

# Catchup Math and the Common Core Standards

Spring 2013

The Catchup Math curriculum addresses nearly all the Common Core Mathematics Standards for Grades 6-8 and High School (including most of the “optional” high school mathematics standards, indicated in the Common Core Standards document with a (+) symbol).

For each standard, the table below shows the applicable Catchup Math curriculum.

standard	Related Catchup Math Topics	Covered in Subject and Chapter Programs	Related Flash Cards & Games
6.RP.1 (6.RP.A.1)	Rates; Ratios; Rates and Ratios; Proportions	Essentials; Pre-Algebra Chapter 6; Algebra 1 Chapter 3; Geometry Chapter 6	
6.RP.2 (6.RP.A.2)	Unit Rates	Pre-Algebra Chapter 6; Pre-Algebra Chapter 11; Algebra 1 Chapter 3	
6.RP.3 (6.RP.A.3)	Rates and Ratios; Percent; Equivalent Fractions; Unit Analysis	Essentials; Pre-Algebra Chapter 6; Algebra 1 Chapter 3	Percents: Level 1; Reducing Fractions
6.RP.3c (6.RP.A.3c)	Percent; Percents and Decimals	Essentials; Algebra 1 Proficiency; Algebra 1 Chapter 3; Pre-Algebra Proficiency; Pre-Algebra Chapter 6	Percents: Level 1; Percents: Level 2
6.RP.3d (6.RP.A.3d)	Customary Units	Pre-Algebra Chapter 11	
6.NS.1 (6.NS.A.1)	Dividing by a Fraction; Fraction Operations; Fractions	Essentials; Pre-Algebra Proficiency; Algebra 1 Proficiency; Algebra 1 Chapter 7; Algebra 2 Chapter 7; Pre-Algebra Chapter 4 and 5	Dividing Fractions
6.NS.2. (6.NS.B.2)	Basic Operations	Essentials	

6.NS.3 (6.NS.B.3)	Adding and Subtracting Decimals; Operations with Decimals	Essentials; Pre-Algebra Proficiency; Pre-Algebra Chapter 1, 4 , and 5	Adding and Subtracting Decimals; Operations with Decimals
6.NS.4 (6.NS.B.4)	Factors; Greatest Common Factors; Least Common Denominators (LCD); Least Common Multiples	Essentials; Algebra 1 Chapter 3, 6, 7, 9, 11 ; Algebra 2 Chapter 6; Pre-Algebra Proficiency; Algebra 1 Proficiency; Pre-Algebra Chapter 3, 4;	Factortris Game; Greatest Common Factors; Fraction Tech Tool
6.NS.5 (6.NS.C.5)	Opposites		
6.NS.6 (6.NS.C.6)	Number Line	Pre-Algebra Proficiency; Algebra 1 Proficiency; Pre-Algebra Chapter 2; Pre-Algebra Chapter 5; Algebra 1 Chapter 4, 11,	Plot on the Number Line; Catch The Fly
6.NS.6b (6.NS.C.6b)	Cartesian Plane; Quadrants	Essentials; Pre-Algebra Proficiency; Pre-Algebra Chapter 10, 12; Algebra 1 Chapter 2, Geometry Chapter 1, 4, and 8	Point-Plotting Activity; Catch the Fly Game
6.NS.6c (6.NS.C.6c)	Integers	Essentials; Pre-Algebra Proficiency; Pre-Algebra Chapter 8	Integers
6.NS.7 (6.NS.C.7)	Absolute Value; Simplifying Absolute Value Expressions	Pre-Algebra Proficiency; Pre-Algebra Chapter 2; Algebra 1 Proficiency; Algebra 1 Chapter 4; Algebra 2 Chapter 1	
6.NS.8 (6.NS.C.8)	Ordered Pair; Cartesian Plane	Essentials; Pre-Algebra Proficiency; Algebra 1 Chapter 2	Plotting Coordinates
6.EE.1 (6.EE.A.1)	Exponents	Essentials; Pre-Algebra Proficiency; Algebra 1 Proficiency; Algebra 2 Proficiency; Algebra 1 Chapter 6; Algebra 2 Chapter 8; Pre-Algebra Chapter 8	Exponents, Level 1; Exponents, Level 2
6.EE.2	Evaluating Expressions	Essentials; Pre-Algebra Proficiency; Pre-Algebra Chapter	Equating Expressions Activity

(6.EE.A.1)		1, 2; Algebra 1 Chapter 9; Algebra 2 Chapter 1	
6.EE.2c (6.EE.A.2c)	Formulas; Order of Operations	Essentials; Pre-Algebra Proficiency; Pre-Algebra Chapter 1; Algebra 1 Chapter 1; Algebra 2 Chapter 1	Order of Operations: Level 1; Order of Operations: Level 2
6.EE.3 (6.EE.A.3)	Properties of Multiplication; Properties of Addition	Essentials; Pre-Algebra Proficiency	The Distributive Property
6.EE.4 (6.EE.A.4)	Solving Equations	Essentials; Pre-Algebra Chapter 5	
6.EE.5 (6.EE.B.5)	Solving Equations; Inequalities	Pre-Algebra Proficiency; Pre-Algebra Chapter 5	
6.EE.6 (6.EE.B.6)	Word Problems; Variables	Essentials; Pre-Algebra Proficiency; Pre-Algebra Chapter 1; Algebra 1 Chapter 1	
6.EE.7 (6.EE.B.7)	Solving One-Step Linear Equations	Pre-Algebra Proficiency; Pre-Algebra Chapter 10; Algebra 1 Chapter 1	
6.EE.8 (6.EE.B.8)	Inequalities; Graphing Inequalities in One Variable	Pre-Algebra Proficiency; Pre-Algebra Chapter 8; Algebra 1 Proficiency; Algebra 1 Chapter 4, 10; Algebra 2 Chapter 1	Inequalities; Linear Inequality Grapher
6.EE.9 (6.EE.C.9)	Ordered Pair; Rate-Time-Distance Problems	Pre-Algebra Proficiency; Pre-Algebra Chapter 5, 8, 12; Algebra 1 Proficiency; Algebra 1 Chapter 2, 3, 4, 5, 10, 11	Ordered Pairs
6.G.1 (6.G.A.1)	Area; Rectangle; Area of a Triangle	Essentials; Pre-Algebra Proficiency; Pre-Algebra Chapter 9; Algebra 1 Proficiency; Algebra 1 Chapter 6; Algebra 2 Proficiency; Algebra 2 Chapter 1; Geometry Proficiency; Geometry Chapter 1,	Factortris Game; Area Decomposer;

		5, 6, 10	
6.G.2 (6.G.A.2)	Prism	Pre-Algebra Chapter 9; Geometry Proficiency;	
6.G.3 (6.G.A.3)	Ordered Pairs; Cartesian Plane	Essentials; Pre-Algebra Proficiency; Algebra 1 Chapter 2	Catch The Fly
6.G.4 (6.G.A.4)	Nets; Surface Area	Pre-Algebra Proficiency	
6.SP.1 (6.SP.A.1 )	Statistical Questions	Pre-Algebra Chapter 12	
6.SP.2	Comparing Data Distributions	Pre-Algebra Chapter 12	
6.SP.3 (6.SP.A.3)	Center and Variation of Data	Pre-Algebra Chapter 12	
6.SP.4 (6.SP.B.4)	Line Plots; Box-and-Whisker Plots; Histograms	Pre-Algebra Proficiency; Algebra 1 Proficiency; Algebra 1 Chapter 11	
6.SP.5c (6.SP.B.5c)	Mode; Interquartile	Essentials; Pre-Algebra Proficiency; Pre-Algebra Chapter 12; Algebra 1 Proficiency; Algebra 1 Chapter 11	
7.RP.1 (7.RP.A.1)	Unit Rates; Unit Analysis	Pre-Algebra Chapter 3; Pre-Algebra Chapter 6; Pre-Algebra Chapter 11	
7.RP.2 (7.RP.A.2)	Direct Variation; Converting Fractions to Percents	Pre-Algebra Proficiency; Geometry Proficiency; Algebra 1 Proficiency ; Algebra 1 Chapter 3; Algebra 1 Chapter 9; Algebra 2 Chapter 1	
7.RP.3	Simple Interest; Percent; Percent Increase and Decrease; Percents and	Essentials; Pre-Algebra Proficiency; Pre-Algebra Chapter 6; Algebra 1 Proficiency ; Algebra	Percents: Level 1; Percents: Level 2

(7.RP.A.3)	Decimals	1 Chapter 3; Algebra 1 Chapter 5;	
7.NS	Fraction Operations; Fractions	Pre-Algebra Proficiency	
7.NS.1 (7.NS.A.1)	Absolute Value; Adding and Subtracting Fractions; Adding and Subtracting Negatives; Multiplying a Fraction by a Fraction; Multiplying a Fraction by an Integer; Multiplying and Dividing Negatives; Multiplying and Dividing with Decimals; Operations with Fractions; Operations with Negatives	Essentials; Pre-Algebra Proficiency; Pre-Algebra Chapter 1; Pre-Algebra Chapter 2; Pre-Algebra Chapter 4; Pre-Algebra Chapter 5; Pre-Algebra Chapter 6; Pre-Algebra Chapter 8; Algebra 1 Proficiency; Algebra 1 Chapter 4; Algebra 1 Chapter 6; Algebra 1 Chapter 7; Algebra 2 Proficiency; Algebra 2 Chapter 1; Geometry Proficiency	Adding Fractions: Like Denominators; Adding Fractions: Unlike Denominators; Adding Negatives Activity; Subtracting Negatives Activity; Multiplying Fractions; Multiplying a Fraction by an Integer; Multiplying Decimals; Dividing Decimals; Multiplying with Negatives; Dividing with Negatives; Operations with Decimals; Operations with Fractions; Operations with Negatives
7.NS.1b (7.NS.A.1b)	Inverse Operations		
7.NS.1c (7.NS.A.1c)	Simplifying Absolute Value Expressions	Pre-Algebra Proficiency	
7.NS.2 (7.NS.A.2)	Multiplying a Fraction by a Fraction; Dividing by a Fraction; Multiplying and Dividing Negatives; Properties of Multiplication; Distributive Property	Essentials; Pre-Algebra Proficiency; Pre-Algebra Chapter 4	Negatives: Multiplying and Dividing with Negatives, Fractions: Multiplying a Fraction by an Integer, Multiplying Fractions, Dividing Fractions, Converting Fractions to Decimals
7.NS.3 (7.NS.A.3)	Order of Operations; Multiplying a Fraction by a Fraction; Dividing by a Fraction; Multiplying and	Essentials; Pre-Algebra Proficiency; Pre-Algebra Chapter 4	

	Dividing Negatives; Adding and Subtracting Negatives; Adding and Subtracting Fractions		
7.B.6 (7.G.B.6)	Convert Units of Area and Volume	Pre-Algebra Chapter 11	
7.EE.1 (7.EE.A.1)	Factoring Monomials		
7.EE.2 (7.EE.A.2 )	Word Problems: Equivalent Expressions	Pre-Algebra Chapter 1	
7.EE.3 (7.EE.B.3)	Word Problems Involving Decimals; Word Problems Involving Integers; Word Problems Involving One Step Linear Equations; Word Problems Involving Percents; Word Problems Involving the Distributive Property; Word Problems: Ratios	Essentials; Pre-Algebra Chapter 1; Algebra 1 Chapter 9; Algebra 21 Chapter 1	
7.EE.4 (7.EE.B.4)	Absolute Value Inequalities	Pre-Algebra Proficiency; Pre- Algebra Chapter 2; Algebra 1 Proficiency; Algebra 1 Chapter 1; Algebra 1 Chapter 4; Algebra 2 Chapter 1	Absolute Value Inequalities Activity
7.EE.4a (7.EE.B.4a)	Rectangle; Word Problems: Area and Perimeter of a Rectangle; Word Problems Involving Width, Length and Area	Essentials; Pre-Algebra Proficiency; Pre-Algebra Chapter 3; Pre-Algebra Chapter 9; Algebra 1 Proficiency; Algebra 1 Chapter 1; Algebra 1 Chapter 4; Algebra 1 Chapter 6; Geometry Chapter 5; Geometry Chapter 6; Geometry Chapter 10;	Area Tool

7.EE.4b (7.EE.B.4b)	Graphing Inequalities in One Variable; Solving One-Step Linear Inequalities	Algebra 1 Proficiency; Algebra 1 Chapter 4; Algebra 2 Chapter 1; Pre-Algebra Chapter 8;	Linear Inequality Grapher
7.G.1 (7.G.A.1)	Scale Factor; Proportions	Pre-Algebra Proficiency; Pre-Algebra Chapter 6; Algebra 1 Chapter 3; Geometry Proficiency; Geometry Chapter 6	
7.G.2 (7.G.A.2)	<i>Drawing/construction type</i>		
7.G.3 (7.G.A.3)	Prism; Pyramid	Pre-Algebra Chapter 9; Geometry Proficiency	
7.G.4 (7.G.B.4)	Area; Area of a Circle; Formulas; Pi	Essentials; Pre-Algebra Chapter 9; Algebra 1 Chapter 1; Algebra 2 Proficiency; Algebra 2 Chapter 1; Algebra 2 Chapter 10; Geometry Proficiency; Geometry Chapter 6; Geometry Chapter 10;	Factortris Game; Area Decomposer; Area of a Circle; Circle Area Approximation
7.G.5 (7.G.B.5)	Supplementary Angles; Complementary Angles; Adjacent Angles	Pre-Algebra Proficiency; Pre-Algebra Chapter 7; Geometry Proficiency; Geometry Chapter 1; Geometry Chapter 3;	
7.G.6 (7.G.B.6)	Areas of Regular Polygons; Polygons; Quadrilaterals; Surface Area of a Cylinder; Surface Area of a Prism	Pre-Algebra Proficiency; Pre-Algebra Chapter 7; Pre-Algebra Chapter 9; Geometry Proficiency; Geometry Chapter 1; Geometry Chapter 5; Geometry Chapter 10; Geometry Chapter 11;	Area Decomposer
7.SP.1 (7.SP.A.1)	Random Sampling	Algebra 1 Chapter 11; Algebra 1 Chapter 13	
7.SP.2	Random Sampling	Algebra 1 Chapter 11; Algebra 1	

(7.SP.A.2)		Chapter 13	
7.SP.3 (7.SP.B.3)	Comparing Data Distributions	Algebra 1 Chapter 11	
7.SP.4 (7.SP.B.4)	Center and Variation of Data	Algebra 1 Chapter 11	
7.SP.5 (7.SP.C.5)	Probability	Pre-Algebra Proficiency; Pre-Algebra Chapter 9; Pre-Algebra Chapter 12; Algebra 1 Proficiency; Algebra 1 Chapter 13; Algebra 2 Chapter 9; Geometry Proficiency;	
7.SP.6 (7.SP.C.6)	Frequency Distributions	Algebra 1 Chapter 11; Algebra 1 Chapter 13	
7.SP.7 (7.SP.C.7)	Developing a Probability Distribution from Empirical Data	Algebra 1 Chapter 11	
7.SP.8 (7.SP.C.8)	Dependent Events		
7.SP.8b (7.SP.C.8b)	Fundamental Counting Principle	Pre-Algebra Chapter 12; Algebra 1 Chapter 13	
8.NS.1 (8.NS.A.1)	Irrational Numbers	Essentials	
8.NS.2 (8.NS.A.3)	Irrational Numbers; Square Roots; Rounding Decimals	Essentials; Pre-Algebra Proficiency; Pre-Algebra Chapter 8	
8.EE.1 (8.EE.A.1)	Exponents; Negative Exponents; Power of a Power Property; Power of a Product Property; Power of a Quotient Property; Product of Powers	Essentials; Pre-Algebra Proficiency; Algebra 1 Proficiency; Algebra 1 Chapter 6; Algebra 1 Chapter 7; Algebra 1 Chapter 8; Algebra 2 Proficiency; Algebra 2 Chapter 7; Algebra 2	Exponents, Level 1; Exponents, Level 2; Properties of Exponents; Power of a Power Property; Power of a Power Product; Power of a



	Property; Properties of Exponents; Quotient of Powers Property;	Chapter 8	Quotient Product; Product of Powers Property; Quotient of Powers Property
8.EE.2 (8.EE.A.2)	Exponential Functions; Principal Value of a Square Root; Perfect Squares; Square Roots; Solving Systems of Linear Equations; Solving Systems of Linear Equations using Elimination; Solving Systems of Linear Equations using Graphing; Solving Systems of Linear Equations using Substitution	Essentials; Pre-Algebra Proficiency; Pre-Algebra Chapter 8; Pre-Algebra Chapter 10; Algebra 1 Proficiency; Algebra 1 Chapter 5; Algebra 1 Chapter 8; Algebra 1 Chapter 9; Algebra 1 Chapter 10; Algebra 2 Chapter 3; Algebra 2 Chapter 5;	Exponential Functions: $y = b^x$ Activity; Number Cop Game; Equating Expressions Activity
8.EE.3 (8.EE.A.3)	Big and Small Numbers; Powers of 10		Scientific Notation Activity
8.EE.4 (6.EE.A.2c)	Scientific Notation; Exponent Tables and Patterns	Pre-Algebra Proficiency; Algebra 1 Proficiency; Algebra 1 Chapter 6	Scientific Notation Activity
8.EE.5 (8.EE.B.5)	Direct Variation; Graphing Linear Equations	Pre-Algebra Proficiency; Pre-Algebra Chapter 10; Algebra 1 Proficiency; Algebra 1 Chapter 3; Algebra 1 Chapter 9; Algebra 2 Proficiency; Algebra 2 Chapter 2; Algebra 2 Chapter 3;	Slope-intercept Form of a Line Activity; Karappan Poochi Game
8.EE.6 (8.EE.B.6)	Slope	Pre-Algebra Proficiency; Pre-Algebra Chapter 10; Algebra 1 Proficiency; Algebra 1 Chapter 2; Algebra 1 Chapter 9; Algebra 1 Chapter 12; Algebra 2 Chapter 2; Geometry Proficiency; Geometry Chapter 3;	Slope Triangles Activity
8.EE.7	Solving Equations ; Solving Linear Equations; Solving	Essentials; Pre-Algebra Proficiency; Pre-Algebra Chapter	Equating Expressions

(8.EE.C.7)	Multi-Step Linear Equations; Solving Multi-Step Linear Equations with Decimals; Solving Multi-Step Linear Equations with Fractions; Solving One-Step Linear Equations; Solving One-Step Linear Equations with Decimals; Solving One-Step Linear Equations with Fractions; Solving One-Step Linear Equations with Mixed Numbers; Solving Two-Step Linear Equations; Solving Two-Step Linear Equations with Decimals; Solving Two-Step Linear Equations with Fractions	1; Pre-Algebra Chapter 5; Pre-Algebra Chapter 7; Pre-Algebra Chapter 10; Algebra 1 Proficiency; Algebra 1 Chapter 1; Algebra 1 Chapter 2; Algebra 1 Chapter 4; Algebra 2 Proficiency; Algebra 2 Chapter 1; Algebra 2 Chapter 7; Geometry Proficiency; Geometry Chapter 1; Geometry Chapter 3; Geometry Chapter 6;	Activity
8.EE.7a (8.EE.C.7a)	Solution Sets	Algebra 1 Chapter 9; Pre-Algebra Chapter 10	
8.EE.7b (8.EE.C.7b)	Combining Like Terms; Distributive Property;	Essentials; Pre-Algebra Proficiency; Pre-Algebra Chapter 1; Algebra 1 Proficiency; Algebra 1 Chapter 6; Algebra 1 Chapter 7; Algebra 1 Chapter 8; Algebra 1 Chapter 9; Algebra 1 Chapter 12; Algebra 2 Proficiency; Algebra 2 Chapter 6; Geometry Proficiency;	Combining Like Terms; Distributive Property
8.EE.8 (8.EE.C.8)	Solving Systems of Linear Equations; Solving Systems of Linear Equations Using Elimination Method; Solving Systems of Linear Equations Using Graphing Method; Solving Systems of Linear Equations Using	Algebra 1 Proficiency; Algebra 1 Chapter 5; Algebra 2 Chapter 3	

	Substitution Method		
8.F	Functions	Algebra 1 Proficiency; Algebra 1 Chapter 9; Algebra 2 Chapter 2; Pre-Algebra Chapter 10	Relations and Functions Activity
8.F.1 (8.F.A.1)	Graphing on the Coordinate Plane; Ordered Pair	Essentials; Pre-Algebra Proficiency; Pre-Algebra Chapter 10; Pre-Algebra Chapter 12; Algebra 1 Chapter 2; Geometry Chapter 4; Geometry Chapter 8; Algebra 1 Chapter 2; Algebra 1 Chapter 3; Algebra 1 Chapter 4; Algebra 1 Chapter 5; Algebra 2 Chapter 3;	Point-Plotting Activity; Catch the Fly Game ; Ordered Pairs
8.F.2 (8.F.A.2)	Finding the Equation of a Line from its Graph; Mapping Diagrams; Rate of Change	Algebra 1 Chapter 9	Karappan Puchi Game; Relations and Functions
8.F.3 (8.F.A.3)	Slope-Intercept Form	Pre-Algebra Chapter 10; Algebra 1 Proficiency; Algebra 1 Chapter 2; ; Algebra 1 Chapter 4; ; Algebra 1 Chapter 5; ; Algebra 1 Chapter 12; ; Algebra 2 Chapter 1; ; Algebra 2 Chapter 2; Geometry Chapter 3	Slope-intercept Form of a Line Activity; Karappan Poochi Game
8.F.4 (8.F.B.4)	Linear Models	Pre-Algebra Chapter 5; Pre-Algebra Chapter 10	
8.F.5 (8.F.B.5)	Word Problems: Inverse Variation		
8.G.1 (8.G.A.1)	Angle of Rotation; Rotations; Translations	Geometry Proficiency	
8.G.2 (8.G.A.2)	Congruent Segments; Congruent Angles; Congruent Triangles;	Pre-Algebra Chapter 7; Geometry Chapter 2; Geometry Chapter 3; Geometry Chapter 4;	Triangle Similarity

	Rotations; Translations	Geometry Chapter 5	
8.G.3 (8.G.A.3)	Center of Rotation; Rotations; Translations	Custom Programs	
8.G.4 (8.G.A.4)	Translations	Custom Programs	
8.G.5 (8.G.A.5)	Alternate Exterior Angles; Alternate Interior Angles; Corresponding Angles; Exterior Angle Inequality; Exterior Angle Theorem	Pre-Algebra Chapter 7; Geometry Proficiency; Geometry Chapter 3	
8.G.6 (8.G.B.6)	Pythagorean Theorem	Pre-Algebra Proficiency; Pre- Algebra Chapter 8; Algebra 1 Proficiency; Algebra 1 Chapter 8; Algebra 1 Chapter 12; Geometry Proficiency; Geometry Chapter 5; Geometry Chapter 7	Pythagorean Theorem Activity
8.G.7 (8.G.B.7)	Distance Formula in 3D; Hypotenuse	Algebra 1 Chapter 8; Algebra 1 Chapter 12	
8.G.8 (8.G.B.8)	Distance Formula	Pre-Algebra Proficiency; Pre- Algebra Chapter 8; Algebra 1 Proficiency; Algebra 1 Chapter 8; Algebra 1 Chapter 12; Algebra 2 Proficiency; Algebra 2 Chapter 12; Geometry Proficiency; Geometry Chapter 5; Geometry Chapter 6	Distance Formula
8.G.9 (8.G.C.9)	Cone; Formulas; Volume; Volume of a Cone; Volume of a Cylinder; Volume of a Sphere	Pre-Algebra Chapter 9; Geometry Proficiency; Geometry Chapter 11	
8.G.9 (7.G.B.6)	Volume of a Prism	Pre-Algebra Proficiency; Pre- Algebra Chapter 9; Geometry Chapter 11	

8.SP.1 (8.SP.A.1)	Scatter Plots	Algebra 1 Proficiency; Algebra 1 Chapter 11	
8.SP.2 (8.SP.A.2)	Line of Best Fit (Eyeball Method)	Custom Programs	
8.SP.3 (8.SP.A.3)	Linear Models	Pre-Algebra Chapter 5; Pre-Algebra Chapter 10	
8.SP.4 (8.SP.A.4)	Correlation and Causal Relation; Frequency Distributions	Algebra 1 Chapter 11	
N-RN.1 (HSN-RN.A.1)	Rational Exponents	Algebra 1 Chapter 8	
N-RN.2 (HSN-RN.A.2)	Properties of Exponents; Properties of Square Roots; Simplifying Radical Expressions; Nth Roots	Algebra 1 Chapter 6	Properties of Exponents
N-RN.3 (HSN-RN.B.3)	Rational Numbers, Irrational Numbers	Pre-Algebra Chapter 4	
N-Q.1 (HSN-Q.A.1)	Choosing Appropriate Units of Measure; Convert Between Systems; Convert Between Systems	Pre-Algebra Chapter 11	
N-Q.2 (HSN-Q.A.2)	Choosing Appropriate Units of Measure	Pre-Algebra Chapter 11	
N-Q.3 (HSN-Q.A.3)	Significant Digits	Pre-Algebra Chapter 11	
N-CN.1 (HSN-CN.A.1)	Complex Numbers; Powers of $i$	Algebra 2 Chapter 5; Algebra 2 Chapter 6	
N-CN.2	Operations with Complex Numbers; Adding and	Algebra 2 Proficiency; Algebra 2	

(HSN-CN.A.2)	Subtracting Complex Numbers; Multiplying Complex Numbers	Chapter 5	
N-CN.3 (+) (HSN-CN.A.3)	Conjugates;	Algebra 2 Proficiency; Algebra 2 Chapter 5	
N-CN.4 (+) (HSN-CN.B.4)	Polar form of a Complex Number	Custom Programs	
N-CN.5 (+) (HSN-CN.B.5)	Operations on Complex Numbers; Absolute Value of a Complex Number	Algebra 2 Proficiency	
N-CN.6 (+) (HSN-CN.B.6)	Midpoint Formula	Algebra 1 Proficiency; Algebra 1 Chapter 12; Algebra 2 Chapter 12; Geometry Proficiency; Pre-Algebra Proficiency; Pre-Algebra Chapter 8	
N-CN.7 (HSN-CN.C.7)	Quadratic Equations	Algebra 1 Chapter 9; Algebra 1 Chapter 10; Algebra 2 Proficiency; Algebra 2 Chapter 5	Quadratics in Factored Form Activity; Transforming Parabolas Activity
N-CN.8 (+) (HSN-CN.C.8)	Multiplying Complex Numbers	Custom Programs	
N-CN.9 (+) (HSN-CN.C.9)	Fundamental Theorem of Algebra	Pre-Algebra Chapter 12; Algebra 1 Chapter 13	
N-VM.1 (+) (HSN-VM.A.1)	Vectors; Magnitude and Direction of Vectors; Unit Vectors	Geometry Chapter 7; Geometry Chapter 8;	
N-VM.2 (+) (HSN-VM.A.2)	Components of a Vector	Custom Programs	
N-VM.3 (+)	Solving Problems with	Custom Programs	

(HSN-VM.A.3)	Vectors		
N-VM.4 (+) (HSN-VM.B.4)	Adding and Subtracting Vectors	Custom Programs	
N-VM.5 (+) (HSN-VM.B.5)	Scalar Multiplication of Vectors	Algebra 2 Proficiency; Algebra 2 Chapter 4	
N-VM.6 (+) (HSN-VM.C.6)	Matrices	Algebra 2 Proficiency; Algebra 2 Chapter 4	
N-VM.7 (+) (HSN-VM.C.7)	Scalar Multiplication of Matrices	Algebra 2 Proficiency; Algebra 2 Chapter 4	
N-VM.8 (+) (HSN-VM.C.8)	Adding and Subtracting Matrices; Compatible Matrices; Matrix Dimensions	Algebra 2 Proficiency; Algebra 2 Chapter 4	
N-VM.9 (+) (HSN-VM.C.9)	Matrix Multiplication; Distributive Property of Matrices; Associative Property of Matrices	Algebra 2 Proficiency; Algebra 2 Chapter 4	
N-VM.10 (+) (HSN-VM.C.10)	Identity Matrix; Determinants; Square Matrix	Algebra 2 Proficiency; Algebra 2 Chapter 4	
N-VM.11 (+) (HSN-VM.C.11 )	Multiplying a Vector by a Matrix		
N-VM.12 (+) (HSN-	Transformation of Graphs using Matrices; Transformation of Graphs	Algebra 2 Chapter 4	

VM.C.12)	using Matrices – Dilation; Transformation of Graphs using Matrices – Reflection; Transformation of Graphs using Matrices – Translation; Transformation of Graphs using Matrices Rotations		
A-SSE.1a (HSA- SSE.A.1a)	Factors; Factoring Monomials	Algebra 1 Chapter 6; Algebra 2 Chapter 6	
A-SSE.2 (HSA- SSE.A.2)	Factoring by Grouping; Difference of Squares	Algebra 1 Proficiency; Algebra 1 Chapter 6; Algebra 1 Chapter 7; Algebra 2 Chapter 3	
A-SSE.3a (HSA- SSE.B.3a)	Factoring; Real Zero of a Function	Algebra 1 Proficiency; Algebra 1 Chapter 6; Algebra 1 Chapter 7; Algebra 2 Proficiency; Algebra 2 Chapter 5; Algebra 2 Chapter 6; Algebra 2 Chapter 7	
A-SSE.3c (HSA- SSE.B.3c)	Compound Interest	Algebra 2 Chapter 8; Algebra 2 Chapter 9	
A-SSE.4 (HSA- SSE.B.4)	Series; Geometric Series; Sigma Notation of a Series	Algebra 2 Proficiency; Algebra 2 Chapter 9	
A-APR.1 (HSA- APR.A.1)	Monomials, Binomials and Polynomials; Adding and Subtracting Polynomials; Multiplying Monomials; Multiplying Polynomials	Algebra 1 Proficiency; Algebra 1 Chapter 6; Pre-Algebra Chapter 3; Algebra 2 Proficiency; Algebra 2 Chapter 7; Geometry Chapter 7	
A-APR.2 (HSA- APR.B.2)	Remainder Theorem	Algebra 1 Chapter 7	



A-APR.3 (HSA-APR.B.3 )	Descartes Rule of Signs; Polynomial with Complex Roots; Repeated Zeros	Algebra 2 Chapter 6	
A-APR.4 (HSA-APR.C.4)	Product of a Sum and a Difference; Pythagorean Triples	Pre-Algebra Chapter 7; Pre- Algebra Chapter 8	
A-APR.5 (+) (HSA-APR.C.5)	Binomial Theorem; Yang Hui's Triangle; Pascals Triangle; Square of a Binomial	Algebra 1 Chapter 6	
A-APR.6 (HSA-APR.D.6)	Degree of a Polynomial; Dividing Polynomials	Algebra 1 Chapter 6; Algebra 1 Chapter 7; Algebra 2 Proficiency; Algebra 2 Chapter 6; Algebra 2 Chapter 7	
A-APR.7 (+) (HSA-APR.D.7)	Adding and Subtracting Rational Expressions with Unlike Denominators; Adding and Subtracting Rational Expressions with Like Denominators; Multiplying Rational Expressions	Algebra 2 Chapter 7	
A-CED.1 (HSA-CED.A.1)	Absolute Value Inequalities; Falling Object Model; Quadratic Function; Solving Absolute Value Equations; Word Problems: Quadratic Equations; Word Problems: Work and Workers	Algebra 1 Chapter 3; Algebra 1 Chapter 4; Algebra 2 Proficiency;	Absolute Value Inequalities Activity
A-CED.2 (HSA-CED.A.2)	Graphing Linear Equations; Graphing Linear Inequalities in Two Variables; Graphing	Algebra 1 Chapter 2; Algebra 1 Chapter 4; Algebra 1 Chapter 10	

	Quadratic Equations		
A-CED.3 (HSA-CED.A.3)	Writing Systems of Linear Equations from Word Problems	Algebra 1 Proficiency; Algebra 1 Chapter 5; Algebra 2 Chapter 3	
A-CED.4 (HSA-CED.A.4)	Formulas	Algebra 1 Chapter 1; Algebra 2 Chapter 1	
A-REI.1 (HSA-REI.A.1)	Properties of Equality; Properties of Inequality; Properties of Addition; Properties of Multiplication	Geometry Chapter 2	
A-REI.2 (HSA-REI.A.2)	Solving Rational Equations; Solving Radical Equations; Extraneous Solutions	Algebra 1 Proficiency; Algebra 1 Chapter 7; Algebra 1 Chapter 8; Algebra 2 Proficiency; Algebra 2 Chapter 7	
A-REI.3 (HSA-REI.B.3)	Solving One-Step Linear Inequalities; Solving Linear Inequalities	Pre-Algebra Proficiency; Pre-Algebra Chapter 8; Algebra 1 Proficiency; Algebra 1 Chapter 4; Algebra 2 Proficiency; Algebra 2 Chapter 1;	Linear Inequality One Variable; Linear Inequality Grapher
A-REI.4 (HSA-REI.B.4)	Solving Quadratic Equations by Square Roots; Solving Quadratic Equations Using Factoring; Quadratic Formula; Discriminant	Algebra 1 Proficiency; Algebra 1 Chapter 10; Algebra 2 Proficiency; Algebra 2 Chapter 5; Algebra 2 Chapter 6; Algebra 2 Chapter 7	
A-REI.4a (HSA-REI.B.4a)	Completing the Square	Algebra 2 Proficiency; Algebra 2 Chapter 5; Algebra 2 Chapter 6; Algebra 2 Chapter 8; Algebra 2 Chapter 12	
A-REI.5 (HSA-REI.C.5)	Solving Systems of Linear Equations; Properties of Equality		

A-REI.6 (HSA-REI.C.6)	Consistent and Dependent Systems; Solving Systems of Linear Equations; Solving Systems of Linear Equations Using Graphing; Solving Systems of Linear Equations Using Substitution; Solving Systems of Linear Equations Using Elimination	Algebra 1 Proficiency; Algebra 1 Chapter 5; Algebra 2 Chapter 3	Equating Expressions Activity
A-REI.7 (HSA-REI.C.7)	Solving Systems of Linear Equations	Algebra 1 Proficiency; Algebra 1 Chapter 5	
A-REI.8 (+) (HSA-REI.C.8)	Solving Matrix Equations		
A-REI.9 (+) (HSA-REI.C.9)	Solving Systems of Linear Equations Using Matrices; Inverse of a Matrix	Algebra 2 Proficiency; Algebra 2 Chapter 4	
A-REI.10 (HSA-REI.D.10)	Functions	Algebra 1 Proficiency	
A-REI.11 (HSA-REI.D.11)	Absolute Value Functions	Algebra 2 Proficiency	
A-REI.12 (HSA-REI.D.12)	Graphing Linear Inequalities in Two Variables; Systems of Linear Inequalities	Pre-Algebra Proficiency; Pre-Algebra Chapter 10; Algebra 1 Proficiency; Algebra 1 Chapter 4; Algebra 1 Chapter 5; Algebra 2 Proficiency; Algebra 2 Chapter 3	Linear Inequality One Variable; Linear Inequality Grapher
F-IF (HSF-IF)	Functions	Algebra 1 Proficiency; Algebra 1 Chapter 9; Algebra 2 Chapter 2; Pre-Algebra Chapter 10	Relations and Functions Activity; Guess the Function Activity; Function Machine Activity

F-IF.1 (HSF-IF.A.1)	Domains; Domain and Range	Algebra 2 Proficiency; Algebra 2 Chapter 8	Relations and Functions
F-IF.2 (HSF-IF.A.2)	Functions	Algebra 1 Chapter 9; Algebra 2 Chapter 2	Relations and Functions; Guess the Function Activity; Function Machine Activity
F-IF.3 (HSF-IF.A.3)	Recursive Sequences; Fibonacci Numbers; Writing Number Patterns in Function Notation	Algebra 2 Proficiency	
F-IF.4 (HSF-IF.B.4)	Describing the Graph of a Function; End Behavior of a Function; Interval Notation; Periodic Function; X-Intercepts; Y-Intercepts	Pre-Algebra Chapter 10; Algebra 1 Chapter 2; Algebra 2 Chapter 6;	
F-IF.5 (HSF-IF.B.5)	Domains; Domain and Range	Algebra 1 Chapter 9; Algebra 2 Chapter 2	
F-IF.6 (HSF-IF.B.6)	Constant Function; Rate of Change	Custom Programs	
F-IF.7a (HSF-IF.C.7a)	Axis of Symmetry of a Parabola; Graphing Linear Equations; Vertex of a Parabola; X-Intercepts of a Parabola	Algebra 1 Proficiency; Algebra 1 Chapter 9; Algebra 1 Chapter 10; Algebra 2 Proficiency; Algebra 2 Chapter 2; Algebra 2 Chapter 3; Pre-Algebra Chapter 10	Transforming Parabolas Activity; Slope-intercept Form of a Line Activity; Transforming Parabolas Activity
F-IF.7b (HSF-IF.C.7b)	Absolute Value; nth Roots	Algebra 1 Proficiency; Algebra 1 Chapter 4; Algebra 1 Chapter 8; Pre-Algebra Proficiency; Pre-Algebra Chapter 2; Algebra 2 Chapter 1; Algebra 2 Chapter 7	
F-IF.7c (HSF-IF.C.7c)	Cubic Function; Graphing Functions of the Form $x^2$ ; Graphing Polynomial Functions; Polynomial	Custom Programs	

	Functions		
F-IF.7d (HSF-IF.C.7d)	Asymptotes; Rational Functions	Algebra 2 Proficiency; Algebra 2 Chapter 7	
F-IF.7e (HSF-IF.C.7e)	Exponential Functions; Graphing Cosine Function; Graphing Exponential and Logarithmic Functions; Logarithmic Functions; Solving Exponential Equations; Tangent Function	Algebra 1 Proficiency; Algebra 1 Chapter 9; Algebra 2 Chapter 8	Exponential Functions: $y = b^x$ Activity ; Graphing Exponential and Logarithmic Functions
F-IF.8b (HSF-IF.C.8b)	Exponential Decay; Exponential Growth; Percent; Percents and Decimals	Essentials; Algebra 2 Proficiency; Algebra 2 Chapter 8; Algebra 1 Chapter 9; Algebra 1 Proficiency; Algebra 1 Chapter 3; Pre-Algebra Proficiency; Pre-Algebra Chapter 6	Exponential Functions: $y = a(b)^x + c$ Activity; Percents: Level 1; Percents: Level 2
F-IF.9 (HSF-BF.C.9)	Functions	Algebra 1 Proficiency; Algebra 1 Chapter 9; Algebra 2 Chapter 2	
F-BF.1 (HSF-BF.A.1)	Functions; Composition of Functions	Algebra 2 Proficiency; Algebra 2 Chapter 7	
F-BF.1b (HSF-BF.A.1b)	Operations on Functions		
F-BF.2 (HSF-BF.A.2)	Sequence; Geometric Sequences; Arithmetic Sequences; Common Difference; Common Ratio; nth Term of a Geometric Sequence; nth Term of an Arithmetic Sequence;	Algebra 1 Proficiency; Algebra 2 Proficiency; Algebra 2 Chapter 9	
F-BF.3	Even Odd Functions;	Algebra 1 Chapter 9; Algebra 2	

(HSF-BF.B.3)	Parent Graphs; Transformation of Functions	Chapter 11; Algebra 2 Chapter 12	
F-BF.4 (HSF-BF.B.4)	Inverse Functions	Algebra 2 Proficiency; Algebra 2 Chapter 7	
F-BF.4b (HSF- BF.B.4b)	Composition of Functions	Algebra 2 Proficiency; Algebra 2 Chapter 7	
F-BF.5 (+) (HSF-BF.B.5)	Logarithmic to Exponential Form; Logarithms; Solving Exponential Equations using Logarithms; Solving Logarithmic Equations	Algebra 2 Proficiency; Algebra 2 Chapter 8	logarithms
F-CF.6 (HSF-TF.B.6)	Inverse Trigonometric Functions	Algebra 2 Proficiency; Algebra 2 Chapter 10	
F-LE.1 (HSF-LE.A.1)	Linear Function	Algebra 2 Chapter 2; Geometry Chapter 4	
F-LE.1a (HSF-LE.A.1a)	Finite Differences	Custom Programs	
F-LE.2 (HSF-LE.A.2)	Input Output Tables	Custom Programs	Relations and Functions
F-LE.3 (HSF-LE.A.3)	Modeling Type		
F-LE.4 (HSF-LE.A.4)	Modeling Type		
F-LE.5 (HSF-LE.B.5)	Modeling Type		

F-TF.1 (HSF-TF.A.1)	Degree to Radian Measure; Radian Measure of an Angle; Radian to Degree Measure	Algebra 2 Chapter 10	
F-TF.2 (HSF-TF.A.2)	Cosine Function		
F-TF.3 (+) (HSF-TF.A.3)	Trigonometric Values for Common Angles; Values of Trig Functions for Standard Angles	Algebra 2 Proficiency; Algebra 2 Chapter 10; Algebra 2 Chapter 11	Trigonometry Flash Cards
F-TF.4 (+) (HSF-TF.A.4)	Reference Angle; Even and Odd Functions; Trigonometric Functions; Co-Function and Odd/Even Identities	Custom Programs	
F-TF.5 (HSF-TF.B.5 )	Trigonometric Functions; Amplitude and Period of Sine and Cosine Functions	Algebra 2 Chapter 11	
F-TF.6 (+) (HSF-TF.B.6 )	Inverse Trigonometric Functions	Custom Programs	
F-TF.7 (+) (HSF-TF.B.7)	Solving Trigonometric Equations using Algebraic Method; Solving Trigonometric Equations using Trigonometric Identities	Algebra 2 Chapter 11	
F-TF.8 (HSF-TF.C.8)	Basic Trigonometric Identities ; Trigonometric Identities	Algebra 2 Proficiency; Algebra 2 Chapter 11	
F-TF.9 (+) (HSF-TF.C.9 )	Basic Trigonometric Identities ; Trigonometric Identities	Algebra 2 Proficiency; Algebra 2 Chapter 11	
G-CO.1	Distance between Parallel Lines; Parallel Lines;	Geometry Proficiency; Geometry Chapter 1; Geometry Chapter 3;	

(HSG-CO.A.1)	Perpendicular Lines; Parallel and Perpendicular Lines; Lines, Segments, and Rays; Arcs	Geometry Chapter 9; Pre- Algebra Proficiency; Pre-Algebra Chapter 7; Algebra 1 Proficiency; Algebra 1 Chapter 2; Algebra 1 Chapter 12; Algebra 2 Chapter 2; Algebra 2 Chapter 3	
G-CO.2 (HSG-CO.A.2)	Transformations of Graphs; Center of Rotation	Geometry Proficiency; Geometry Chapter 8	
G-CO.3 (HSG-CO.A.3)	Parallelogram; Rectangle; Rotational Symmetry; Trapezoid	Essentials; Pre-Algebra Proficiency; Pre-Algebra Chapter 3; Pre-Algebra Chapter 7; Pre- Algebra Chapter 9; Pre-Algebra Chapter 9; Algebra 1 Proficiency; Geometry Proficiency; Geometry Chapter 5; Geometry Chapter 6 ; Geometry Chapter 8; Geometry Chapter 10; Pre-Algebra Chapter 9;	Area Tool
G-CO.4 (HSG-CO.A.4)	Angle of Rotation; Rotations	Geometry Proficiency	
G-CO.5 (HSG-CO.A.5)	Transformations of Graphs	Geometry Proficiency; Geometry Chapter 8	
G-CO.6 (HSG-CO.B.6)	Congruent Angles; Congruent Segments; Congruent Triangles;	Geometry Chapter 2; Geometry Chapter 3; Geometry Chapter 4; Geometry Chapter 5; Pre- Algebra Chapter 7	
G-CO.7 (HSG-CO.B.7)	Congruent Triangles	Geometry Proficiency	
G-CO.8 (HSG-CO.B.8)	AAS Postulate; ASA Postulate; SAS Postulate; SSS Postulate; Right Triangle Congruence	Geometry Proficiency	
G-CO.9	Alternate Exterior Angles	Geometry Proficiency; Geometry	



(HSG-CO.C.9)	Theorem; Alternate Interior Angles Theorem; Angle Addition Postulate; Angles; Consecutive Interior Angles Theorem; Corresponding Angles Postulate; Parallel Lines Transversal; Perpendicular Bisector ; Perpendicular Transversal Theorem; Segment Addition Postulate; Transversal; Vertical Angles; Vertical Angles Theorem	Chapter 3; Geometry Chapter 9; Pre-Algebra Proficiency; Pre-Algebra Chapter 7; Geometry Chapter 1; Geometry Chapter 2;	
G-CO.10 (HSG-CO.C.9)	Angle Bisector Theorem	Geometry Proficiency	
G-CO.10 (HSG-CO.C.10)	Angle Sum Theorem; Isosceles Triangle Theorem; Converse of the Isosceles Triangle Theorem; Medians of a Triangle; Triangle Midsegment Theorem; Triangle Proportionality Theorem	Geometry Proficiency; Geometry Chapter 4; Geometry Chapter 6; Pre-Algebra Chapter 7;	Angle Sum Theorem Activity
G-CO.11 (HSG-CO.C.11)	Diagonals of a Parallelogram	Geometry Proficiency	
G-CO.12 (HSG-CO.D.12)	<i>Drawing/construction type</i>		
G-CO.13 (HSG-CO.D.13)	<i>Drawing/construction type</i>		

G-SRT.1 (HSG-SRT.A.1)	Dilation; Scale Factor	Geometry Proficiency; Geometry Chapter 6; Geometry Chapter 8	Triangle Similarity Activity
G-SRT.2 (HSG-SRT.A.2)	Similar Triangles; Similar Figures	Pre-Algebra Proficiency; Pre-Algebra Chapter 9; Algebra 1 Chapter 12; Geometry Proficiency; Geometry Chapter 6	Similar Triangles Activity:1; Similar Triangles Activity:2
G-SRT.3 (HSG-SRT.A.3)	AA Similarity; Angle Angle Similarity; SAS Inequality; SAS Similarity; Side Angle Side Similarity; Side Side Side Similarity; SSS Similarity; Triangle Inequality Theorem	Geometry Proficiency; Geometry Chapter 4; Geometry Chapter 6	Similar Triangles
G-SRT.4 (HSG-SRT.B.4)	SAS Inequality		
G-SRT.5 (HSG-SRT.B.5)	Similar Triangles	Geometry Proficiency; Geometry Chapter 6	
G-SRT.6 (HSG-SRT.C.6)	30-60-90 Triangles; 45-45-90 Triangles; Cosine; Sine; Tangent of an Angle; Trigonometric Ratios	Geometry Proficiency; Geometry Chapter 7; Pre-Algebra Proficiency; Pre-Algebra Chapter 7; Algebra 2 Proficiency; Algebra 2 Chapter 10	
G-SRT.7 (HSG-SRT.C.7)	Complementary Angles	Pre-Algebra Proficiency; Pre-Algebra Chapter 7	
G-SRT.8 (HSG-SRT.C.8)	Trigonometric Ratios	Geometry Proficiency; Geometry Chapter 7	
G-SRT.9 (+)	Sine Formula for the Area	Custom Programs	

(HSG-SRT.C.9)	of a Triangle		
G-SRT.10 (+) (HSG-SRT.D.10)	Law of Sines; Law of Cosines	Geometry Proficiency; Geometry Chapter 2; Algebra 2 Proficiency; Algebra 2 Chapter 10	
G-SRT.11 (+) (HSG-SRT.D.11)	Law of Sines; Law of Cosines	Geometry Proficiency; Algebra 2 Proficiency	
G-C.1 (HSG.C.A.1)	Circles	Geometry Chapter 9	
G-C.2 (HSG.C.A.2)	Chord ; Circle; Angle of Intersecting Chords Theorem; Angle of Intersecting Secants Theorem; Diameter; Intersecting Chords; Intersecting Chords Theorem; Intersecting Secants Theorem; Intersecting Secant Tangent Theorem; Radius; Tangent to a Circle	Geometry Proficiency; Geometry Chapter 9; Geometry Chapter 10; Pre-Algebra Chapter 9; Algebra 2 Chapter 12	Circle Area Activity
G-C.3 (HSG-C.A.3)	Congruent Tangents and Circumscribed Polygons; Inscribed Angles; Quadrilaterals; Squares Circumscribed by Circles	Geometry Proficiency; Geometry Chapter 5; Geometry Chapter 9	
G-C.4 (+) (HSG-C.A.4)	<i>Drawing/construction type</i>		
G-C.5 (HSG-C.B.5)	Sectors; Arc Length; Finding Arc Lengths	Geometry Proficiency; Geometry Chapter 9; Geometry Chapter 10;	Arc Length Activity
G-GPE.1	Conic Sections and	Algebra 2 Proficiency; Algebra 2	Conic Sections; Equation

(HSG-GPE.A.1)	Standard Forms of Equations ; Equation of a Circle	Chapter 12; Geometry Proficiency; Geometry Chapter 9	of Circle
G-GPE.2 (HSG-GPE.A.2)	Focus of a Parabola; Parabolas; Finding the Equation of a Parabola given Focus and Directrix; Finding the Equation of a Parabola Given Vertex and Directrix	Algebra 1 Proficiency; Algebra 2 Chapter 9; Algebra 2 Chapter 12	Parabola Activity
G-GPE.3 (+) (HSG-GPE.A.3)	Ellipse; Focus; Hyperbolas	Algebra 2 Proficiency; Algebra 2 Chapter 12	Ellipse Activity; Conic Activity
G-GPE.4 (HSG-GPE.B.4 )	Coordinate Proofs	Custom Programs	
G-GPE.5 (HSG-GPE.B.5)	Perpendicular Lines and Slopes	Geometry Proficiency; Geometry Chapter 3	Slope Triangles Activity
G-GPE.6 (HSG-GPE.B6)	Segment Addition Postulate	Geometry Proficiency; Geometry, Chapter 1	
G-GPE.7 (HSG-GPE.B.7)	Perimeter; Distance Formula; Perimeter Area and Volume	Pre-Algebra Proficiency; Pre-Algebra Chapter 8; Pre-Algebra Chapter 9; Geometry Proficiency; Geometry Chapter 1; Geometry Chapter 5; Geometry Chapter 6; Algebra 1 Proficiency; Algebra 1 Chapter 1; Algebra 1 Chapter 2; Algebra 1 Chapter 8; Algebra 1 Chapter 12; Algebra 2 Proficiency; Algebra 2 Chapter 12	

G-GMD.1 (HSG-GMD.A.1)	Area; Area of a Circle; Cone; Cylinder	Essentials; Geometry Proficiency; Geometry Chapter 6; Geometry Chapter 10; Algebra 2 Proficiency; Algebra 2 Chapter 10; Pre-Algebra Proficiency; Pre-Algebra Chapter 9;	Area of a Circle; Conic; Conic Sections; Conic: Parabola
G-GMD.2 (+) (HSG-GMD.A.2)	Sphere	Geometry Proficiency	
G-GMD.3 (HSG-GMD.A.3 )	Volume of a Cone; Volume of a Cylinder; Volume of a Pyramid; Volume of a Sphere	Pre-Algebra Proficiency; Pre-Algebra Chapter 9; Geometry Proficiency; Geometry, Chapter 11	
G-GMD.4 (HSG-GMD.B.4)	Two Dimensional Views of Three Dimensional Objects	Custom Programs	
G-MG.1	<i>Modeling type</i>		
G-MG.2	<i>Modeling type</i>		
G-MG.3	<i>Modeling type</i>		
S-ID.1 (HSS-ID.A.1)	Number Line; Box-and-Whisker Plots; Histograms	Pre-Algebra Proficiency; Pre-Algebra Chapter 2; Pre-Algebra Chapter 5; Algebra 1 Proficiency; Algebra 1 Chapter 4; Algebra 1 Chapter 11	Plotting on the Number Line; Histogram Activity
S-ID.2 (HSS-ID.A.2)	Center and Variation of Data; Mean, Median, Mode; Interquartile; Median; Quartiles; Standard Deviation	Essentials; Pre-Algebra Proficiency; ; Pre-Algebra Chapter 12; Algebra 1 Proficiency; Algebra 1 Chapter 11; Algebra 2 Chapter 12	Data Representation Activity
S-ID.3 (HSS-ID.A.3 )	Interpreting Data; Outliers	Custom Programs	
S-ID.4	Percentile; Normal	Algebra 2 Chapter 9	

(HSS-ID.A.4)	Distribution		
S-ID.5 (HSS-ID.B.5)	Frequency Distributions	Algebra 1 Chapter 11; Algebra 1 Chapter 13	
S-ID.6 (HSS-ID.B.6)	Scatter Plots	Algebra 1 Proficiency; Algebra 1 Chapter 11; Algebra 2 Chapter 2	Scatter Plot
S-ID.6a (HSS-ID.B.6a)	Exponential Regression; Line of Best Fit; Line of Best Fit-Eyeball Method ; Quadratic Regression	Algebra 2 Chapter 6	
S-ID.6c (HSS-ID.B.6c)	Fitting Equations to Data; Fitting Linear Equations to Data	Algebra 2 Chapter 6	
S-ID.7 (HSS-ID.C.7)	Normal Distribution; Standard Deviation; Probability Models		
S-ID.8 (HSS-ID.C.8)	Line of Best Fit	Algebra 1, Chapter 11	
S-ID.9 (HSS-ID.C.9)	Correlation and Causal Relation	Custom Programs	
S-IC.1 (HSS-IC.A.1)	Random Sampling	Custom Programs	
S-IC.2 (HSS-IC.A.2)	Center and Variation of Data	Custom Programs	
S-IC.3 (HSS-IC.B.3)	Random Sampling	Custom Programs	
S-IC.4 (HSS-IC.B.4)	Random Sampling	Custom Programs	

S-IC.5 (HSS-IC.B.5)	Developing a Probability Distribution from Empirical Data; Probability Distributions	Custom Programs	
S-IC.6 (HSS-IC.B.6)	Developing a Probability Distribution from Empirical Data; Probability Distributions	Custom Programs	
S-CP.1 (HSS-CP.A.1)	Mutually Exclusive Events; Complement of an Event	Custom Programs	
S-CP.2 (HSS-CP.A.2)	Independent and Dependent Events; Dependent Events; Independent Events; Fundamental Counting Principle	Algebra 1 Chapter 13, Pre-Algebra Chapter 12	
S-CP.3 (HSS-CP.A.3)	Conditional Probability		
S-CP.4 (HSS-CP.A.4)	Developing a Probability Distribution from Empirical Data	Custom Programs	
S-CP.5 (HSS-CP.A.5)	Conditional Probability; Independent and Dependent Events; Independent Events	Algebra 1, Chapter 13	
S-CP.6 (HSS-CP.B.6 )	Probability Models	Pre-Algebra Chapter 12	
S-CP.7 (HSS-CP.B.7)	Addition Rule of Probability; Probability Models	Pre-Algebra Chapter 12; Algebra 1, Chapter 13	
S-CP.8 (+) (HSS-CP.B.8)	Multiplication Rule of Probability; Probability Models	Pre-Algebra Chapter 12;	

S-CP.9 (+) (HSS-CP.B.9)	Permutations; Combinations; Factorials; Probability Models	Pre-Algebra Chapter 12; Algebra 1 Proficiency; Algebra 1 Chapter 13; Algebra 2 Proficiency	
S-MD.1 (+) (HSS- MD.A.1)	Random Variables; Probability Distribution	Custom Programs	
S-MD.2 (+) (HSS- MD.A.2)	Expected Value; Random Variables	Custom Programs	
S-MD.3 (+) (HSS- MD.A.3)	Random Variables; Binomial Probability	Algebra 2 Chapter 9	
S-MD.4 (+)  HSS-MD.A.4 ( )	Random Variables	Custom Programs	
S-MD.5 (+) (HSS- MD.B.5a)	Word Problems: Expected Value; Using Expected Value to Make Decisions	Custom Programs	
S-MD.6 (+) (HSS-MD.B.6)	Using Probabilities to Make Fair Decisions	Custom Programs	
S-MD.7 (+) (HSS-MD.B.7)	Using Expected Value to Make Decisions	Custom Programs	

There are a few types of standards which are not covered, for the reasons detailed below.

### **Modeling**

While five of the six conceptual categories—Number and Quantity, Algebra, Functions, Geometry, and Statistics/Probability—are well-covered, the sixth category, Modeling, is not a major focus of CatchupMath. Our program aims to give students the practice they need to master the core skills and cement their conceptual understanding; we feel that *applying* these skills and concepts to real-world problems is better practiced in the classroom than with a computer tutor. Still, where possible,



CatchupMath does include word problems which require students to find mathematical models for a described situation.

### **Explain/Prove**

Some standards state that a student is expected to “explain why” or “prove” that something is true. Through activities, videos, and practice problems, CatchupMath does its best to give students the tools they need to explain concepts and prove theorems. However, the program cannot assess the student’s ability to make a strong verbal argument or write a valid proof; this is necessarily left to the classroom teacher.

### **Drawing/Constructions**

Certain types of drawing and construction skills are not covered by Catchup Math, for example: geometric constructions with ruler and compass; drawings of two-dimensional representations of three-dimensional objects on isometric grid paper.