



Early High School Correlation to Illinois Learning Standards

	Illinois Learning Standard	Lesson Number	Lesson Title
NUMBER SENSE			
6.A.4a.	Identify and apply the associative, commutative, distributive and identity properties of real numbers, including special numbers such as pi and square roots.	HA1-076	Basic Distributive Property
		HA1-085	Simplifying Expressions Using the Properties of Real Numbers
		HA1-090	Simplifying Expressions Using the Property of Negative One
		HA1-125	Solving Equations Using More than One Property
		HA1-490	Simplifying Square Roots
		HA1-920	Simplifying Algebraic Expressions Using the Distributive Property
6.B.4a.	Select and use appropriate arithmetic operations in practical situations including calculating wages after taxes, developing a budget and balancing a checkbook.	MPA-088	Solving Real-World Problems Involving Percents
		MPA-126	Solving Real-World Problems Involving Sales Tax
		MPA-127	Solving Real-World Problems Involving Discounts
		MPA-128	Solving Real-World Problems Involving Simple Interest
6.C.4a.	Determine whether exact values or approximations are appropriate (e.g., bid a job, determine gas mileage for a trip).	MPA-006	Determining Reasonableness of Answers and Appropriate Methods of Computation
6.D.4a.	Solve problems involving recipes or mixtures, financial calculations and geometric similarity using ratios, proportions and percents.	HA1-165	Using Equations to Solve Percent Problems
		HA1-170	Solving Percent of Change Problems
		HA1-360	Expressing Ratios in Simplest Form and Solving Equations Involving Proportions
		MPA-078	Expressing Ratios as Fractions and Determining Equivalency
		MPA-080	Solving Proportions
		MPA-086	Solving Problems Using Percent
		MPA-087	Finding Percent Increase and Decrease
		MPA-088	Solving Real-World Problems Involving Percents
		MPA-110	Solving Problems Using Proportions, Scale Drawings, Models and Maps
		MPA-121	Identifying Similar and Congruent Polygons Using Proportions
		MPA-126	Solving Real-World Problems Involving Sales Tax
		MPA-127	Solving Real-World Problems Involving Discounts
		MPA-128	Solving Real-World Problems Involving Simple Interest
ESTIMATION AND MEASUREMENT			
7.A.4a.	Apply units and scales to describe and compare numerical data and physical objects.	MPA-079	Determining Unit Rates
		MPA-110	Solving Problems Using Proportions, Scale Drawings, Models and Maps
7.A.4b.	Apply formulas in a wide variety of theoretical and practical real-world measurement applications involving perimeter, area, volume, angle, time, temperature, mass, speed, distance, density and monetary values.	HA1-160	Writing an Equation to Solve Distance, Rate, and Time Problems

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		HA1-889	Complementary and Supplementary Angles
		HA1-890	Using Models to Derive Formulas for Two-Dimensional Geometric Figures
		HA1-891	Using Models to Derive Formulas for Three-Dimensional Solids
		HA1-170	Solving Percent of Change Problems
		HA1-135	Evaluating Formulas
7.C.4a.	Make indirect measurements, including heights and distances, using proportions (e.g., finding the height of a tower by its shadow).	HA1-515	Using the Pythagorean Theorem
		HA1-516	Applications of the Pythagorean Theorem
7.C.4b.	Interpret scale drawings and models using maps and blueprints.	MPA-110	Solving Problems Using Proportions, Scale Drawings, Models and Maps
7.C.4c.	Convert within and between measurement systems and monetary systems using technology where appropriate.	MPA-061	Converting Units in Metric System
		MPA-062	Converting Units in Customary System
		MPA-063	Converting Units Between Metric and Customary System
ALGEBRA AND ANALYTICAL METHODS			
8.A.4a.	Use algebraic methods to convert repeating decimals to fractions.	HA1-485	Writing Rational Numbers as Decimals or Fractions
8.A.4b.	Represent mathematical patterns and describe their properties using variables and mathematical symbols.	HA1-447	Identifying Number Patterns
		HA1-448	Finding the n th Term of a Pattern
8.B.4a.	Represent algebraic concepts with physical materials, words, diagrams, tables, graphs, equations and inequalities and use appropriate technology.	HA1-095	Translating Word Phrases and Algebraic Expressions
		HA1-892	Data Analysis Using the Graphing Calculator
		HA1-441	Applications of Functions and Relations Involving Distance, Rate, and Time
		HA1-436	Identifying Relations
		HA1-437	Identifying Relations as Functions
		HA1-438	Finding the Domain and Range of Functions
		HA1-380	Graphing Linear Equations
		HA1-382	Solving Linear Equations Using the Graphing Calculator
		HA1-416	Graphing Linear Inequalities with Two Variables Using the Graphing Calculator
		HA1-150	Writing an Equation to Solve Word Problems
		HA1-155	Writing an Equation to Solve Consecutive Integer Problems
		HA1-160	Writing an Equation to Solve Distance, Rate, and Time Problems
		HA1-165	Using Equations to Solve Percent Problems
		HA1-805	Applying Algebra Concepts
8.B.4b.	Use the basic functions of absolute value, square root, linear, quadratic and step to describe numerical relationships.	HA1-030	Using Opposites and Absolute Values
		HA1-490	Simplifying Square Roots
		HA1-525	Solving Quadratic Equations by Completing the Square
		HA1-530	Solving Quadratic Equations Involving Perfect Square Expressions
		HA1-535	Developing the Quadratic Formula and Using it to Solve Equations
		HA1-887	Applications of Absolute Value, Step, and Constant Functions
		HA1-935	Analyzing Graphs of Quadratic Functions
		HA1-950	Graphing Absolute Value Functions
8.C.4a.	Analyze and report the effects of changing coefficients, exponents and other parameters on functions and their graphs.	HA1-401	How Variations of 'm' and 'b' Affect the Graph of $y = mx + b$
		HA1-927	Graphing $f(x) = ax^2$ Using Dilations
		HA1-930	Graphing Quadratic Functions with Horizontal and Vertical Shifting
		HA1-931	Graphing Quadratic Functions with Dilations, Reflections, and Transformations
8.C.4b.	Apply algebraic properties and procedures with matrices, vectors, functions and sequences using data found in business, industry and consumer situations.	HA1-850	Identifying Matrices and Dimensions of a Matrix
		HA1-851	Performing Row Operations on Matrices
		HA1-940	Applications of Quadratic Equations

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		HA1-945	Real-World Applications of Quadratic Functions
		HA1-960	Real-World Applications of Linear Functions
8.D.4a.	Formulate and solve linear and quadratic equations and linear inequalities algebraically and investigate nonlinear inequalities using graphs, tables, calculators and computers.	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
		HA1-104	Translating Word Statements (Constants vs. Variables)
		HA1-105	Translating Word Statements into Inequalities
		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
		HA1-382	Solving Linear Equations Using the Graphing Calculator
		HA1-150	Writing an Equation to Solve Word Problems
		HA1-155	Writing an Equation to Solve Consecutive Integer Problems
		HA1-160	Writing an Equation to Solve Distance, Rate, and Time Problems
		HA1-165	Using Equations to Solve Percent Problems
		HA1-170	Solving Percent of Change Problems
		HA1-175	Solving Literal Equations
		HA1-180	Graphing Equations and Inequalities on the Number Line
		HA1-135	Evaluating Formulas
GEOMETRY			
9.A.4a.	Construct a model of a three-dimensional figure from a two-dimensional pattern.	HA1-890	Using Models to Derive Formulas for Two-Dimensional Geometric Figures
		HA1-891	Using Models to Derive Formulas for Three-Dimensional Solids
		MPA-107	Constructing Three-Dimensional Figures and Examining Their Dimensions
9.A.4b.	Make perspective drawings, tessellations and scale drawings, with and without the use of technology.	HA1-893	Constructing Solids from Different Perspectives
		MPA-060	Determining Which Figures Tessellate
		MPA-110	Solving Problems Using Proportions, Scale Drawings, Models and Maps
9.B.4a.	Recognize and apply relationships within and among geometric figures.	HA1-890	Using Models to Derive Formulas for Two-Dimensional Geometric Figures
		HA1-891	Using Models to Derive Formulas for Three-Dimensional Solids
		MPA-111	Comparing Perimeters, Areas and Volumes of Similar Geometric Figures and Solids
		MPA-121	Comparing Similar and Congruent Polygons
9.C.4a.	Construct and test logical arguments for geometric situations using technology where appropriate.	<i>Lessons in development</i>	
9.C.4b.	Construct and communicate convincing arguments for geometric situations.	<i>Lessons in development</i>	
9.C.4c.	Develop and communicate mathematical proofs (e.g., two-column, paragraph, indirect) and counter examples for geometric statements.	<i>Lessons in development</i>	
9.D.4a	Analyze and solve problems involving triangles (e.g., distances which cannot be measured directly) using trigonometric ratios.	<i>Lessons in development</i>	
DATA ANALYSIS AND PROBABILITY			
10.A.4a.	Represent and organize data by creating lists, charts, tables, frequency distributions, graphs, scatterplots and box-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
		MPA-131	Creating and Interpreting Histograms

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10.A.4b.	Analyze data using mean, median, mode, range, variance and standard deviation of a data set, with and without the use of technology.	MPA-132 HA1-540	Creating and Interpreting Scatterplots Finding the Mean, Median, and Mode From Data and Frequency Distribution Tables
		HA1-555	Computing the Range, Variance, and Standard Deviation of a Set of Data
10.A.4c	Predict from data using interpolation, extrapolation and trend lines, with and without the use of technology.	HA1-892	Data Analysis Using the Graphing Calculator
		HA1-877	Drawing Inferences and Making Predictions From Tables and Graphs
10.B.4a.	Design and execute surveys or experiments, gather data to answer relevant questions, and communicate results and conclusions to an audience using traditional methods and contemporary technology.	HA1-540	Finding the Mean, Median, and Mode From Data and Frequency Distribution Tables
		HA1-545	Making a Frequency Distribution Table
		HA1-555	Computing the Range, Variance, and Standard Deviation of a Set of Data
		HA1-560	Determining the Probability of a Simple Event and its Complement From a Random Experiment
		HA1-877	Drawing Inferences and Making Predictions From Tables and Graphs
		HA1-885	Histograms and the Normal Distribution
		HA1-892	Data Analysis Using the Graphing Calculator
10.C.4a.	Solve problems of chance using the principles of probability including conditional settings.	HA1-560	Determining the Probability of a Simple Event and its Complement From a Random Experiment
		MPA-090	Finding the Probability of Simple Real-Life Events
		MPA-113	Finding the Probability of Compound Events Through Experimentation
		MPA-114	Finding the Odds of Events and Experimental Probability from a Math Model
10.C.4b.	Design and conduct simulations (e.g., waiting times at restaurant, probabilities of births, likelihood of game prizes), with and without the use of technology.	HA1-892	Data Analysis Using the Graphing Calculator
		MPA-114	Finding the Odds of Events and Experimental Probability from a Math Model
10.C.4c.	Propose and interpret discrete probability distributions, with and without the use of technology.	HA1-540	Finding the Mean, Median, and Mode From Data and Frequency Distribution Tables
		HA1-545	Making a Frequency Distribution Table
		HA1-885	Histograms and the Normal Distribution

MM1-Fundamentals of Mathematics

MPA- Pre-Algebra

HA1-Algebra 1

Note: Standards were taken from the Illinois Learning Standards - Goals 6 - 10 Middle/Junior High School document adopted by the Illinois State Board of Education in 1997.