



2017–2018 School Year
Pennsylvania Correlation

2014 Pennsylvania Core Standards

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Percent Correlation to Pennsylvania Academic Standards for Mathematics

Grade 3

Standards not addressed:

CC.2.4.3.A.3	Solve problems and make change involving money using a combination of coins and bills.
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Grade 4

Standards not addressed:

CC.2.2.4.A.4	Generate and analyze patterns using one rule.
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CC.2.4.4.A.2	Translate information from one type of data display to another.
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CC.2.4.4.A.4	Represent and interpret data involving fractions using information provided in a line plot.
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Grade 5

Standards not addressed:

CC.2.2.5.A.4	Operations and Algebraic Thinking. Analyze patterns and relationships using two rules.
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CC.2.4.5.A.2	Measurement and Data. Represent and interpret data using appropriate scale.
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Grade 6

Grade 7

Standards not addressed:

CC.2.3.7.A.2	Visualize and represent geometric figures and describe the relationships between them.
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Grade 8

Percent Correlation to Pennsylvania Academic Standards Assessed on Algebra I Keystone Exam

Algebra I

Standards not addressed:

CC.2.2.HS.D.5	Use polynomial identities to solve problems.
CC.2.2.HS.D.6	Extend the knowledge of rational functions to rewrite in equivalent forms.
CC.2.4.HS.B.5	Make inferences and justify conclusions based on sample surveys, experiments, and observational studies.
CC.2.4.HS.B.4	Recognize and evaluate random processes underlying statistical experiments.
CC.2.4.HS.B.7	Apply the rules of probability to compute probabilities of compound events in a uniform probability model.

Percent Correlation to Pennsylvania Academic Standards Assessed on Geometry Keystone Exam

Geometry

Standards not addressed:

CC.2.3.HS.A.2	Apply rigid transformations to determine and explain congruence.
CC.2.2.HS.C.9	Prove the Pythagorean identity and use it to calculate trigonometric ratios.

Pennsylvania Core Standards		Imagine Math	
Grade 3		Unit	Lesson
2.1 Numbers and Operations (B) Numbers and Operations in Base Ten			
CC.2.1.3.B.1	Apply place-value understanding and properties of operations to perform multi-digit arithmetic	Number and Operations in Base 10	Multiplying by Multiples of Ten Reasoning about Place Value and Rounding Rounding to the Nearest Ten and Hundred Reasoning About Addition and Subtraction Within 1,000
2.1 Numbers and Operations (C) Numbers and Operations – Fractions			
CC.2.1.3.C.1	Explore and develop an understanding of fractions as numbers.	Number and Operations - Fractions	Understanding Fractions - Equal Areas Unit Fractions on the Number Line Fractions on the Number Line Modeling Equivalent Fractions with Number Lines Visual Models of Equivalent Fractions Whole Numbers as Fractions Whole Numbers as Fractions on the Number Line Comparing Fractions with the Same Numerator or Denominator Recognizing Valid Fraction Comparisons I
2.2 Algebraic Concepts (A) Operations and Algebraic Thinking			
CC.2.2.3.A.1	Represent and solve problems involving multiplication and division.	Operations and Algebraic Thinking	Concept of Multiplication - Grouping Concept of Multiplication - Word Problems Concept of Multiplication - Arrays; Concept of Division Solving Multiplication and Division Equations Division as an Unknown-Factor Problem Multiplication and Division Word Problems - Visual Models Multiplication and Division Word Problems - Equations Multiplication and Division Word Problems - Solutions

Pennsylvania Core Standards		Imagine Math	
Grade 3		Unit	Lesson
CC.2.2.3.A.2	Understand properties of multiplication and the relationship between multiplication and division	Operations and Algebraic Thinking	Properties of Addition and Multiplication Relationship Between Multiplication and Division Multiplication and Division Fact Families Solving Multiplication and Division Equations Division as an Unknown-Factor Problem Using Visual Models to Understand the Distributive Property
CC.2.2.3.A.3	Demonstrate multiplication and division fluency.	Operations and Algebraic Thinking	Multiplication and Division Fact Families
CC.2.2.3.A.4	Solve problems involving the four operations and identify and explain patterns in arithmetic.	Operations and Algebraic Thinking	Estimating Sums and Differences - Application Solving Two-Step Word Problems Modeling and Solving Two-Step Word Problems Additive and Multiplicative Patterns
2.3 Geometry (A) Geometry			
CC.2.3.3.A.1	Identify, compare, and classify shapes and their attributes.	Geometry	Classifying Quadrilaterals I
CC.2.3.3.A.2	Use the understanding of fractions to partition shapes into parts with equal areas and express the area of each part as a unit fraction of the whole	Number and Operations - Fractions	Understanding Fractions - Notation
2.4 Measurement, Data, and Probability (A) Measurement and Data			
CC.2.4.3.A.1	Solve problems involving measurement and estimation of temperature, liquid volume, mass or length	Measurement and Data	Capacity or Weight
CC.2.4.3.A.2	Tell and write time to the nearest minute and solve problems by calculating time intervals.	Measurement and Data	Adding and Subtracting Time
CC.2.4.3.A.3	Solve problems and make change involving money using a combination of coins and bills.	Standard not addressed	Standard not addressed
CC.2.4.3.A.4	Represent and interpret data using tally charts, tables, pictographs, line plots, and bar graphs.	Measurement and Data	Introduction to Data Displays

Pennsylvania Core Standards		Imagine Math	
<i>Grade 3</i>		<i>Unit</i>	<i>Lesson</i>
CC.2.4.3.A.5	Determine the area of a rectangle and apply the concept to multiplication and to addition.	Measurement and Data	Unit Squares Concept of Area Area of Rectangles
		Operations and Algebraic Thinking	Using Visual Models to Understand the Distributive Property
CC.2.4.3.A.6	Solve problems involving perimeters of polygons and distinguish between linear and area measures	Measurement and Data	Unit Squares Concept of Area Area of Rectangles Recognizing Area as Additive Area of Basic Composite Figures Perimeter

Pennsylvania Core Standards		Imagine Math	
Grade 4		Unit	Lesson
2.1 Numbers and Operations (B) Numbers and Operations in Base Ten			
CC.2.1.4.B.1	Apply place-value concepts to show an understanding of multi-digit whole numbers.	Number and Operations in Base Ten	Place Value Concepts Using Place Value Concepts to Compare Whole Numbers Understanding Place Value Relationships Rounding Whole Numbers Using Rounding in Problem Solving
CC.2.1.4.B.2	Use place-value understanding and properties of operations to perform multi-digit arithmetic.	Number and Operations in Base Ten	Adding Whole Numbers Adding and Subtracting with the Standard Algorithm Multiplying 2-Digit Numbers by 2-Digit Numbers Multiplying Whole Numbers Dividing Whole Numbers - One-Digit Divisors
2.1 Numbers and Operations (C) Numbers and Operations – Fractions			
CC.2.1.4.C.1	Extend the understanding of fractions to show equivalence and ordering.	Number and Operations - Fractions	Modeling Equivalent Fractions Generating Equivalent Fractions Reducing Fractions Comparing Fractions - Visual Models Comparing Fractions with Different Numerators and Different Denominators Recognizing Valid Fraction Comparisons II Decomposing Fractions and Mixed Numbers Writing Fractions as Mixed Numbers and Mixed Numbers as Fractions Understanding Fractions - Relationship Between Numerator and Denominator

Pennsylvania Core Standards		Imagine Math	
Grade 4		Unit	Lesson
CC.2.1.4.C.2	Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.	Number and Operations in Base Ten Number and Operations - Fractions	Dividing Multiples of Ten Adding and Subtracting Fractions with Like Denominators Adding and Subtracting Fractions with Like Denominators in Real-World Situations Decomposing Fractions and Mixed Numbers Word Problems with Fractions and Mixed Numbers - Visual Models Word Problems with Fractions and Mixed Numbers - Estimation Adding and Subtracting Mixed Numbers with Like Denominators - Conceptual Strategies Adding and Subtracting Mixed Numbers with Like Denominators Multiplying Unit Fractions by Whole Numbers
CC.2.1.4.C.3	Connect decimal notation to fractions, and compare decimal fractions (base 10 denominator, e.g., 19/100).	Number and Operations - Fractions Number and Operations in Base Ten	Understanding Fractions with Denominators of 10 and 100 Adding Fractions with Denominators of 10 or 100 Comparing Decimal Fractions Decimals to Hundredths Recognizing Valid Decimal Comparisons Comparing and Ordering Decimal Fractions Decimal Notation I Decimal Notation II Introduction to Comparing Decimals to Hundredths Comparing Decimals to Hundredths Fraction and Decimal Equivalents Comparing Fractions and Decimals

Pennsylvania Core Standards		Imagine Math	
Grade 4		Unit	Lesson
2.2 Algebraic Concepts (A) Operations and Algebraic Thinking			
CC.2.2.4.A.1	Represent and solve problems involving the four operations.	Number and Operations in Base Ten Operations and Algebraic Thinking	Adding Whole Numbers Multiplying Whole Numbers Estimating Solutions to Multistep Word Problems Multiplication as a Comparison - Equations Multiplication as a Comparison - Word Problems Interpreting Remainders
CC.2.2.4.A.2	Develop and/or apply number theory concepts to find factors and multiples.	Operations and Algebraic Thinking	Factors Relating Factors and Multiples I Relating Factors and Multiples II Generating and Describing Number Patterns
CC.2.2.4.A.4	Generate and analyze patterns using one rule.	Standard not addressed	Standard not addressed
2.3 Geometry (A) Geometry			
CC.2.3.4.A.1	Draw lines and angles and identify these in two-dimensional figures.	Geometry	Identifying and Classifying Lines, Rays, and Segments Classifying Triangles Classifying Quadrilaterals II
C.2.3.4.A.2	Classify two dimensional figures by properties of their lines and angles.	Geometry	Classifying Triangles Classifying Quadrilaterals II
CC.2.3.4.A.3	Recognize symmetric shapes and draw lines of symmetry.	Geometry	Symmetry
2.4 Measurement, Data, and Probability (A) Measurement and Data			
CC.2.4.4.A.1	Solve problems involving measurement and conversions from a larger unit to a smaller unit.	Measurement and Data	Area and Perimeter of Rectangles Units of Measure - Customary Units of Measure - Metric
CC.2.4.4.A.2	Translate information from one type of data display to another.	Standard not addressed	Standard not addressed

Pennsylvania Core Standards		Imagine Math	
<i>Grade 4</i>		<i>Unit</i>	<i>Lesson</i>
CC.2.4.4.A.4	Represent and interpret data involving fractions using information provided in a line plot.	Standard not addressed	Standard not addressed
CC.2.4.4.A.6	Measure angles and use properties of adjacent angles to solve problems.	Measurement and Data	Identifying and Comparing Angles Angles

Pennsylvania Core Standards		Imagine Math	
Grade 5		Unit	Lesson
2.1 Numbers and Operations (B) Numbers and Operations in Base Ten			
CC.2.1.5.B.1	Apply place value concepts to show an understanding of operations and rounding as they pertain to whole numbers and decimals.	Number and Operations in Base Ten	Decimals to Thousandths Comparing Decimals to Thousandths Fraction and Decimal Equivalents Comparing Fractions and Decimals Rounding Decimals to the Nearest Tenth and Hundredth Reasoning About Rounding Decimals Multiplying by Powers of Ten Multiplying and Dividing by Powers of Ten Place Value Relationships Within Whole Numbers and Decimals
CC.2.1.5.B.2	Numbers and Operations in Base Ten. Extend an understanding of operations with whole numbers to perform operations including decimals.	Number and Operations in Base Ten	Multiplying Whole Numbers - Standard Algorithm Dividing Whole Numbers - Two-Digit Divisors Adding and Subtracting Decimals Adding and Subtracting Decimals in Real-World Situations Multiplying Decimals to Hundredths Dividing Decimals to Hundredths Using Reasoning and Estimation to Calculate with Decimals Calculating with Decimals
2.1 Numbers and Operations (C) Numbers and Operations – Fractions			
CC.2.1.5.C.1	Number & Operations - Fractions. Use the understanding of equivalency to add and subtract fractions.	Number and Operations - Fractions	Adding Fractions Adding Fractions - Estimation Strategies Subtracting Fractions Subtracting Fractions - Estimation Strategies Adding and Subtracting Fractions Adding and Subtracting Fractions - Multistep Word Problems

Pennsylvania Core Standards		Imagine Math	
Grade 5		Unit	Lesson
CC.2.1.5.C.2	Number & Operations - Fractions. Apply and extend previous understandings of multiplication and division to multiply and divide fractions.	Number and Operations - Fractions	Understanding Fractions as Division Understanding Products with Fractions Multiplying Fractions by Fractions Multiplying with Fractions and Mixed Numbers Multiplying Fractions by Whole Numbers to Solve Multistep Problems Dividing Unit Fractions by Whole Numbers Dividing Whole Numbers by Unit Fractions
2.2 Algebraic Concepts (A) Operations and Algebraic Thinking			
CC.2.2.5.A.1	Operations and Algebraic Thinking. Interpret and evaluate numerical expressions using order of operations.	Expressions and Equations Operations and Algebraic Thinking	Evaluating Simple Expressions Writing Simple Expressions Writing and Interpreting Simple Expressions
CC.2.2.5.A.4	Operations and Algebraic Thinking. Analyze patterns and relationships using two rules.	Standard not addressed	Standard not addressed
2.3 Geometry (A) Geometry			
CC.2.3.5.A.1	Geometry. Graph points in the first quadrant on the coordinate plane and interpret these points when solving real world and mathematical problems.	Geometry	Introduction to the Coordinate Plane Representing Real-World Quantities in the First Quadrant Introduction to Scatter Plots
CC.2.3.5.A.2	Geometry. Classify two dimensional figures into categories based on an understanding of their properties.	Geometry	Classifying 2-Dimensional Figures
2.4 Measurement, Data, and Probability (A) Measurement and Data			
CC.2.4.5.A.1	Measurement and Data. Solve problems using conversions within a given measurement system.	Measurement and Data	Units of Measure - Customary Units of Measure - Metric
CC.2.4.5.A.2	Measurement and Data. Represent and interpret data using appropriate scale.	Standard not addressed	Standard not addressed

Pennsylvania Core Standards		Imagine Math	
<i>Grade 5</i>		<i>Unit</i>	<i>Lesson</i>
CC.2.4.5.A.4	Measurement and Data. Solve problems involving computation of fractions using information provided in a line plot.	Measurement and Data	Line Plots
CC.2.4.5.A.5	Measurement and Data. Apply concepts of volume to solve problems and relate volume to multiplication and addition.	Measurement and Data	Volume of Rectangular Prisms I Volume of Rectangular Prisms II

Pennsylvania Core Standards		Imagine Math	
Grade 6		Unit	Lesson
2.1. Numbers and Operations (D) Ratios & Proportional Relationships			
CC.2.1.6.D.1	Understand ratio concepts and use ratio reasoning to solve problems.	Ratios and Proportional Relationships	Identifying Ratios Ratios Concept of Ratios and Rates Using Ratios to Solve Problems Identifying Unit Rates Solving Problems with Unit Rates Converting Units of Measure I Converting Units of Measure II Distance, Rate, and Time Percent Concepts Reasoning with Percents Calculations with Percent
		The Number System	Rational Numbers in the Coordinate Plane II
2.1. Numbers and Operations (E) The Number System			
CC.2.1.6.E.1	Apply and extend previous understandings of multiplication and division to divide fractions by fractions.	The Number System	Using the Relationship Between Multiplication and Division to Divide Fractions Dividing Fractions by Fractions Using Division of Fractions to Represent and Solve Problems Operations with Fractions - Mixed Practice
CC.2.1.6.E.2	Identify and choose appropriate processes to compute fluently with multi-digit numbers.	Number and Operations in Base Ten	Dividing Whole Numbers - Standard Algorithm Adding and Subtracting Decimals Adding and Subtracting Decimals in Real-World Situations Using Reasoning and Estimation to Calculate with Decimals Calculating with Decimals
CC. 2.1.6.E.3	Develop and/or apply number theory concepts to find common factors and multiples.	The Number System	Greatest Common Factor Greatest Common Factor - Applications Least Common Multiple

Pennsylvania Core Standards		Imagine Math	
Grade 6		Unit	Lesson
CC.2.1.6.E.4	Apply and extend previous understandings of numbers to the system of rational numbers.	Ratios and Proportional Relationships The Number System	Reasoning with Percents Integer Concepts Integer Concepts with a Number Line Integers in the Coordinate Plane I Integers in the Coordinate Plane II Comparing Rational Numbers I Comparing Rational Numbers II Rational Numbers in the Coordinate Plane I Rational Numbers in the Coordinate Plane II Absolute Value I Absolute Value II Distance on the Coordinate Plane II
2.2. Algebraic Concepts (B) Expressions and Equations			
CC.2.2.6.B.1	Apply and extend previous understandings of arithmetic to algebraic expressions.	Expressions and Equations	Evaluating Expressions with Two Operations Evaluating Expressions with Real Numbers Understanding Exponents Evaluating Expressions and Equations with Exponents Identifying and Generating Equivalent Expressions Evaluating Expressions with the Distributive Property Using the Distributive Property to Represent Real-World Situations Introduction to the Language of Algebra Combining Like Terms
CC.2.2.6.B.2	Understand the process of solving a one-variable equation or inequality and apply it to real-world and mathematical problems.	Expressions and Equations	Reasoning About One-Step Equations Writing and Solving One-Step Equations Introduction to the Language of Algebra Introduction to Solving Word Problems with Algebra Concept of Inequalities I

Pennsylvania Core Standards		Imagine Math	
Grade 6		Unit	Lesson
CC.2.2.6.B.3	Represent and analyze quantitative relationships between dependent and independent variables.	Expressions and Equations	Independent and Dependent Quantities
2.3 Geometry (A) Geometry			
CC.2.3.6.A.1	Apply appropriate tools to solve real-world and mathematical problems involving area, surface area, and volume.	Geometry	Distance on the Coordinate Plane I Area of Parallelograms Area of Triangles Area of Trapezoids and Composite Figures Surface Area and Volume of Rectangular Prisms Surface Area of Pyramids
2.4 Measurement, Data, and Probability (B) Statistics and Probability			
CC.2.4.6.B.1	Demonstrate an understanding of statistical variability by displaying, analyzing, and summarizing distributions.	Statistics and Probability	Measures of Spread - Range Measures of Center - Median Measures of Center - Mean Understanding the Effects of Outliers on Mean and Median Deviation from the Mean Summarizing Data Data Analysis Bar Graphs and Histograms Circle Graphs Stem-and-Leaf Plots Quartiles Box Plots

Pennsylvania Core Standards		Imagine Math	
Grade 7		Unit	Lesson
CC.2.2.7.B.3	Model and solve real-world and mathematical problems by using and connecting numerical, algebraic, and/or graphical representations.	Expressions and Equations The Number System	Fraction, Decimal, and Percent Equivalents Solving and Modeling Two-Step Problems Solving Equations with the Distributive Property Solving Equations with the Distributive Property in Context Solving Word Problems with Algebra Writing and Interpreting Expressions with Rational Numbers Operations with Rational Numbers II
2.3 Geometry (A) Geometry			
CC.2.3.7.A.1	Solve real-world and mathematical problems involving angle measure, area, surface area, circumference, and volume.	Ratios and Proportional Relationships Geometry	Using Proportions to Solve Problems Proportions in Scale Drawings Introduction to Similar Figures Using Similar Figures to Solve Problems Similarity Circumference Area of Circles Surface Area and Volume of Rectangular Prisms Surface Area of Cylinders Surface Area of Cones Surface Area of Composite Solids Angle Pairs Angles in a Polygon
CC.2.3.7.A.2	Visualize and represent geometric figures and describe the relationships between them.	Standard not addressed	Standard not addressed
2.4 Measurement, Data, and Probability (B) Statistics and Probability			
CC.2.4.7.B.1	Draw inferences about populations based on random sampling concepts	Statistics and Probability	Sampling

Pennsylvania Core Standards		Imagine Math	
<i>Grade 7</i>		<i>Unit</i>	<i>Lesson</i>
CC.2.4.7.B.2	Draw informal comparative inferences about two populations.	Statistics and Probability	Sampling Comparing Data Probability and Sample Spaces Simple Probability
CC.2.4.7.B.3	Investigate chance processes and develop, use, and evaluate probability models.	Statistics and Probability	Probability and Sample Spaces Simple Probability Compound Probability Simulations of Simple and Compound Events Making Predictions

Pennsylvania Core Standards		Imagine Math	
Grade 8		Unit	Lesson
2.1. Numbers and Operations (E) The Number System			
CC.2.1.8.E.1	Distinguish between rational and irrational numbers using their properties.	The Number System	Classifying and Ordering Real Numbers Approximating Values of Irrational Numbers
CC.2.1.8.E.4	Estimate irrational numbers by comparing them to rational numbers.	The Number System	Classifying and Ordering Real Numbers Approximating Values of Irrational Numbers
2.2. Algebraic Concepts (B) Expressions and Equations			
CC.2.2.8.B.1	Apply concepts of radicals and integer exponents to generate equivalent expressions.	Expressions and Equations	Understanding Properties of Integer Exponents Applying Properties of Integer Exponents Understanding Square and Cube Roots Interpreting Numbers Written in Scientific Notation Operations with Numbers in Scientific Notation
CC.2.2.8.B.2	Understand the connections between proportional relationships, lines, and linear equations.	Expressions and Equations	Interpreting Slope Slope
		Functions	Slope-Intercept Form Point-Slope Form
		Building Functions	Direct Variation
CC.2.2.8.B.3	Analyze and solve linear equations and pairs of simultaneous linear equations.	Expressions and Equations	Solving Two-Step Equations Solving Equations with the Variable on Both Sides Analyzing Solution Sets to Linear Equations with the Variable on Both Sides Solving a System of Linear Equations Graphically Solving a System of Linear Equations Algebraically Solving a System of Linear Equations - Applications
		Functions	Slope-Intercept Form Point-Slope Form

Pennsylvania Core Standards		Imagine Math	
Grade 8		Unit	Lesson
2.2. Algebraic Concepts (C) Functions			
CC.2.2.8.C.1	Define, evaluate, and compare functions	Statistics and Probability	Comparing Linear and Nonlinear Data
CC.2.2.8.C.2	Use concepts of functions to model relationships between quantities	Expressions and Equations	Interpreting Slope
		Building Functions	Direct Variation
		Functions	Interpreting Graphs of Real-World Situations Introduction to Sketching Graphs of Real-World Situations
2.3 Geometry (A) Geometry			
CC.2.3.8.A.1	Apply the concepts of volume of cylinders, cones, and spheres to solve real-world and mathematical problems.	Geometry	Volume of Cylinders Volume of Pyramids and Cones Volume of Spheres Volume of Composite Solids
CC.2.3.8.A.2	Understand and apply congruence, similarity, and geometric transformations using various tools.	Geometry	Translations Reflections Rotations Composition of Transformations Dilations Dilations in the Coordinate Plane Congruence
CC.2.3.8.A.3	Understand and apply the Pythagorean Theorem to solve problems. M08.C-G.2.1.1 M08.C-G.2.1.2 M08.C-G.2.1.3 G.2.1.1.1 G.2.1.2.1	Geometry	Understanding the Pythagorean Theorem Pythagorean Theorem - Hypotenuse Pythagorean Theorem - Legs Pythagorean Theorem - Mixed Problems Pythagorean Theorem - Distance Formula

Pennsylvania Core Standards		Imagine Math	
<i>Grade 8</i>		<i>Unit</i>	<i>Lesson</i>
2.4 Measurement, Data, and Probability (B) Statistics and Probability			
CC.2.4.8.B.1	Analyze and/or interpret bivariate data displayed in multiple representations.	Functions Building Functions Statistics and Probability	Slope-Intercept Form Direct Variation Comparing Linear and Nonlinear Data
CC.2.4.8.B.2	Understand that patterns of association can be seen in bivariate data utilizing frequencies.	Statistics and Probability	Patterns of Association in Data

Pennsylvania High School Core Standards		Imagine Math Algebra I Pathway	
<i>Algebra I</i>		<i>Unit</i>	<i>Lesson</i>
2.1.HS High School (F) Number and Quantity			
CC.2.1.HS.F.1	Apply and extend the properties of exponents to solve problems with rational exponents.	The Real Number System	Using Rational Exponents to Rewrite Expressions
CC.2.1.HS.F.2	Apply properties of rational and irrational numbers to solve real world or mathematical problems.	The Real Number System	Products and Sums with Rational and Irrational Numbers
CC.2.1.HS.F.3	Apply quantitative reasoning to choose and interpret units and scales in formulas, graphs, and data displays.	Interpreting Categorical and Quantitative Data	Data Displays on the Real Number Line
CC.2.1.HS.F.4	Use units as a way to understand problems and to guide the solution of multi-step problems.	Quantities	Using Units to Solve Problems
CC.2.1.HS.F.5	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.	Quantities	Using Units to Solve Problems
CC.2.1.HS.F.6*	Extend the knowledge of arithmetic operations and apply to complex numbers.	Standard not addressed*	Standard not addressed*
CC.2.1.HS.F.7*	Apply concepts of complex numbers in polynomial identities and quadratic equations to solve problems.	Standard not addressed*	Standard not addressed*
2.2. Algebraic Concepts (D) Algebra			
CC.2.2.HS.D.1	Interpret the structure of expressions to represent a quantity in terms of its context.	Seeing Structure in Expressions	Interpreting the Structure of Linear and Exponential Expressions Interpreting the Structure of Quadratic Expressions and Expressions with Rational Exponents
CC.2.2.HS.D.2	Write expressions in equivalent forms to solve problems.	Arithmetic with Polynomials and Rational Expressions	Adding and Subtracting Polynomials Multiplying Polynomials
		Interpreting Functions	Rewriting Quadratics to Reveal Their Structure
CC.2.2.HS.D.3	Extend the knowledge of arithmetic operations and apply to polynomials.	Arithmetic with Polynomials and Rational Expressions	Adding and Subtracting Polynomials Multiplying Polynomials

Pennsylvania High School Core Standards		Imagine Math Algebra I Pathway	
<i>Algebra I</i>		<i>Unit</i>	<i>Lesson</i>
CC.2.2.HS.D.4*	Understand the relationship between zeros and factors of polynomials to make generalizations about functions and their graphs.	Standard not addressed*	Standard not addressed*
CC.2.2.HS.D.5	Use polynomial identities to solve problems.	Standard not addressed	Standard not addressed
CC.2.2.HS.D.6	Extend the knowledge of rational functions to rewrite in equivalent forms.	Standard not addressed	Standard not addressed
CC.2.2.HS.D.7	Create and graph equations or inequalities to describe numbers or relationships.	Creating Equations	Writing and Solving Linear Equations in One Variable Writing and Graphing Linear Equations in Two or More Variables Writing Linear Inequalities in One Variable
		Building Functions	Writing Quadratic Functions From Their Graphs
CC.2.2.HS.D.8	Apply inverse operations to solve equations or formulas for a given variable.	Creating Equations	Solving Literal Equations Modeling Quadratic Relationships with Equations, Inequalities, and Graphs
CC.2.2.HS.D.9	Use reasoning to solve equations and justify the solution method.	Reasoning with Equations and Inequalities	Solving Linear Equations in One Variable as a Reasoning Process

Pennsylvania High School Core Standards		Imagine Math Algebra I Pathway	
<i>Algebra I</i>		<i>Unit</i>	<i>Lesson</i>
CC.2.2.HS.C.2	Graph and analyze functions and use their properties to make connections between the different representations.	Linear, Quadratic, and Exponential Models Interpreting Functions	Introduction to Nonlinear Models Distinguishing Between Linear and Exponential Relationships Interpreting Graphs of Linear and Exponential Functions in Context Sketching Graphs of Linear and Exponential Functions from a Context Sketching Graphs of Linear Functions from Symbolic Representations Sketching Graphs of Exponential Functions from Symbolic Representations Comparing Functions Using Different Representations Sketching Graphs of Quadratic Functions in Context Sketching and Transforming Graphs of Quadratic Functions from Symbolic Representations Piecewise, Step, and Absolute Value Functions
CC.2.2.HS.C.3	Write functions or sequences that model relationships between two quantities.	Building Functions Linear, Quadratic, and Exponential Models Interpreting Functions	Writing Linear and Exponential Functions from a Context Composite Functions Writing Geometric Sequences Using an Explicit Formula Writing Geometric Sequences Recursively Writing Arithmetic Sequences Explicitly and Recursively Writing Quadratic Functions from a Context Writing Linear and Exponential Functions Based on Different Representations Sequences as Functions

Pennsylvania High School Core Standards		Imagine Math Algebra I Pathway	
<i>Algebra I</i>		<i>Unit</i>	<i>Lesson</i>
CC.2.2.HS.C.4	Interpret the effects transformations have on functions and find the inverses of functions.	Building Functions Interpreting Functions	Transformations of Graphs of Linear and Exponential Functions Writing Inverse Functions Sketching and Transforming Graphs of Quadratic Functions from Symbolic Representations
CC.2.2.HS.C.5	Construct and compare linear, quadratic, and exponential models to solve problems.	Building Functions Linear, Quadratic, and Exponential Models Interpreting Functions Creating Equations Seeing Structure in Expressions Reasoning with Equations and Inequalities	Writing Linear and Exponential Functions from a Context Writing Quadratic Functions from a Context Writing Linear and Exponential Functions Based on Different Representations Rewriting and Interpreting Exponential Functions in Terms of Context Rewriting Quadratics to Reveal Their Structure Modeling Quadratic Relationships with Equations, Inequalities, and Graphs Factoring Quadratic Expressions Solving Quadratics - Completing the Square Problem Solving with Quadratic Functions Using the Quadratic Formula
CC.2.2.HS.C.6	Interpret functions in terms of the situations they model.	Interpreting Functions	Sketching Graphs of Linear and Exponential Functions from a Context Rate of Change for Linear and Exponential Functions Rewriting and Interpreting Exponential Functions in Terms of Context

Pennsylvania High School Core Standards		Imagine Math Algebra I Pathway	
<i>Algebra I</i>		<i>Unit</i>	<i>Lesson</i>
CC.2.2.HS.C.7*	Apply radian measure of an angle and the unit circle to analyze the trigonometric functions.	Standard not addressed*	Standard not addressed*
CC.2.2.HS.C.8*	Choose trigonometric functions to model periodic phenomena and describe the properties of the graphs.	Standard not addressed*	Standard not addressed*
CC.2.2.HS.C.9*	Prove the Pythagorean identity and use it to calculate trigonometric ratios.	Standard not addressed*	Standard not addressed*
2.3.HS High School (A) Geometry			
CC.2.3.HS.A.1*	Use geometric figures and their properties to represent transformations in the plane.	Standard not addressed*	Standard not addressed*
CC.2.3.HS.A.2*	Apply rigid transformations to determine and explain congruence.	Standard not addressed*	Standard not addressed*
CC.2.3.HS.A.3*	Verify and apply geometric theorems as they relate to geometric figures.	Standard not addressed*	Standard not addressed*
CC.2.3.HS.A.4*	Apply the concept of congruence to create geometric constructions.	Standard not addressed*	Standard not addressed*
CC.2.3.HS.A.5*	Create justifications based on transformations to establish similarity of plane figures.	Standard not addressed*	Standard not addressed*
CC.2.3.HS.A.6*	Verify and apply theorems involving similarity as they relate to plane figures.	Standard not addressed*	Standard not addressed*
CC.2.3.HS.A.7*	Apply trigonometric ratios to solve problems involving right triangles.	Standard not addressed*	Standard not addressed*
CC.2.3.HS.A.8*	Apply geometric theorems to verify properties of circles.	Standard not addressed*	Standard not addressed*
CC.2.3.HS.A.9*	Extend the concept of similarity to determine arc lengths and areas of sectors of circles.	Standard not addressed*	Standard not addressed*
CC.2.3.HS.A.10*	Translate between the geometric description and the equation for a conic section.	Standard not addressed*	Standard not addressed*

Pennsylvania High School Core Standards		Imagine Math Algebra I Pathway	
<i>Algebra I</i>		<i>Unit</i>	<i>Lesson</i>
CC.2.3.HS.A.11*	Apply coordinate geometry to prove simple geometric theorems algebraically.	Standard not addressed*	Standard not addressed*
CC.2.3.HS.A.12*	Explain volume formulas and use them to solve problems.	Standard not addressed*	Standard not addressed*
CC.2.3.HS.A.13*	Analyze relationships between two-dimensional and three-dimensional objects.	Standard not addressed*	Standard not addressed*
CC.2.3.HS.A.14*	Apply geometric concepts to model and solve real world problems.	Standard not addressed*	Standard not addressed*
2.4.HS High School (B) Statistics and Probability			
CC.2.4.HS.B.1	Summarize, represent, and interpret data on a single count or measurement variable.	Interpreting Categorical and Quantitative Data	Data Displays on the Real Number Line Comparing the Shape, Center, and Spread of Data Sets Fitting Functions to Data
CC.2.4.HS.B.2	Summarize, represent, and interpret data on two categorical and quantitative variables.	Interpreting Categorical and Quantitative Data	Summarizing and Interpreting Categorical Data Fitting Functions to Data Correlation
CC.2.4.HS.B.3	Analyze linear models to make interpretations based on the data.	Interpreting Categorical and Quantitative Data	Fitting Functions to Data
CC.2.4.HS.B.4	Recognize and evaluate random processes underlying statistical experiments.	Standard not addressed	Standard not addressed
CC.2.4.HS.B.5	Make inferences and justify conclusions based on sample surveys, experiments, and observational studies.	Standard not addressed	Standard not addressed
CC.2.4.HS.B.6*	Use the concepts of independence and conditional probability to interpret data.	Standard not addressed*	Standard not addressed*
CC.2.4.HS.B.7	Apply the rules of probability to compute probabilities of compound events in a uniform probability model.	Standard not addressed	Standard not addressed
* This standard is not assessed on the PA Algebra I Keystone			

Pennsylvania High School Core Standards		Imagine Math Geometry Pathway	
<i>Geometry</i>		<i>Unit</i>	<i>Lesson</i>
2.1.HS High School (F) Number and Quantity			
CC.2.1.HS.F.1*	Apply and extend the properties of exponents to solve problems with rational exponents.	Standard not addressed*	Standard not addressed*
CC.2.1.HS.F.2*	Apply properties of rational and irrational numbers to solve real world or mathematical problems.	Standard not addressed*	Standard not addressed*
CC.2.1.HS.F.3*	Apply quantitative reasoning to choose and interpret units and scales in formulas, graphs, and data displays.	Standard not addressed*	Standard not addressed*
CC.2.1.HS.F.4*	Use units as a way to understand problems and to guide the solution of multi-step problems.	Standard not addressed*	Standard not addressed*
CC.2.1.HS.F.5*	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.	Standard not addressed*	Standard not addressed*
CC.2.1.HS.F.6*	Extend the knowledge of arithmetic operations and apply to complex numbers.	Standard not addressed*	Standard not addressed*
CC.2.1.HS.F.7*	Apply concepts of complex numbers in polynomial identities and quadratic equations to solve problems.	Standard not addressed*	Standard not addressed*
2.2. Algebraic Concepts (D) Algebra			
CC.2.2.HS.D.1*	Interpret the structure of expressions to represent a quantity in terms of its context.	Standard not addressed*	Standard not addressed*
CC.2.2.HS.D.2*	Write expressions in equivalent forms to solve problems.	Standard not addressed*	Standard not addressed*
CC.2.2.HS.D.3*	Extend the knowledge of arithmetic operations and apply to polynomials.	Standard not addressed*	Standard not addressed*
CC.2.2.HS.D.4*	Understand the relationship between zeros and factors of polynomials to make generalizations about functions and their graphs.	Standard not addressed*	Standard not addressed*
CC.2.2.HS.D.5*	Use polynomial identities to solve problems.	Standard not addressed*	Standard not addressed*

Pennsylvania High School Core Standards		Imagine Math Geometry Pathway	
<i>Geometry</i>		<i>Unit</i>	<i>Lesson</i>
CC.2.2.HS.D.6*	Extend the knowledge of rational functions to rewrite in equivalent forms.	Standard not addressed*	Standard not addressed*
CC.2.2.HS.D.7*	Create and graph equations or inequalities to describe numbers or relationships.	Standard not addressed*	Standard not addressed*
CC.2.2.HS.D.8*	Apply inverse operations to solve equations or formulas for a given variable.	Standard not addressed*	Standard not addressed*
CC.2.2.HS.D.9*	Use reasoning to solve equations and justify the solution method.	Standard not addressed*	Standard not addressed*
CC.2.2.HS.D.10*	Represent, solve, and interpret equations/inequalities and systems of equations/inequalities algebraically and graphically.	Standard not addressed*	Standard not addressed*
2.2.HS High School (C) Functions			
CC.2.2.HS.C.1	Use the concept and notation of functions to interpret and apply them in terms of their context.	Interpreting Functions	Function Notation I Function Notation I Understanding the Domain of a Function
CC.2.2.HS.C.2*	Graph and analyze functions and use their properties to make connections between the different representations.	Standard not addressed*	Standard not addressed*
CC.2.2.HS.C.3*	Write functions or sequences that model relationships between two quantities.	Standard not addressed*	Standard not addressed*
CC.2.2.HS.C.4*	Interpret the effects transformations have on functions and find the inverses of functions.	Standard not addressed*	Standard not addressed*
CC.2.2.HS.C.5*	Construct and compare linear, quadratic, and exponential models to solve problems.	Standard not addressed*	Standard not addressed*
CC.2.2.HS.C.6*	Interpret functions in terms of the situations they model.	Standard not addressed*	Standard not addressed*
CC.2.2.HS.C.7*	Apply radian measure of an angle and the unit circle to analyze the trigonometric functions.	Standard not addressed*	Standard not addressed*

Pennsylvania High School Core Standards		Imagine Math Geometry Pathway	
<i>Geometry</i>		<i>Unit</i>	<i>Lesson</i>
CC.2.2.HS.C.8*	Choose trigonometric functions to model periodic phenomena and describe the properties of the graphs.	Standard not addressed*	Standard not addressed*
CC.2.2.HS.C.9	Prove the Pythagorean identity and use it to calculate trigonometric ratios.	Standard not addressed	Standard not addressed
2.3.HS High School (A) Geometry			
CC.2.3.HS.A.1	Use geometric figures and their properties to represent transformations in the plane.	Congruence Similarity, Right Triangles, and Trigonometry	Defining Basic Geometric Elements Defining Transformations Rotational and Reflectional Symmetry Representing Transformations with Algebra Rigid Motion and Congruence Properties of Dilations I Properties of Dilations II
CC.2.3.HS.A.2	Apply rigid transformations to determine and explain congruence.	Standard not addressed	Standard not addressed
CC.2.3.HS.A.3	Verify and apply geometric theorems as they relate to geometric figures.	Congruence Similarity, Right Triangles, and Trigonometry	What Is Proof? Proving Theorems About Lines and Angles Proving Theorems About Congruent Triangles Problem Solving with Congruent Triangles Proving Theorems About Relationships in Triangles Proving Theorems About Parallelograms
CC.2.3.HS.A.4*	Apply the concept of congruence to create geometric constructions.	Congruence*	Constructing Angles and Special Line Segments* Constructing Inscribed Figures*
CC.2.3.HS.A.5	Create justifications based on transformations to establish similarity of plane figures.	Similarity, Right Triangles, and Trigonometry	Transformations and Similarity Proving Theorems About Similar Triangles

Pennsylvania High School Core Standards		Imagine Math Geometry Pathway	
<i>Geometry</i>		<i>Unit</i>	<i>Lesson</i>
CC.2.3.HS.A.6	Verify and apply theorems involving similarity as they relate to plane figures.	Similarity, Right Triangles, and Trigonometry Circles	Transformations and Similarity Problem Solving with Transformations and Similarity Proving Theorems About Similar Triangles Tangents, Chords, Radii, and Angles in Circles
CC.2.3.HS.A.7	Apply trigonometric ratios to solve problems involving right triangles.	Similarity, Right Triangles, and Trigonometry	Similarity and Trigonometric Ratios Problem Solving with Similarity and Trigonometric Ratios Sine and Cosine of Complementary Angles Law of Sines and Law of Cosines
CC.2.3.HS.A.8	Apply geometric theorems to verify properties of circles.	Expressing Geometric Properties with Equations Circles	Equation of a Circle Problem Solving with the Equation of a Circle Quadrilaterals Inscribed in Circles
CC.2.3.HS.A.9	Extend the concept of similarity to determine arc lengths and areas of sectors of circles.	Circles	Radians and Area of Sectors
CC.2.3.HS.A.10*	Translate between the geometric description and the equation for a conic section.	Expressing Geometric Properties with Equations*	Deriving the Equation of a Parabola from Its Definition*
CC.2.3.HS.A.11	Apply coordinate geometry to prove simple geometric theorems algebraically.	Congruence Expressing Geometric Properties with Equations	What Is Proof? Coordinates of Parallel and Perpendicular Lines Problem Solving with Coordinates of Parallel and Perpendicular Lines Dividing a Segment Proportionally Using Coordinates to Find Perimeters and Areas
CC.2.3.HS.A.12	Explain volume formulas and use them to solve problems.	Geometry	Volume of Cylinders Volume of Pyramids and Cones Volume of Spheres

Pennsylvania High School Core Standards		Imagine Math Geometry Pathway	
Geometry		Unit	Lesson
CC.2.3.HS.A.13	Analyze relationships between two-dimensional and three-dimensional objects.	Geometric Measurement and Dimension	Cross Sections of 3-Dimensional Figures
CC.2.3.HS.A.14	Apply geometric concepts to model and solve real world problems.	Modeling with Geometry	Modeling Objects with Geometric Figures Using Geometric Relationships to Solve Design Problems Rates with Area and Volume
2.4.HS High School (B) Statistics and Probability			
CC.2.4.HS.B.1*	Summarize, represent, and interpret data on a single count or measurement variable.	Standard not addressed*	Standard not addressed*
CC.2.4.HS.B.2*	Summarize, represent, and interpret data on two categorical and quantitative variables.	Standard not addressed*	Standard not addressed*
CC.2.4.HS.B.3*	Analyze linear models to make interpretations based on the data.	Standard not addressed*	Standard not addressed*
CC.2.4.HS.B.4*	Recognize and evaluate random processes underlying statistical experiments.	Standard not addressed*	Standard not addressed*
CC.2.4.HS.B.5*	Make inferences and justify conclusions based on sample surveys, experiments, and observational studies.	Standard not addressed*	Standard not addressed*
CC.2.4.HS.B.6*	Use the concepts of independence and conditional probability to interpret data.	Conditional Probability and the Rules of Probability*	Using Area Models for Compound Probability* Understanding Independent and Dependent Events* Understanding Conditional Probability* Modeling Probability Situations Using Two-Way Frequency Tables*
CC.2.4.HS.B.7*	Apply the rules of probability to compute probabilities of compound events in a uniform probability model.	Conditional Probability and the Rules of Probability*	Organizing Possible Outcomes of Events* Modeling Probability Situations Using Two-Way Frequency Tables* Relating Probabilities of Unions and Intersections of Events*
* This standard is not assessed on the PA Geometry Keystone			

