate Plane
		HA1-535	Developing the Quadratic Formula and Using it to Solve Equations
		HA1-876	Applying Length, Midpoint and Slope of a Segment on a Cartesian Plane
		HA1-890	Using Models to Derive Formulas for Two-Dimensional Geometric Figures
		HA1-891	Using Models to Derive Formulas for Three-Dimensional Solids
M.HS.2.2.K2	Manipulates variable quantities within an equation or inequality, e.g., $5x - 3y = 20$ could be written as $5x - 20 = 3y$ or $5x(2x + 3) = 8$ could be written as $8/(5x) = 2x + 3$ .	Throughout	
M.HS.2.2.K3	Solves:		
	a. linear equations and inequalities both analytically and graphically;	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
		HA1-145	Solving Equations with Variables on Both Sides
		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
		HA1-375	Identifying Solutions of Equations in Two Variables
		HA1-380	Graphing Linear Equations
		HA1-382	Solving Linear Equations Using the Graphing Calculator
		HA1-415	Graphing Linear Inequalities with Two Variables
		HA1-416	Graphing Linear Inequalities with Two Variables Using the Graphing Calculator
	b. quadratic equations with integer solutions (may be solved by trial and error, graphing, quadratic formula, or factoring);	HA1-305	Solving Polynomial Equations by Factoring
		HA1-310	The Practical Use of Polynomial Equations
		HA1-525	Solving Quadratic Equations Involving Perfect Square Expressions
		HA1-535	Developing the Quadratic Formula and Using it to Solve Equations
		HA1-536	Solving Quadratic Equations Using the Graphing Calculator
	c. systems of linear equations with two unknowns using integer coefficients and constants;	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
	d. radical equations with no more than one inverse operation around the radical expression;	HA1-510	Solving Radical Equations
		HA1-515	Using the Pythagorean Theorem
		HA1-516	Applications of the Pythagorean Theorem
	e. equations where the solution to a rational equation can be simplified as a linear equation with a nonzero denominator, e.g., $3/(x + 2) = 5/(x - 3)$ .	HA1-360	Expressing Ratios in Simplest Form and Solving Equations Involving Proportions
	f. equations and inequalities with absolute value quantities containing one variable with a special emphasis on using a number line and the concept of absolute value.	HA1-210	Solving Equations Involving Absolute Value
		HA1-215	Solving Absolute Value Inequalities

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	g. exponential equations with the same base without the aid of a calculator or computer, e.g., $3^{x+2} = 3^5$ .	HA1-855	Solving Exponential Equations
M.HS.2.3.K1	Evaluates and analyzes functions using various methods including mental math, paper and pencil, concrete objects, and graphing utilities or other appropriate technology.	Throughout	
M.HS.2.3.K2	Matches equations and graphs of constant and linear functions and quadratic functions limited to $y = ax^2 + c$ .	HA1-380	Graphing Linear Equations
		HA1-441	Applications of Functions and Relations Involving Distance, Rate, and Time
		HA1-887	Applications of Absolute Value, Step, and Constant Functions
		HA1-892	Data Analysis Using the Graphing Calculator
		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
		HA1-945	Real-World Applications of Quadratic Functions
M.HS.2.3.K3	Determines whether a graph, list of ordered pairs, table of values, or rule represents a function.	HA1-437	Identifying Relations as Functions
M.HS.2.3.K4	Determines x- and y-intercepts and maximum and minimum values of the portion of the graph that is shown on a coordinate plane.	HA1-380	Graphing Linear Equations
		HA1-945	Real-World Applications of Quadratic Functions
M.HS.2.3.K5	Identifies domain and range of:		
	a. relationships given the graph or table,	HA1-438	Finding the Domain and Range of Functions
	b. linear, constant, and quadratic functions given the equation(s).	HA1-438	Finding the Domain and Range of Functions
		HA1-867	Identifying Domain and Range of Relations Given Graphs, Tables, or Sets of Ordered Pairs
M.HS.2.3.K6	Recognizes how changes in the constant and/or slope within a linear function changes the appearance of a graph.	HA1-401	How Variations of "m" and "b" Affect the Graph of $y = mx + b$
M.HS.2.3.K7	Uses function notation.	HA1-439	Using Function Notation
M.HS.2.3.K8	Evaluates function(s) given a specific domain.	HA1-438	Finding the Domain and Range of Functions
M.HS.2.3.K9	Describes the difference between independent and dependent variables and identifies independent and dependent variables.	HA1-438	Finding the Domain and Range of Functions
M.HS.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. factor trees to model least common multiple, greatest common factor, and prime factorization;	MPA-030	Finding Least Common Multiple of Two or More Numbers
		HA1-265	Writing a Number in Prime Factorization and Finding the Greatest Common Factor
	c. algebraic expressions to model relationships between two successive numbers in a sequence or other numerical patterns ;	HA1-448	Finding the nth Term of a Pattern
	d. equations and inequalities to model numerical and geometric relationships;	Throughout	
	e. function tables to model numerical and algebraic relationships ;	Throughout	
	f. coordinate planes to model relationships between ordered pairs and equations and inequalities and linear and quadratic functions;	Throughout	
	g. constructions to model geometric theorems and properties;	HA1-890	Using Models to Derive Formulas for Two-Dimensional Geometric Figures
		HA1-891	Using Models to Derive Formulas for Three-Dimensional Solids
	h. two- and three-dimensional geometric models (geoboards, dot paper, coordinate plane, nets, or solids) and real-world objects to model perimeter, area, volume, and surface area, properties of two- and three-dimensional	HA1-890	Using Models to Derive Formulas for Two-Dimensional Geometric Figures

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	figures, and isometric views of three-dimensional 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
	j. Pascal's Triangle to model binomial expansion and probability;	Grade Level Content Under Review	
	k. geometric models (spinners, targets, or number cubes), process models (concrete objects, pictures, diagrams, or coins), and tree diagrams to model probability;	MPA-089	Using Tree Diagrams
		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
	l. 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, histograms, and matrices 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-132	Interpreting and Creating Scatter Plots
		HA1-545	Making a Frequency Distribution Table
		HA1-850	Identifying Matrices and Dimensions of a Matrix
		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
	m. Venn diagrams to sort data and show relationships;	HA1-886	Unions and Intersections of Sets Using Venn Diagrams
<b>GEOMETRY</b>			
M.HS.3.1.K1	Recognizes and compares properties of two-and three-dimensional figures using concrete objects, constructions, drawings, appropriate terminology, and appropriate technology.		
M.HS.3.1.K2	Discusses properties of regular polygons related to:	MPA-056	Classifying Angles
	a. angle measures,	MPA-057	Identifying and Applying Supplementary and Complementary Angles
		MPA-105	Determining the Measure of Angles Made by Parallel Lines and a Transversal
		HA1-889	Complementary and Supplementary Angles
	b. diagonals.	HGM-125	Classifying Polygons (Future Release)
M.HS.3.1.K3	Recognizes and describes the symmetries (point, line, plane) that exist in three-dimensional figures.	HGM-145	Investigating Symmetry of Polygons
M.HS.3.1.K4	Recognizes that similar figures have congruent angles, and their corresponding sides are proportional.	MPA-058	Identifying Polygons
		MPA-059	Classifying Triangles and Quadrilaterals
		MPA-121	Identifying Similar and Congruent Polygons Using Proportions
M.HS.3.1.K5	Uses the Pythagorean Theorem to:		
	a. determine if a triangle is a right triangle,	HA1-516	Applications of the Pythagorean Theorem
	b. find a missing side of a right triangle.	HA1-515	Using the Pythagorean Theorem
		HA1-516	Applications of the Pythagorean Theorem
M.HS.3.1.K6	Recognizes and describes:		
	a. congruence of triangles using: Side-Side-Side (SSS), Angle-Side-Angle (ASA), Side-Angle-Side (SAS), and Angle-Angle-Side (AAS);	HGM-180	Exploring Congruence: SSS and SAS (Future Release)
		HGM-190	Exploring Congruence: AAS and ASA (Future Release)
	b. the ratios of the sides in special right triangles: 30°-60°-90° and 45°-45°-90°.	HGM-215	Investigating Properties of 30 – 60 – 90 Triangles (Future Release)

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		HGM-220	Investigating Properties of 45 – 45 – 90 Triangles (Future Release)
		HGM-225	Applying Properties of Special Right Triangles (Future Release)
M.HS.3.1.K7	Recognizes, describes, and compares the relationships of the angles formed when parallel lines are cut by a transversal .	MPA-105	Determining the Measure of Angles Made by Parallel Lines and a Transversal
M.HS.3.1.K8	Recognizes and identifies parts of a circle: arcs, chords, sectors of circles, secant and tangent lines, central and inscribed angles.	HGM-360	Relating Circumference and Arc Length (Future Release)
		HGM-365	Relating Area and Area of Sectors (Future Release)
		HGM-370	Finding Area of Parts of Circles (Future Release)
		HGM-380	Finding Measures of Central Angles and Arcs (Future Release)
		HGM-385	Finding Measures of Inscribed Angles and Arcs (Future Release)
		HGM-390	Finding Measures of Angles Formed by Chords and Secants (Future Release)
		HGM-395	Finding Measures of Angles Formed by Secants and Tangents (Future Release)
M.HS.3.2.K1	Determines and uses real number approximations (estimations) for length, width, weight, volume, temperature, time, distance, perimeter, area, surface area, and angle measurement using standard and nonstandard units of measure.	MPA-130	Developing a Sense of Relative Sizes of Measures
		Throughout	
M.HS.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, distance, area, surface area, mass, midpoint, and angle measurements.	MPA-130	Developing a Sense of Relative Sizes of Measures
		MPA-133	Distinguishing Between Exact and Approximate Answers
M.HS.3.2.K3	Approximates conversions between customary and metric systems given the conversion unit or formula.	MPA-063	Converting Units Between Metric and Customary System
M.HS.3.2.K4	States, recognizes, and applies formulas for:		
	a. perimeter and area of squares, rectangle, and triangles;	MPA-055	Finding the Perimeter of a Figure
		MPA-067	Finding the Area of Rectangles and Parallelograms
		MPA-068	Finding the Area of Irregular Figures
		MPA-069	Finding the Area of Triangles and Trapezoids
		HA1-890	Using Models to Derive Formulas for Two-Dimensional Geometric Figures
	b. circumference and area of circles; volume of rectangular solids.	MPA-070	Finding the Circumference of a Circle
		MPA-071	Finding the Area of a Circle
		MPA-075	Finding the Volume of Rectangular Prisms
		HA1-890	Using Models to Derive Formulas for Two-Dimensional Geometric Figures
		HA1-891	Using Models to Derive Formulas for Three-Dimensional Solids
M.HS.3.2.K5	Uses given measurement formulas to find perimeter, area, volume, and surface area of two- and three-dimensional figures (regular and irregular).	MPA-055	Finding the Perimeter of a Figure
		MPA-067	Finding the Area of Rectangles and Parallelograms
		MPA-068	Finding the Area of Irregular Figures
		MPA-069	Finding the Area of Triangles and Trapezoids
		MPA-070	Finding the Circumference of a Circle
		MPA-071	Finding the Area of a Circle
		MPA-073	Finding the Surface Area of Rectangular Prisms
		MPA-074	Finding the Surface Area of Cylinders
		MPA-075	Finding the Volume of Rectangular Prisms
		MPA-076	Finding the Volume of Cylinders
		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

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M.HS.3.2.K6	Recognizes and applies properties of corresponding parts of similar and congruent figures to find measurements of missing sides.	MPA-121	Identifying Similar and Congruent Polygons Using Proportions
M.HS.3.2.K7	Knows, explains, and uses ratios and proportions to describe rates of change, e.g., miles per gallon, meters per second, calories per ounce, or rise over run.	MPA-079	Unit rates
M.HS.3.3.K1	Describes and performs single and multiple transformations [reflection, rotation, translation, reduction (contraction/shrinking), enlargement (magnification/growing)] on two- and three-dimensional figures.	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.HS.3.3.K2	Recognizes a three-dimensional figure created by rotating a simple two-dimensional figure around a fixed line (2.4.K1a), e.g., a rectangle rotated about one of its edges generates a cylinder; an isosceles triangle rotated about a fixed line that runs from the vertex to the midpoint of its base generates a cone.	HGM-110	Exploring Rotations (Future Release)
M.HS.3.3.K3	Generates a two-dimensional representation of a three-dimensional figure.	MPA-106	Identifying a Solid Figure From a Net
M.HS.3.3.K4	Determines where and how an object or a shape can be tessellated using single or multiple transformations and creates a tessellation.	MPA-060	Determining Which Figures Tessellate
M.HS.3.4.K1	Recognizes and examines two- and three-dimensional figures and their attributes including the graphs of functions on a coordinate plane using various methods including mental math, paper and pencil, concrete objects, and graphing utilities or other appropriate technology.	Throughout	
M.HS.3.4.K2	Determines if a given point lies on the graph of a given line or parabola without graphing and justifies the answer.	HA1-375	Identifying Solutions of Equations in Two Variables
		HA1-405	Determine the Equation of a Line Given the Slope and Coordinates of One Point
		HA1-935	Analyzing Graphs of Quadratic Functions
M.HS.3.4.K3	Calculates the slope of a line from a list of ordered pairs on the line and explains how the graph of the line is related to its slope.	HA1-385	Finding the Slope of a Line from its Graph or from the Coordinates of Two Points
M.HS.3.4.K4	Finds and explains the relationship between the slopes of parallel and perpendicular lines, e.g., the equation of a line $2x + 3y = 12$ . The slope of this line is $-2/3$ . What is the slope of a line perpendicular to this line?	HA1-395	Drawing a Line Using Slope-Intercept and Determining if Two Lines are Parallel
		HA1-401	How Variations of "m" and "b" Affect the Graph of $y = mx + b$
		HA1-866	Drawing a Line Using Slope-Intercept Form and Determining if Two Lines are Parallel or Perpendicular
M.HS.3.4.K5	Uses the Pythagorean Theorem to find distance (may use the distance formula)	HA1-515	Using the Pythagorean Theorem
		HA1-516	Applications of the Pythagorean Theorem
		HA1-520	Finding the Distance Between Two Points on a Coordinate Plane
M.HS.3.4.K6	Recognizes the equation of a line and transforms the equation into slope-intercept form in order to identify the slope and y-intercept and uses this information to graph the line .	HA1-394	Interchanging Linear Equations Between Standard Form and Slope-Intercept Form
		HA1-398	Graphing Linear Equations Using Slope and y-Intercept or Slope and a Point
		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.HS.3.4.K7	Recognizes the equation $y = ax^2 + c$ as a parabola; represents and identifies characteristics of the parabola including opens upward or opens downward, steepness (wide/narrow), the vertex, maximum and minimum values, and line of symmetry; and sketches the graph of the parabola	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

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M.HS.3.4.K8	Explains the relationship between the solution(s) to systems of equations and systems of inequalities in two unknowns and their corresponding graphs, e.g., for equations, the lines intersect in either one point, no points, or infinite points; and for inequalities, all points in double-shaded areas are solutions for both inequalities.	HA1-455	Solving Systems of Linear Equations by Graphing
		HA1-475	Graphing the Solution Set of a System of Linear Inequalities
<b>DATA</b>			
M.HS.4.1.K1	Finds the probability of two independent events in an experiment, simulation, or situation.	HA1-565	Solving Problems Involving Independent, Dependent, and Mutually Exclusive and Inclusive Events
M.HS.4.1.K2	Finds the conditional probability of two dependent events in an experiment, simulation, or situation.	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.HS.4.1.K3	Explains the relationship between probability and odds and computes one given the other.	HA1-560	Determining Probability of an Event and Complementary Event from a Random Experiment
M.HS.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 (an Introduction)
	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.HS.4.2.K2	Explains how the reader's bias, measurement errors, and display distortions can affect the interpretation of data.	MPA-099	Recognizing Misleading Statistics and Graphs
M.HS.4.2.K3	Calculates and explains the meaning of range, quartiles and interquartile range for a real number data set	MPA-097	Constructing Box-and-Whisker Plots
		HA1-541	Analyzing Data Using the Measures of Central Tendency and the Range
M.HS.4.2.K4	Explains the effects of outliers on the measures of central tendency (mean, median, mode) and range and interquartile range of a real 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.HS.4.2.K5	Approximates a line of best fit given a scatter plot and makes predictions using the graph or the equation of that line.	HA1-877	Drawing Inferences and Making Predictions from Tables and Graphs
		HA1-965	Determining the Best-Fitting Line
M.HS.4.2.K6	Compares and contrasts the dispersion of two given sets of data in terms of range and the shape of the distribution including:		
	a. symmetrical (including normal),	HA1-555	Computing the Range, Variance, and Standard Deviation of a Set of Data
	b. skew (left or right),	HA1-555	Computing the Range, Variance, and Standard Deviation of a Set of Data

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	c. bimodal,	HA1-555	Computing the Range, Variance, and Standard Deviation of a Set of Data
	d. uniform (rectangular).	HA1-555	Computing the Range, Variance, and Standard Deviation of a Set of Data

MM1-Fundamentals of Mathematics

MPA- Pre-Algebra

HA1-Algebra 1

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