



Grade 11 Correlation to Assessment Anchors

	Pennsylvania Assessment Anchors and Eligible Content	I CAN Learn® Lesson #	I CAN Learn® Lesson Title
M11.A.1.1.1	Find the square root of an integer to the nearest tenth using either a calculator or estimation.	MPA-065	Estimating Square Roots
M11.A.1.1.2	Express numbers and/or simplify expressions using scientific notation (including numbers less than 1).	HA1-235	Writing, Multiplying, and Dividing Numbers Written in Scientific Notation
M11.A.1.1.3	Simplify square roots. (e.g., $\sqrt{24} = 2\sqrt{6}$)	HA1-480 HA1-490	Finding the Square Roots of Rational Numbers Simplifying Square Roots
M11.A.1.2.1	Find the Greatest Common Factor (GCF) and/or the Least Common Multiple (LCM) for sets of monomials.	HA1-270	Factoring the Greatest Common Monomial Factor from a Polynomial
M11.A.1.3.1	Locate/identify irrational numbers at the approximate location on a number line.	HA1-335 HA1-015	Finding the LCD of Rational Expressions and Changing Fractions to Equivalent Fractions Graphing Real Numbers Using a Number Line
M11.A.1.3.2	Compare and/or order any real numbers (rational and irrational may be mixed).	HA1-025	Comparing and Ordering Real Numbers
M11.A.2.1.1	Solve problems using operations with rational numbers including rates and percents (single and multi-step and multiple procedure operations) (e.g., distance, work and mixture problems, etc.).	HA1-150	Writing an Equation to Solve Word 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
		HA1-362	Solving Work Problems
M11.A.2.1.2	Solve problems using direct and inverse proportions.	HA1-450	Solving Problems Involving Direct Variation
		HA1-453	Solving Problems Involving Inverse Variation
M11.A.2.1.3	Identify and/or use proportional relationships in problem solving settings.	HA1-450	Solving Problems Involving Direct Variation
		HA1-453	Solving Problems Involving Inverse Variation
		HA1-160	Writing an Equation to Solve Distance, Rate, and Time Problems
		HA1-170	Solving Percent of Change Problems
		HA1-362	Solving Work Problems
M11.A.2.2.1	Simplify/evaluate expressions involving positive and negative exponents, roots and/or absolute value (may contain all types of real numbers - exponents should not exceed power of 10).	HA1-860	Using the Laws of Exponents
		HA1-815	Simplifying Expressions with Negative and Zero Exponents
		HA1-818	Simplifying Expressions Using the Division Properties of Exponents
M11.A.2.2.2	Simplify/evaluate expressions involving multiplying with exponents (e.g. $x^6 \cdot x^7 = x^{13}$), powers of powers (e.g., $(x^6)^7 = x^{42}$) and powers of products $(2x^2)^3 = 8x^6$ (positive exponents only).	HA1-860	Using the Laws of Exponents
M11.A.3.1.1	Simplify/evaluate expressions using the order of operations to solve problems (any rational numbers may be used).	HA1-060	Evaluating Numerical Expressions Using the Order of Operations
M11.A.3.2.1	Use estimation to solve problems.	MPA-005	Estimating Products and Quotients Using Patterns

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		MPA-017	Rounding Decimals and Estimating Computations Using Decimals
		MPA-033	Estimating Computations with Fractions and Mixed Numbers
		MM1-320	Performing Mathematical Operations with Decimal Numbers in Application Problems
		MM1-030	Estimating Sums and Differences
		MM1-060	Estimating Products
		MM1-070	Estimating Quotients
M11.B.2.1.1	Measure and/or compare angles in degrees (up to 360°) (protractor must be provided or drawn).	MM1-460	Measuring and Classifying Angles
M11.B.2.2.1	Calculate the surface area of prisms, cylinders, cones, pyramids and/or spheres. Formulas are provided on the reference sheet.	HA1-891	Using Models to Derive Formulas for Three-Dimensional Solids
		MPA-073	Finding the Surface Area of Rectangular Prisms
		MPA-074	Finding the Surface Area of Cylinders
M11.B.2.2.2	Calculate the volume of prisms, cylinders, cones, pyramids and/or spheres. Formulas are provided on the reference sheet.	HA1-891	Using Models to Derive Formulas for Three-Dimensional Solids
		MPA-115	Finding the Volumes of Prisms, Cylinders, Pyramids, and Cones Using Models
		MPA-075	Finding the Volume of Rectangular Prisms
		MPA-076	Finding the Volume of Cylinders
M11.B.2.2.3	Estimate area, perimeter or circumference of an irregular figure.	HA1-890	Using Models to Derive Formulas for Two-Dimensional Geometric Figures
		MPA-068	Finding the Area of Irregular Figures
		MPA-077	Solving Problems Using a Formula
M11.B.2.2.4	Find the measurement of a missing length given the perimeter, circumference, area or volume.	HA1-890	Using Models to Derive Formulas for Two-Dimensional Geometric Figures
		HA1-891	Using Models to Derive Formulas for Three-Dimensional Solids
M11.B.2.3.1	Describe how a change in the linear dimension of a figure affects its perimeter, circumference, area or volume.		
	· How does changing the length of the radius of a circle affect the circumference of the circle?	MPA-111	Comparing Perimeters, Areas, and Volumes of Similar Geometric Figures and Solids
	· How does changing the length of the edge of a cube affect the volume of the cube?	MPA-111	Comparing Perimeters, Areas, and Volumes of Similar Geometric Figures and Solids
	· How does changing the length of the base of a triangle affect the area of the triangle?	MPA-111	Comparing Perimeters, Areas, and Volumes of Similar Geometric Figures and Solids
M11.C.1.1.1	Identify and/or use the properties of a radius, diameter and/or tangent of a circle (given numbers should be whole.)	MPA-070	Finding the Circumference of a Circle
		MPA-071	Finding the Area of a Circle
		HGM-410	Applying Properties of Secants and Tangents (Lesson in development)
M11.C.1.1.2	Identify and/or use the properties of arcs, semicircles, inscribed angles and/or central angles.	HGM-365	Relating Area and Area of Sectors (Lesson in development)
		HGM-380	Finding Measures of Central Angles and Arcs (Lesson in development)
		HGM-385	Finding Measures of Inscribed Angles and Arcs (Lesson in development)
		HGM-390	Finding Measures of Angles and Segment Lengths Formed by Chords and Secants (Lesson in development)
		HGM-395	Finding Measures of Angles and Segment Lengths Formed by Secants and Tangents (Lesson in development)
M11.C.1.2.1	Identify and/or use properties of triangles (e.g., medians, altitudes, angle bisectors, side/angle relationships, Triangle Inequality Theorem).	HGM-145	Investigating Symmetry of Polygons (Lesson in development)
		HGM-160	Investigating Inequalities Involving One Triangle (Lesson in development)
		HGM-170	Examining Special Segments in Triangles (Lesson in development)
		HGM-175	Identifying Corresponding Parts of Congruent Triangles (Lesson in development)
M11.C.1.2.2	Identify and/or use properties of quadrilaterals (e.g., parallel sides, diagonals, bisectors, congruent sides/angles and supplementary angles).	HGM-230	Investigating Properties of Parallelograms (Lesson in development)
M11.C.1.2.3	Identify and/or use properties of isosceles and equilateral triangles	MPA-059	Classifying Triangles and Quadrilaterals
		HGM-155	Analyzing Isosceles and Equilateral Triangles (Lesson in development)

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M11.C.1.3.1	Identify and/or use properties of congruent and similar polygons or solids.	MPA-121	Identifying Similar and Congruent Polygons Using Proportions
		MPA-111	Comparing Perimeters, Areas, and Volumes of Similar Geometric Figures and Solids
		HGM-295	Using Similar Polygons and Scale Factor (Lesson in development)
		HGM-495	Exploring Similar Solids (Lesson in development)
M11.C.1.4.1	Find the measure of a side of a right triangle using the Pythagorean Theorem (Pythagorean Theorem included on the reference sheet).	HA1-515	Using the Pythagorean Theorem
		HA1-516	Applications of the Pythagorean Theorem
		HGM-085	Finding the Distance Between Two Points
M11.C.3.1.1	Calculate the distance and/or midpoint between 2 points on a number line or on a coordinate plane (formula provided on the reference sheet).	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	Finding the Distance Between Two Points
M11.C.3.1.2	Relate slope to perpendicularity and/or parallelism (limit to linear algebraic expressions; slope formula provided on the reference sheet).	HA1-395	Finding the Equation of a Line Parallel or Perpendicular to a Given Line
		HGM-090	Examining Slopes of Parallel and Perpendicular Lines
M11.D.1.1.1	Analyze a set of data for the existence of a pattern and represent the pattern algebraically and/or graphically.	HA1-892	Data Analysis Using the Graphing Calculator
		HA1-965	Determining the Best-Fitting Line
M11.D.1.1.2	Determine if a relation is a function given a set of points or a graph.	HA1-436	Identifying Relations
		HA1-437	Identifying Relations as Functions
M11.D.1.1.3	Identify the domain, range or inverse of a relation (may be presented as ordered pairs or a table).	HA1-438	Finding the Domain and Range of Functions
		HA1-402	Translating Among Multiple Representations of Functions
		HA2-443	Finding the Inverses of Linear and Quadratic Functions
M11.D.2.1.1	Solve compound inequalities and/or graph their solution sets on a number line (may include absolute value inequalities).	HA1-200	Combined Inequalities
		HA1-205	Solving Combined Inequalities
M11.D.2.1.2	Identify or graph functions, linear equations or linear inequalities on a coordinate plane.	HA1-380	Graphing Linear Equations
		HA1-398	Graphing Linear Equations Using Slope and y-Intercept or Slope and a Point
		HA1-415	Graphing Linear Inequalities with Two Variables
		HA1-416	Graphing Linear Inequalities with Two Variables Using the Graphing Calculator
M11.D.2.1.3	Write, solve and/or apply a linear equation (including problem situations).	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
		HA1-960	Real-World Applications of Linear Functions
M11.D.2.1.4	Write and/or solve systems of equations using graphing, substitution and/or elimination (limit systems to 2 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
		HA1-870	Solving Problems with Systems of Linear Equations and Inequalities
M11.D.2.1.5	Solve quadratic equations using factoring (integers only – not including completing the square or the Quadratic Formula).	HA1-305	Solving Polynomial Equations by Factoring
		HA1-310	The Practical Use of Polynomial Equations
		HA1-536	Solving Quadratic Equations Using the Graphing Calculator
		HA1-805	Applying Algebra Concepts
M11.D.2.2.1	Add, subtract and/or multiply polynomial expressions (express answers in simplest form – nothing larger than a binomial multiplied by a trinomial).	HA1-220	Identifying and Multiplying Monomials
		HA1-225	Dividing Monomials and Simplifying Expressions Having an Exponent of Zero

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		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
		HA1-920	Simplifying Algebraic Expressions Using the Distributive Property
M11.D.2.2.2	Factor algebraic expressions, including difference of squares and trinomials (trinomials limited to the form ax^2+bx+c where a is not equal to 0).	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 Square Trinomials
		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
M11.D.2.2.3	Simplify algebraic fractions.	HA1-320	Simplifying Rational Expressions
		HA1-350	Simplifying Complex Fractions
M11.D.3.1.1	Identify, describe and/or use constant or varying rates of change.	HA1-955	Analyzing Linear Functions
M11.D.3.1.2	Determine how a change in one variable relates to a change in a second variable (e.g., $y=4/x$, if x doubles, what happens to y ?).	HA1-450	Solving Problems Involving Direct Variation
		HA1-453	Solving Problems Involving Inverse Variation
		HA1-955	Analyzing Linear Functions
M11.D.3.2.1	Apply the formula for the slope of a line to solve problems (formula given on reference sheet).	HA1-960	Real-World Applications of Linear Functions
		MPA-142	Solving Problems With Linear Functions and Direct Variation
M11.D.3.2.2	Given the graph of the line, 2 points on the line, or the slope and a point on a line, write or identify the linear equation in point-slope, standard and/or slope-intercept form.	HA1-385	Finding the Slope of a Line from its Graph or from the Coordinates of Two Points
		HA1-394	Interchanging Linear Equations Between Standard Form and Slope-Intercept Form
		HA1-395	Finding the Equation of a Line Parallel or Perpendicular to a Given Line
		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 $y = mx + b$
		HA1-402	Translating Among Multiple Representations of Functions
		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
M11.D.3.2.3	Compute the slope and/or y-intercept represented by a linear equation or graph.	HA1-385	Finding the Slope of a Line from its Graph or from the Coordinates of Two Points
		HGM-090	Examining Slopes of Parallel and Perpendicular Lines
		MPA-140	Examining Linear Equations in Slope-Intercept Form
		MPA-142	Solving Problems With Linear Functions and Direct Variation
		HA1-955	Analyzing Linear Functions
M11.D.4.1.1	Match the graph of a given function to its table or equation.	HA1-402	Translating Among Multiple Representations of Functions
M11.E.1.1.1	Create and/or use appropriate graphical representations of data, including box-and-whisker plots, stem-and-leaf plots or scatter plots.	MPA-096	Constructing Stem-and-Leaf Plots
		MPA-097	Constructing Box-and-Whisker Plots
		MPA-132	Interpreting and Creating Scatterplots
		HA1-965	Determining the Best-Fitting Line
M11.E.1.1.2	Analyze data and/or answer questions based on displayed data (box-and-whisker plots, stem-and-leaf plots or scatter plots).	MPA-096	Constructing Stem-and-Leaf Plots
		MPA-097	Constructing Box-and-Whisker Plots

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		MPA-132	Interpreting and Creating Scatterplots
		HA1-965	Determining the Best-Fitting Line
M11.E.2.1.1	Calculate or select the appropriate measure of central tendency (mean, mode or median) of a set of data given or represented on a table, line plot or stem-and-leaf plot.	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
M11.E.2.1.2	Calculate and/or interpret the range, quartiles and interquartile range of data.	MPA-097	Constructing Box-and-Whisker Plots
M11.E.2.1.3	Describe how outliers affect measures of central tendency.	HA1-541	Analyzing Data Using the Measures of Central Tendency and the Range
M11.E.3.1.1	Find probabilities for independent, dependent or compound events and represent as a fraction, decimal or percent).	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
		MPA-112	Constructing Sample Spaces for Compound Events (Dependent and Independent)
		MPA-113	Finding the Probability of Compound Events Through Experimentation
M11.E.3.1.2	Find, convert and/or compare the probability and/or odds of a simple event.	HA1-560	Determining Probability of an Event and Complementary Event from a Random Experiment
		MPA-114	Finding the Odds of Events and Experimental Probability from a Math Model
M11.E.3.2.1	Determine the number of permutations and/or combinations or apply the fundamental counting principle. (Formula provided on the reference sheet).	HA1-879	Applying Counting Techniques to Permutations and Combinations
M11.E.4.1.1	Estimate or calculate to make predictions based on a circle, line, bar graph or given situation.	HA1-877	Drawing Inferences and Making Predictions from Tables and Graphs
M11.E.4.1.2	Use probability to predict outcomes.	HA1-560	Determining Probability of an Event and Complementary Event from a Random Experiment
M11.E.4.2.1	Draw, find and/or write an equation for a line of best fit for a scatter plot.	MPA-132	Interpreting and Creating Scatterplots
		HA1-965	Determining the Best-Fitting Line
M11.E.4.2.2	Make predictions using the equations or graphs of best-fit lines of scatter plots.	HA1-965	Determining the Best-Fitting Line

MM1-Fundamentals of Mathematics

MPA- Pre-Algebra

HA1-Algebra 1

HGM - Geometry (New course in development)

Note: Standards were taken from the Pennsylvania Performance Standards document adopted by the Pennsylvania State Board of Education in 2008.