



	Mathematics Curriculum Framework	I CAN Learn[®] Lesson #	I CAN Learn[®] Lesson Title
A1.1	NUMBER AND OPERATIONS		
A1.1.1A	compare and order rational and irrational numbers, including finding their approximate locations on a number line	HA1-015	Graphing Real Numbers Using a Number Line
		HA1-020	Classifying Numbers into Subsets of Real Numbers
		HA1-025	Comparing and Ordering Real Numbers
		HA1-035	Adding Real Numbers Using a Number Line
A1.1.1.B	use real numbers and various models, drawing, etc. to solve problems	Throughout	This CLE is demonstrated throughout. For examples please see:
		HA1-235	Applying Scientific Notation
		HA1-150	Writing an Equation to Solve Word Problems
		HA1-160	Writing an Equation to Solve Distance, Rate, and Time Problems
		HA1-362	Solving Work Problems
		HA1-165	Using Equations to Solve Percent Problems
		HA1-170	Solving Percent of Change Problems
		HA1-135	Evaluating Formulas
A1.1.1.C	*use a variety of representations to demonstrate an understanding of very large and very small numbers	HA1-235	Applying Scientific Notation
A1.1.2.B	*describe the effects of operations, such as multiplication, division, and computing powers and roots on the magnitude of quantities	HA1-235	Applying Scientific Notation
		HA1-810	Simplifying Expressions Using the Multiplication Properties of Exponents
		HA1-480	Finding the Square Roots of Rational Numbers
		HA1-492	Simplifying Square and Cube Roots
A1.1.2.D	*apply operations to real numbers, using mental computation or paper-and-pencil calculations for simple cases and technology for more complicated cases	Throughout	This CLE is demonstrated throughout. For examples please see:
		HA1-040	The Addition Rule for Real Numbers
		HA1-045	Subtracting Real Numbers
		HA1-050	Multiplying Real Numbers
		HA1-055	Dividing Real Numbers
		HA1-062	Adding, Subtracting, Multiplying, and Dividing Integers
A1.1.3.D	*judge the reasonableness of numerical computations and their results	MPA-006	Determining Reasonableness of Answers and Appropriate Method of Computation
A1.1.3.E	*solve problems involving proportions	MPA-080	Solving Proportions
		MPA-110	Solving Problems Using Proportions, Scale Drawings, Models and Maps
		HA1-362	Solving Work Problems
		HA1-360	Expressing Ratios in Simplest Form and Solving Equations Involving Proportions
A1.2	ALGEBRAIC RELATIONSHIPS		
A1.2.1.B	generalize patterns using <u>explicitly</u> or <u>recursively</u> defined functions	HA1-447	Identifying Number Patterns
		HA1-448	Finding the nth Term of a Pattern
A1.2.1.C	compare and contrast various forms of <u>representations</u> of patterns	HA1-447	Identifying Number Patterns
		HA1-448	Finding the nth Term of a Pattern
A1.2.1.D	understand and compare the properties of <u>linear</u> and <u>nonlinear</u> functions	MPA-150	Identifying and Graphing Linear and Nonlinear Functions
		HA1-955	Analyzing Linear Functions
		HA1-935	Analyzing Graphs of Quadratic Functions
		HA1-892	Data Analysis Using the Graphing Calculator

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A1.2.1.E	describe the effects of <u>parameter changes</u> on <u>linear, exponential growth/decay</u> and <u>quadratic functions</u> including intercepts	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 $y = mx + b$
		HA1-955	Analyzing Linear Functions
		HA1-442	Interpreting Graphs of Functions in Real-Life Situations
		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
		HA1-820	Graphing Exponential Functions
		HA1-825	Exponential Growth and Decay (<i>Fall 2010</i>)
		HA1-930	Graphing Quadratic Functions with Horizontal and Vertical Shifting
		HA1-931	Graphing Quadratic Functions with Dilations, Reflections, and Transformations
A1.2.2.A	use <u>symbolic algebra</u> to represent and solve problems that involve linear and quadratic relationships including equations and inequalities	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
		HA1-125	Solving Equations Using More Than One Property
		HA1-140	Solving Equations by Combining Like Terms
		HA1-145	Solving Equations with Variables on Both Sides
		HA1-150	Writing an Equation to Solve Word Problems
		HA1-382	Solving Linear Equations Using the Graphing Calculator
		HA1-362	Solving Work 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
		HA1-105	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
		HA1-415	Graphing Linear Inequalities with Two Variables
		HA1-416	Graphing Linear Inequalities with Two Variables Using the Graphing Calculator
		HA1-394	Interchanging Linear Equations Between Standard Form and Slope-Intercept Form
		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
		HA1-402	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
		HA1-940	Applications of Quadratic Equations
		HA1-945	Real-World Applications of Quadratic Functions
A1.2.2.B	describe and use algebraic manipulations, including factoring and rules of integer exponents and apply <u>properties of exponents</u> (including order of operations) to simplify expressions	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
		HA1-085	Simplifying Expressions Using the Properties of Real Numbers

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		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
		HA1-245	Adding and Subtracting Polynomials
		HA1-255	Multiplying Two Binomials Using the FOIL Method
		HA1-260	Squaring a Binomial and Finding the Product of a Sum and Difference
		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
		HA1-276	Factoring Sums and Differences of Cubes
		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
		HA1-920	Simplifying Algebraic Expressions Using the Distributive Property
A1.2.2.C	use and solve equivalent forms of equations (linear, absolute value, and quadratic)	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
		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
		HA1-305	Solving Polynomial Equations by Factoring
		HA1-310	The Practical Use of Polynomial Equations
		HA1-525	Solving Quadratic Equations Involving Perfect Square Expressions
		HA1-530	Solving Quadratic Equations by Completing the Square
		HA1-535	Developing the Quadratic Formula and Using it to Solve Quadratic Equations
		HA1-536	Solving Quadratic Equations Using the Graphing Calculator
A1.2.2.D	use and solve systems of linear equations or inequalities with 2 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
		HA1-475	Graphing the Solution Set of a System of Linear Inequalities
		HA1-870	Solving Problems with Systems of Linear Equations and Inequalities
		HA1-382	Solving Linear Equations Using the Graphing Calculator
		HA1-805	Applying Algebra Concepts
		HA1-905	Quadratic Equations with Irrational Roots
A1.2.3.A	identify quantitative relationships and determine the type(s) of functions that might model the situation to solve the problem	HA1-402	Translating Among Multiple Representations of Functions

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		HA1-892	Data Analysis Using the Graphing Calculator
		HA1-441	Applications of Functions and Relations Involving Distance, Rate, and Time
		HA1-442	Interpreting Graphs of Functions in Real-Life Situations
A1.2.4.A	analyze linear and quadratic functions by investigating rates of change, intercepts and zeros	HA1-955	Analyzing Linear Functions
		HA1-960	Real-World Applications of Linear Functions
		HA1-441	Applications of Functions and Relations Involving Distance, Rate, and Time
		HA1-442	Interpreting Graphs of Functions in Real-Life Situations
		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
		HA1-395	Finding the Equation of a Line Parallel or Perpendicular to a Given Line
		HA1-935	Analyzing Graphs of Quadratic Functions
		HA1-940	Applications of Quadratic Equations
		HA1-945	Real-World Applications of Quadratic Functions
A1.3	GEOMETRIC AND SPATIAL RELATIONSHIPS		
A1.3.1.B	*apply geometric properties such as similarity and angle relationship to solve multi-step problems in 2 dimensions	HA1-890	Using Models to Derive Formulas for Two-Dimensional Geometric Figures
		MPA-121	Identifying Similar and Congruent Polygons Using Proportions
A1.3.4.B	*draw or use <u>visual models</u> to represent and solve problems	HA1-890	Using Models to Derive Formulas for Two-Dimensional Geometric Figures
		HA1-891	Using Models to Derive Formulas for Three-Dimensional Solids
		HA1-893	Constructing Solids from Different Perspectives
		MPA-106	Identifying a Solid Figure From a Net
		MPA-111	Comparing Perimeters, Areas, and Volumes of Similar Geometric Figures and Solids
		MPA-115	Finding the Volumes of Prisms, Cylinders, Pyramids, and Cones Using Models
A1.4	MEASUREMENT		
A1.4.2.D	*describe the effects of operations, such as multiplication, division and computing powers and roots on magnitudes of quantities and effects of computation on <u>precision</u> which include the judging of reasonableness of numerical computations and their results	MPA-134	Calculating with Precision, Accuracy, and Significant Digits
		HA1-825	Exponential Growth and Decay
		HA1-890	Using Models to Derive Formulas for Two-Dimensional Geometric Figures
		HA1-891	Using Models to Derive Formulas for Three-Dimensional Solids
A1.4.2.E	*use <u>unit analysis</u> to solve problems	MPA-155	Comparing and Converting Rates
A1.5	DATA AND PROBABILITY		
A1.5.1.A	formulate questions and collect data about a characteristic which include <u>sample spaces</u> and distributions	HA1-879	Applying Counting Techniques to Permutations and Combinations
		HA1-885	Histograms and the Normal Distribution
		HA1-886	Unions and Intersections of Sets Using Venn Diagrams
		HA1-879	Applying Counting Techniques to Permutations and Combinations
		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
A1.5.1.C	select and use appropriate graphical representation of data and given <u>one-variable quantitative data</u> , display the distribution and describe its shape	HA1-545	Making a Frequency Distribution Table
		HA1-885	Histograms and the Normal Distribution
		MPA-131	Interpreting and Creating Histograms
		MPA-132	Interpreting and Creating Scatterplots
		HA1-965	Determining the Best-Fitting Line

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		HA1-892	Data Analysis Using the Graphing Calculator
A1.5.2.A	apply statistical measures of center to solve problems	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
A1.5.2.C	given a scatterplot, determine an equation for a line of best fit	MPA-132	Interpreting and Creating Scatterplots
		HA1-965	Determining the Best-Fitting Line
		HA1-605	Interpreting the Correlation Coefficient of a Linear Fit
A1.5.3.A	make <u>conjectures</u> about possible relationships between 2 characteristics of a sample on the basis of scatter plots of the data	MPA-132	Interpreting and Creating Scatterplots
		HA1-965	Determining the Best-Fitting Line
		HA1-877	Drawing Inferences and Making Predictions from Tables and Graphs

* - indicates that the expectation should be assessed at the local level.

MM1-Fundamentals of Mathematics

MPA-Pre-Algebra

HA1-Algebra 1

Note: Standards were taken from the Missouri Grade-Level Expectations document, Version 2.0 adopted by the Missouri State Board of Education in March 2007 and updated April, 2008.