



## Correlation to Algebra 1 Core Content for Assessment

	Mathematics Curriculum Framework	Lesson Number	Lesson Title
<b>Linear Equations, Inequalities, and Functions</b>			
M-H-A-1	Students will solve one-variable equations using manipulatives, symbols, procedures, and graphing.	HA1-104	Translating Word Statements into Equations
		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
M-H-A-2	Students will solve two-variable linear equations using real numbers, real number operations, field properties, and order of operations.	HA1-382	Solving Linear Equations Using the Graphing Calculator
		HA1-150	Writing an Equation to Solve Word Problems
		HA1-135	Evaluating Formulas
		HA1-175	Solving Literal Equations
M-H-A-3	Students will write and solve linear sentences, describing real-world situations by using and relating formulas, tables, graphs, and equations.	HA1-104	Translating Word Statements into Equations
		HA1-150	Writing an Equation to Solve Word Problems
		HA1-135	Evaluating Formulas
		HA1-175	Solving Literal Equations
		HA1-382	Solving Linear Equations Using the Graphing Calculator
M-H-A-4	Students will use characteristics of the graphs of linear functions, such as slope and intercepts, transformations.	HA1-955	Analyzing Linear Functions
		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
		HA1-401	How Variations of "m" and "b" Affect the Graph of $y = mx + b$
M-H-A-5	Students will collect, organize, and display two-variable data, and use a line of best fit as a model to predict.	HA1-892	Data Analysis Using the Graphing Calculator
		HA1-965	Determining the Best-Fitting Line
M-H-A-6	Students will connect the skills to solve linear equations to solve linear inequalities.	HA1-105	Translating Word Statements into Inequalities
		HA1-415	Graphing Linear Inequalities with Two Variables
		HA1-416	Graphing Linear Inequalities with Two Variables Using the Graphing Calculator
M-H-A-7	Students will write and solve linear inequalities.	HA1-105	Translating Word Statements into 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
		HA1-200	Combined Inequalities

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		HA1-205	Solving Combined Inequalities
<b>Non-Linear Functions: Quadratic, Exponential, and Absolute Value</b>			
M-H-A-8	Students will use the skills learned to solve linear equations and inequalities to solve numerically, graphically, or symbolically non-linear equations such as quadratic and exponential equations.	HA1-965	Determining the Best-Fitting Line
		HA1-950	Graphing Absolute Value Functions
		HA1-887	Applications of Absolute Value, Step, and Constant Functions
		HA1-305	Solving Polynomial Equations by Factoring
		HA1-536	Solving Quadratic Equations Using the Graphing Calculator
		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
		HA1-291	Factoring Quadratic Equations Using the Graphing Calculator
		HA1-805	Applying Algebra Concepts
		HA1-935	Analyzing Graphs of Quadratic Functions
		HA1-940	Applications of Quadratic Equations
		HA1-945	Real-World Applications of Quadratic Functions
		HA1-865	Exponential Functions (Future Release)
M-H-A-9	Students will collect, organize, and display two-variable data, and use a curve of best fit as a model to make predictions.	HA1-965	Determining the Best-Fitting Line
M-H-A-10	Students will extend ideas of transformations of linear equations, such as vertical and horizontal shifts, to transformations of nonlinear equations.	HA1-401	How Variations of "m" and "b" Affect the Graph of $y = mx + b$
		HA1-927	Graphing $f(x) = ax^2$ Using Dilations
		HA1-928	Graphing $f(x) = ax^2$ Using Dilations and Reflections
		HA1-929	Graphing $f(x) = ax^2 + c$ Using Dilations, Reflections, and Vertical Translations
<b>Proportional Reasoning</b>			
M-H-A-11	Students will write and solve proportion sentences.	MPA-079	Unit Rates
		MPA-080	Solving Proportions
		HA1-360	Expressing Ratios in Simplest Form and Solving Equations Involving Proportions
		HA1-450	Solving Problems Involving Direct Variation
		HA1-453	Solving Problems Involving Inverse Variation
M-H-A-12	Students will use proportional reasoning (ratios and proportions) to solve real-world problems.	HA1-360	Expressing Ratios in Simplest Form and Solving Equations Involving Proportions
		HA1-450	Solving Problems Involving Direct Variation
		HA1-453	Solving Problems Involving Inverse Variation
		HA1-441	Applications of Functions and Relations Involving Distance, Rate, and Time
M-H-A-13	Students will solve problems that have direct or inverse relationships for any variable.	HA1-450	Solving Problems Involving Direct Variation
		HA1-453	Solving Problems Involving Inverse Variation
<b>Sequences</b>			
M-H-A-14	Students will see the patterns in arithmetic sequences and geometric sequences using recursion (formulas expressing each term as a function of one or more of the previous terms).	HA1-447	Identifying Number Patterns
		HA1-448	Finding the nth Term of a Pattern
M-H-A-15	Students will see patterns in other sequences (e.g., quadratic, cubic).	HA1-447	Identifying Number Patterns
		HA1-448	Finding the nth Term of a Pattern
		<i>New Lesson in Development</i>	<i>HGM-020 Using Inductive Reasoning to find Linear and Nonlinear Number Patterns</i>
M-H-A-16	Students will relate the patterns in arithmetic sequences to linear equations.	HA1-447	Identifying Number Patterns
		HA1-448	Finding the nth Term of a Pattern

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M-H-A-17	Students will relate the patterns in geometric sequences to exponential equations (e.g., squared, cubed, nth power).	HA1-447	Identifying Number Patterns
		HA1-448	Finding the nth Term of a Pattern
<b>Probability</b>			
M-H-A-18	Students will use strategies such as combinations and permutations (arrangements) to count discrete quantities (the study of mathematical properties of sets and systems that have a countable number of elements).	HA1-879	Applying Counting Techniques to Permutations and Combinations
		HA1-886	Unions and Intersections of Sets Using Venn Diagrams
M-H-A-19	Students will design and conduct probability simulations, and interpret the results.	<i>Content under Review</i>	

MM1-Fundamentals of Mathematics

MPA- Pre-Algebra

HA1-Algebra 1

*Note:* Standards were taken from the Algebra 1 Core Content for Assessment Version 4.1 for Kentucky Department of Education- Algebra 1 document adopted by the Kentucky State Board of Education in August 2006.