

2013 Keystone Algebra I Anchor Checklist		Include Unit Number and Date.				
TEACHER:		COURSE:		Introduced	Practiced	Assessed
Module 1	Operations and Linear Equations & Inequalities					
A1.1.1	Operations with Real Numbers and Expressions					
A1.1.1.1	Represent and/or use numbers in equivalent forms (e.g., integers, fractions, decimals, percents, square roots, and exponents).					
Eligible Content A1.1.1.1.1	Compare and/or order any real numbers. <u>Note:</u> Rational and irrational may be mixed.					
Eligible Content A1.1.1.1.2	Simplify square roots (e.g., $\sqrt{24} = 2\sqrt{6}$).					
PA CC Standard CC.2.1.8.E.1	Distinguish between rational and irrational numbers using their properties.					
PA CC Standard CC.2.1.8.E.4	Estimate irrational numbers by comparing them to rational numbers.					
PA CC Standard CC.2.1.HS.F.1	Apply and extend the properties of exponents to solve problems with rational exponents.					
PA CC Standard CC.2.1.HS.F.2	Apply properties of rational and irrational numbers to solve real world or mathematical problems.					
A1.1.1.2	Apply number theory concepts to show relationships between real numbers in problem-solving settings.					
Eligible Content A1.1.1.2.1	Find the Greatest Common Factor (GCF) and/or the Least Common Multiple (LCM) for sets of monomials.					
PA CC Standard CC.2.1.8.E.3	Develop and/or apply number theory concepts to find common factors and multiples.					
A1.1.1.3	Use exponents, roots, and/or absolute values to solve problems.					
Eligible Content A1.1.1.3.1	Simplify/evaluate expressions involving properties/laws of exponents, roots, and/or absolute values to solve problems. <u>Note:</u> Exponents should be integers from -10 to 10.					
PA CC Standard CC.2.1.HS.F.1	Apply and extend the properties of exponents to solve problems with rational exponents.					
PA CC Standard CC.2.1.HS.F.2	Apply properties of rational and irrational numbers to solve real world or mathematical problems.					
PA CC Standard CC.2.2.8.B.1	Apply concepts of radicals and integer exponents to generate equivalent expressions.					
A1.1.1.4	Use estimation strategies in problem-solving situations.					
Eligible Content A1.1.1.4.1	Use estimation to solve problems.					
PA CC Standard CC.2.2.7.B.3	Model and solve real-world and mathematical problems by using and connecting numerical, algebraic, and/or graphical representations.					
PA CC Standard CC.2.2.HS.D.9	Use reasoning to solve equations and justify the solution method.					
A1.1.1.5	Simplify expressions involving polynomials.					
Eligible Content A1.1.1.5.1	Add, subtract, and/or multiply polynomial expressions (express answers in simplest form). <u>Note:</u> Nothing larger than a binomial multiplied by a trinomial.					
Eligible Content A1.1.1.5.2	Factor algebraic expressions, including difference of squares and trinomials. <u>Note:</u> Trinomials are limited to the form ax^2+bx+c where a is equal to 1 after factoring out all monomial factors.					
Eligible Content A1.1.1.5.3	Simplify/reduce a rational algebraic expression.					
PA CC Standard CC.2.2.HS.D.1	Interpret the structure of expressions to represent a quantity in terms of its context.					
PA CC Standard CC.2.2.HS.D.2	Write expressions in equivalent forms to solve problems.					
PA CC Standard CC.2.2.HS.D.3	Extend the knowledge of arithmetic operations and apply to polynomials.					
PA CC Standard CC.2.2.HS.D.5	Use polynomial identities to solve problems.					
PA CC Standard CC.2.2.HS.D.6	Extend the knowledge of rational functions to rewrite in equivalent forms.					

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Module 1	Operations and Linear Equations & Inequalities					
A1.1.1	Linear Equations					
A1.1.2.1	Write, solve, and/or graph linear equations using various methods.					
Eligible Content A1.1.2.1.1	Write, solve, and/or apply a linear equation (including problem situations).					
Eligible Content A1.1.2.1.2	Use and/or identify an algebraic property to justify any step in an equation-solving process. Note: Linear equations only.					
Eligible Content A1.1.2.1.3	Interpret solutions to problems in the context of the problem situation. Note: Linear equations only.					
PA CC Standard CC.2.2.8.B.3	Analyze and solve linear equations and pairs of simultaneous linear equations.					
PA CC Standard CC.2.1.HS.F.3	Apply quantitative reasoning to choose and interpret units and scales in formulas, graphs and data displays.					
PA CC Standard CC.2.1.HS.F.4	Use units as a way to understand problems and to guide the solution of multi-step problems.					
PA CC Standard CC.2.1.HS.F.5	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.					
PA CC Standard CC.2.2.HS.D.7	Create and graph equations or inequalities to describe numbers or relationships.					
PA CC Standard CC.2.2.HS.D.8	Apply inverse operations to solve equations or formulas for a given variable.					
PA CC Standard CC.2.2.HS.D.9	Use reasoning to solve equations and justify the solution method.					
PA CC Standard CC.2.2.HS.D.10	Represent, solve and interpret equations/inequalities and systems of equations/inequalities algebraically and graphically.					
PA CC Standard CC.2.2.HS.C.3	Write functions or sequences that model relationships between two quantities.					
A1.1.2.2	Write, solve, and/or graph systems of linear equations using various methods.					
Eligible Content A1.1.2.2.1	Write, solve, and/or solve a system of a linear equations (including problem situations) using graphing, substitution, and/or elimination. Note: Limit systems to two linear equations.					
Eligible Content A1.1.2.2.2	Interpret solutions to problems in the context of the problem situation. Note: Limit systems to two linear equations.					
PA CC Standard CC.2.2.8.B.3	Analyze and solve linear equations and pairs of simultaneous linear equations.					
PA CC Standard CC.2.2.HS.D.9	Use reasoning to solve equations and justify the solution method.					
PA CC Standard CC.2.2.HS.D.10	Represent, solve and interpret equations/inequalities and systems of equations/inequalities algebraically and graphically.					
PA CC Standard CC.2.1.HS.F.5	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.					
A1.1.3	Linear Inequalities					
A1.1.3.1	Write, solve, and/or graph linear equalities using various methods.					
Eligible Content A1.1.3.1.1	Write or solve compound inequalities and/or graph their solution sets on a number line (may include absolute value inequalities).					
Eligible Content A1.1.3.1.2	Identify or graph the solution set to a linear inequality on a number line.					
Eligible Content A1.1.3.1.3	Interpret solutions to problems in the context of the problem situation. Note: Limit to linear inequalities.					
PA CC Standard CC.2.2.HS.D.7	Create and graph equations or inequalities to describe numbers or relationships.					
PA CC Standard CC.2.2.HS.D.9	Use reasoning to solve equations and justify the solution method.					
PA CC Standard CC.2.2.HS.D.10	Represent, solve and interpret equations/inequalities and systems of equations/inequalities algebraically and graphically.					
PA CC Standard CC.2.1.HS.F.5	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.					
A1.1.3.2	Write, solve, and/or graph systems of linear equalities using various methods.					
Eligible Content A1.1.3.2.1	Write and/or solve a system of linear inequalities using graphing. Note: Limit systems to two linear inequalities.					
Eligible Content A1.1.3.2.2	Interpret solutions to problems in the context of the problem situation. Note: Limit systems to two linear inequalities.					
PA CC Standard CC.2.2.HS.D.10	Represent, solve and interpret equations/inequalities and systems of equations/inequalities algebraically and graphically.					
PA CC Standard CC.2.1.HS.F.5	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.					

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TEACHER:		COURSE:		
Module 2	Linear Functions and Data Organizations	Introduced	Practiced	Assessed
A1.2.1	Functions			
A1.2.1.1	Analyze and/or use patterns or relations.			
Eligible Content A1.2.1.1.1	Analyze a set of data for the existence of a pattern and represent the pattern algebraically and/or graphically.			
Eligible Content A1.2.1.1.2	Determine whether a relation is a function, given a set of points or a graph.			
Eligible Content A1.2.1.1.3	Identify the domain or range of a relation (may be presented as ordered pairs, a graph, or a table).			
PA CC Standard CC.2.2.HS.C.1	Use the concept and notation of functions to interpret and apply them in terms of their context.			
PA CC Standard CC.2.2.HS.C.2	Graph and analyze functions and use their properties to make connections between the different representations.			
PA CC Standard CC.2.2.HS.C.3	Write functions or sequences that model relationships between two quantities.			
PA CC Standard CC.2.4.HS.B.2	Summarize, represent, and interpret data on two categorical and quantitative variables.			
A1.2.1.2	Interpret and/or use linear functions and their equations, graphs, or tables.			
Eligible Content A1.2.1.2.1	Create, interpret, and/or use the equation, graph, or table of a linear function.			
Eligible Content A1.2.1.2.2	Translate from one representation of a linear function to another (i.e., graph, table, and equation).			
PA CC Standard CC.2.2.8.B.2	Understand the connections between proportional relationships, lines, and linear equations.			
PA CC Standard CC.2.4.HS.B.2	Summarize, represent, and interpret data on two categorical and quantitative variables.			
PA CC Standard CC.2.1.HS.F.3	Apply quantitative reasoning to choose and interpret units and scales in formulas, graphs and data displays.			
PA CC Standard CC.2.1.HS.F.4	Use units as a way to understand problems and to guide the solution of multi-step problems.			
PA CC Standard CC.2.2.HS.C.2	Graph and analyze functions and use their properties to make connections between the different representations.			
PA CC Standard CC.2.2.HS.C.3	Write functions or sequences that model relationships between two quantities.			
PA CC Standard CC.2.2.HS.C.4	Interpret the effects transformations have on functions and find the inverses of functions.			
PA CC Standard CC.2.2.HS.C.6	Interpret functions in terms of the situation they model.			
A1.2.2	Coordinate Geometry			
A1.2.2.1	Describe, compute, and/or use the rate of change (slope) of a line.			
Eligible Content A1.2.2.1.1	Identify, describe, and/or use constant rates of change.			
Eligible Content A1.2.2.1.2	Apply the concept of linear rate of change (slope) to solve problems.			
Eligible Content A1.2.2.1.3	Write or identify a linear equation when given: a) the graph of a line, b) two points on the line, or c) the slope and a point on the line. Note: Linear equation may be in point-slope, standard, and/or slope-intercept form.			
Eligible Content A1.2.2.1.4	Determine the slope and/or y-intercept represented by a linear equation or graph.			
PA CC Standard CC.2.2.8.C.1	Define, evaluate, and compare functions.			
PA CC Standard CC.2.2.8.C.2	Use concepts of functions to model relationships between quantities.			
PA CC Standard CC.2.2.HS.C.1	Use the concept and notation of functions to interpret and apply them in terms of their context.			
PA CC Standard CC.2.2.HS.C.3	Write functions or sequences that model relationships between two quantities.			
PA CC Standard CC.2.2.HS.C.5	Construct and compare linear, quadratic and/or exponential models to solve problems.			
A1.2.2.2	Analyze and/or interpret data on a scatter plot.			
Eligible Content A1.2.2.2.1	Draw, identify, find, and/or write an equation for a line of best fit for a scatter plot.			
PA CC Standard CC.2.4.HS.B.2	Summarize, represent, and interpret data on two categorical and quantitative variables.			
PA CC Standard CC.2.4.HS.B.3	Analyze linear models to make interpretations based on the data.			
PA CC Standard CC.2.2.HS.C.6	Interpret functions in terms of the situation they model.			

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TEACHER:		COURSE:		Introduced	Practiced	Assessed
A1.2.3	Data Analysis					
A1.2.3.1	Use measures of dispersion to describe a set of data.					
Eligible Content A1.2.3.1.1	Calculate and/or interpret the range, quartiles, and interquartile range of data.					
PA CC Standard CC.2.4.HS.B.1	Summarize, represent, and interpret data on a single count or measurement variable.					
PA CC Standard CC.2.4.HS.B.3	Analyze linear models to make interpretations based on the data.					
A1.2.3.2	Use data displays in problem-solving settings and/or to make predictions.					
Eligible Content A1.2.3.2.1	Estimate or calculate to make predictions based on a circle, line, bar graph, measures of central tendency, or other representations.					
Eligible Content A1.2.3.2.2	Analyze data, make predictions, and/or answer questions based on displayed data (box-and-whisker plots, stem-and-leaf plots, scatter plots, measures of central tendency, or other representations).					
Eligible Content A1.2.3.2.3	Make predictions using the equations or graphs of best-fit lines of scatter plots.					
PA CC Standard CC.2.4.HS.B.1	Summarize, represent, and interpret data on a single count or measurement variable.					
PA CC Standard CC.2.4.HS.B.3	Analyze linear models to make interpretations based on the data.					
PA CC Standard CC.2.4.HS.B.5	Make inferences and justify conclusions based on sample surveys, experiments, and observational studies.					
A1.2.3.3	Apply probability to practical situations.					
Eligible Content A1.2.3.3.1	Find probabilities for compound events (e.g., find probability of red and blue, find probability of red or blue) and represent as a fraction, decimal, or percent.					
PA CC Standard CC.2.4.HS.B.4	Recognize and evaluate random processes underlying statistical experiments.					
PA CC Standard CC.2.4.HS.B.7	Apply the rules of probability to compute probabilities of compound events in a uniform probability model.					

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TEACHER:		COURSE:		
Module 1	Number Systems and Non-Linear Expressions & Equations	Introduced	Practiced	Assessed
A2.1.1	Operations with Complex Numbers			
A2.1.1.1	Represent and/or use numbers in equivalent forms (e.g., square roots and exponents).			
Eligible Content A2.1.1.1.1	Simplify/write square roots in terms of i (e.g., $\sqrt{-24} = 2i\sqrt{6}$).			
Eligible Content A2.1.1.1.2	Simplify/evaluate expressions involving powers of i (e.g., $i^6 + i^3 = -1 - i$).			
PA CC Standard CC.2.1.HS.F.6	Extend the knowledge of arithmetic operations and apply to complex numbers.			
A2.1.1.2	Apply number theory concepts to show relationships between real numbers in problem-solving settings.			
Eligible Content A2.1.1.2.1	Find the Greatest Common Factor (GCF) and/or the Least Common Multiple (LCM) for sets of monomials.			
PA CC Standard CC.2.1.8.E.3	Develop and/or apply number theory concepts to find common factors and multiples.			
A2.1.1.3	Use exponents, roots, and/or absolute values to solve problems.			
Eligible Content A2.1.1.3.1	Simplify/evaluate expressions involving properties/laws of exponents, roots, and/or absolute values to solve problems. Note: Exponents should be integers from -10 to 10.			
PA CC Standard CC.2.1.HS.F.1	Apply and extend the properties of exponents to solve problems with rational exponents.			
PA CC Standard CC.2.1.HS.F.2	Apply properties of rational and irrational numbers to solve real world or mathematical problems.			
PA CC Standard CC.2.2.8.B.1	Apply concepts of radicals and integer exponents to generate equivalent expressions.			
A2.1.1.4	Use estimation strategies in problem-solving situations.			
Eligible Content A2.1.1.4.1	Use estimation to solve problems.			
PA CC Standard CC.2.2.7.B.3	Model and solve real-world and mathematical problems by using and connecting numerical, algebraic, and/or graphical representations.			
PA CC Standard CC.2.2.HS.D.9	Use reasoning to solve equations and justify the solution method.			
A2.1.1.5	Simplify expressions involving polynomials.			
Eligible Content A2.1.1.5.1	Add, subtract, and/or multiply polynomial expressions (express answers in simplest form). Note: Nothing larger than a binomial multiplied by a trinomial.			
Eligible Content A2.1.1.5.2	Factor algebraic expressions, including difference of squares and trinomials. Note: Trinomials are limited to the form ax^2+bx+c , where a is equal to 1 after factoring out all monomial factors.			
Eligible Content A2.1.1.5.3	Simplify/reduce a rational algebraic expression.			
PA CC Standard CC.2.2.HS.D.1	Interpret the structure of expressions to represent a quantity in terms of its context.			
PA CC Standard CC.2.2.HS.D.2	Write expressions in equivalent forms to solve problems.			
PA CC Standard CC.2.2.HS.D.3	Extend the knowledge of arithmetic operations and apply to polynomials.			
PA CC Standard CC.2.2.HS.D.5	Use polynomial identities to solve problems.			
PA CC Standard CC.2.2.HS.D.6	Extend the knowledge of rational functions to rewrite in equivalent forms.			

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Module 1	Operations and Linear Equations & Inequalities	Introduced	Practiced	Assessed
A2.1.1	Linear Equations			
A2.1.2.1	Write, solve, and/or graph linear equations using various methods.			
Eligible Content A2.1.2.1.1	Write, solve, and/or apply a linear equation (including problem situations).			
Eligible Content A2.1.2.1.2	Use and/or identify an algebraic property to justify any step in an equation-solving process. <u>Note:</u> Linear equations only.			
Eligible Content A2.1.2.1.3	Interpret solutions to problems in the context of the problem situation. <u>Note:</u> Linear equations only.			
PA CC Standard CC.2.2.8.B.3	Analyze and solve linear equations and pairs of simultaneous linear equations.			
PA CC Standard CC.2.1.HS.F.3	Apply quantitative reasoning to choose and interpret units and scales in formulas, graphs and data displays.			
PA CC Standard CC.2.1.HS.F.4	Use units as a way to understand problems and to guide the solution of multi-step problems.			
PA CC Standard CC.2.1.HS.F.5	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.			
PA CC Standard CC.2.2.HS.D.7	Create and graph equations or inequalities to describe numbers or relationships.			
PA CC Standard CC.2.2.HS.D.8	Apply inverse operations to solve equations or formulas for a given variable.			
PA CC Standard CC.2.2.HS.D.9	Use reasoning to solve equations and justify the solution method.			
PA CC Standard CC.2.2.HS.D.10	Represent, solve and interpret equations/inequalities and systems of equations/inequalities algebraically and graphically.			
PA CC Standard CC.2.2.HS.C.3	Write functions or sequences that model relationships between two quantities.			
A2.1.2.2	Write, solve, and/or graph systems of linear equations using various methods.			
Eligible Content A2.1.2.2.1	Write, solve, and/or solve a system of a linear equations (including problem situations) using graphing, substitution, and/or elimination. <u>Note:</u> Limit systems to two linear equations.			
Eligible Content A2.1.2.2.2	Interpret solutions to problems in the context of the problem situation. <u>Note:</u> Limit systems to two linear equations.			
PA CC Standard CC.2.2.8.B.3	Analyze and solve linear equations and pairs of simultaneous linear equations.			
PA CC Standard CC.2.2.HS.D.9	Use reasoning to solve equations and justify the solution method.			
PA CC Standard CC.2.2.HS.D.10	Represent, solve and interpret equations/inequalities and systems of equations/inequalities algebraically and graphically.			
PA CC Standard CC.2.1.HS.F.5	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.			
A2.1.3	Linear Inequalities			
A2.1.3.1	Write, solve, and/or graph linear equalities using various methods.			
Eligible Content A2.1.3.1.1	Write or solve compound inequalities and/or graph their solution sets on a number line (may include absolute value inequalities).			
Eligible Content A2.1.3.1.2	Identify or graph the solution set to a linear inequality on a number line.			
Eligible Content A2.1.3.1.3	Interpret solutions to problems in the context of the problem situation. <u>Note:</u> Limit to linear inequalities.			
PA CC Standard CC.2.2.HS.D.7	Create and graph equations or inequalities to describe numbers or relationships.			
PA CC Standard CC.2.2.HS.D.9	Use reasoning to solve equations and justify the solution method.			
PA CC Standard CC.2.2.HS.D.10	Represent, solve and interpret equations/inequalities and systems of equations/inequalities algebraically and graphically.			
PA CC Standard CC.2.1.HS.F.5	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.			
A2.1.3.2	Write, solve, and/or graph systems of linear equalities using various methods.			
Eligible Content A2.1.3.2.1	Write and/or solve a system of linear inequalities using graphing. <u>Note:</u> Limit systems to two linear inequalities.			
Eligible Content A2.1.3.2.2	Interpret solutions to problems in the context of the problem situation. <u>Note:</u> Limit systems to two linear inequalities.			
PA CC Standard CC.2.2.HS.D.10	Represent, solve and interpret equations/inequalities and systems of equations/inequalities algebraically and graphically.			
PA CC Standard CC.2.1.HS.F.5	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.			

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TEACHER:		COURSE:		
Module 2	Linear Functions and Data Organizations	Introduced	Practiced	Assessed
A2.2.1	Functions			
A2.2.1.1	Analyze and/or use patterns or relations.			
Eligible Content A2.2.1.1.1	Analyze a set of data for the existence of a pattern and represent the pattern algebraically and/or graphically.			
Eligible Content A2.2.1.1.2	Determine whether a relation is a function, given a set of points or a graph.			
Eligible Content A2.2.1.1.3	Identify the domain or range of a relation (may be presented as ordered pairs, a graph, or a table).			
PA CC Standard CC.2.2.HS.C.1	Use the concept and notation of functions to interpret and apply them in terms of their context.			
PA CC Standard CC.2.2.HS.C.2	Graph and analyze functions and use their properties to make connections between the different representations.			
PA CC Standard CC.2.2.HS.C.3	Write functions or sequences that model relationships between two quantities.			
PA CC Standard CC.2.4.HS.B.2	Summarize, represent, and interpret data on two categorical and quantitative variables.			
A2.2.1.2	Interpret and/or use linear functions and their equations, graphs, or tables.			
Eligible Content A2.2.1.2.1	Create, interpret, and/or use the equation, graph, or table of a linear function.			
Eligible Content A2.2.1.2.2	Translate from one representation of a linear function to another (i.e., graph, table, and equation).			
PA CC Standard CC.2.2.8.B.2	Understand the connections between proportional relationships, lines, and linear equations.			
PA CC Standard CC.2.4.HS.B.2	Summarize, represent, and interpret data on two categorical and quantitative variables.			
PA CC Standard CC.2.1.HS.F.3	Apply quantitative reasoning to choose and interpret units and scales in formulas, graphs and data displays.			
PA CC Standard CC.2.1.HS.F.4	Use units as a way to understand problems and to guide the solution of multi-step problems.			
PA CC Standard CC.2.2.HS.C.2	Graph and analyze functions and use their properties to make connections between the different representations.			
PA CC Standard CC.2.2.HS.C.3	Write functions or sequences that model relationships between two quantities.			
PA CC Standard CC.2.2.HS.C.4	Interpret the effects transformations have on functions and find the inverses of functions.			
PA CC Standard CC.2.2.HS.C.6	Interpret functions in terms of the situation they model.			
A2.2.2	Coordinate Geometry			
A2.2.2.1	Describe, compute, and/or use the rate of change (slope) of a line.			
Eligible Content A2.2.2.1.1	Identify, describe, and/or use constant rates of change.			
Eligible Content A2.2.2.1.2	Apply the concept of linear rate of change (slope) to solve problems.			
Eligible Content A2.2.2.1.3	Write or identify a linear equation when given: a) the graph of a line, b) two points on the line, or c) the slope and a point on the line. Note: Linear equation may be in point-slope, standard, and/or slope-intercept form.			
Eligible Content A2.2.2.1.4	Determine the slope and/or y-intercept represented by a linear equation or graph.			
PA CC Standard CC.2.2.8.C.1	Define, evaluate, and compare functions.			
PA CC Standard CC.2.2.8.C.2	Use concepts of functions to model relationships between quantities.			
PA CC Standard CC.2.2.HS.C.1	Use the concept and notation of functions to interpret and apply them in terms of their context.			
PA CC Standard CC.2.2.HS.C.3	Write functions or sequences that model relationships between two quantities.			
PA CC Standard CC.2.2.HS.C.5	Construct and compare linear, quadratic and/or exponential models to solve problems.			
A2.2.2.2	Analyze and/or interpret data on a scatter plot.			
Eligible Content A2.2.2.2.1	Draw, identify, find, and/or write an equation for a line of best fit for a scatter plot.			
PA CC Standard CC.2.4.HS.B.2	Summarize, represent, and interpret data on two categorical and quantitative variables.			
PA CC Standard CC.2.4.HS.B.3	Analyze linear models to make interpretations based on the data.			
PA CC Standard CC.2.2.HS.C.6	Interpret functions in terms of the situation they model.			

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TEACHER:		COURSE:		
		Introduced	Practiced	Assessed
A2.2.3	Data Analysis			
A2.2.3.1	Use measures of dispersion to describe a set of data.			
Eligible Content A2.2.3.1.1	Calculate and/or interpret the range, quartiles, and interquartile range of data.			
PA CC Standard CC.2.4.HS.B.1	Summarize, represent, and interpret data on a single count or measurement variable.			
PA CC Standard CC.2.4.HS.B.3	Analyze linear models to make interpretations based on the data.			
A2.2.3.2	Use data displays in problem-solving settings and/or to make predictions.			
Eligible Content A2.2.3.2.1	Estimate or calculate to make predictions based on a circle, line, bar graph, measures of central tendency, or other representations.			
Eligible Content A2.2.3.2.2	Analyze data, make predictions, and/or answer questions based on displayed data (box-and-whisker plots, stem-and-leaf plots, scatter plots, measures of central tendency, or other representations).			
Eligible Content A2.2.3.2.3	Make predictions using the equations or graphs of best-fit lines of scatter plots.			
PA CC Standard CC.2.4.HS.B.1	Summarize, represent, and interpret data on a single count or measurement variable.			
PA CC Standard CC.2.4.HS.B.3	Analyze linear models to make interpretations based on the data.			
PA CC Standard CC.2.4.HS.B.5	Make inferences and justify conclusions based on sample surveys, experiments, and observational studies.			
A2.2.3.3	Apply probability to practical situations.			
Eligible Content A2.2.3.3.1	Find probabilities for compound events (e.g., find probability of red and blue, find probability of red or blue) and represent as a fraction, decimal, or percent.			
PA CC Standard CC.2.4.HS.B.4	Recognize and evaluate random processes underlying statistical experiments.			
PA CC Standard CC.2.4.HS.B.7	Apply the rules of probability to compute probabilities of compound events in a uniform probability model.			

2013 Keystone Geometry Anchor Checklist		Include Unit Number and Date.		
TEACHER:		COURSE:		
Module 1	Geometric Properties and Reasoning	Introduced	Practiced	Assessed
G.1.1	Properties of Circles, Spheres, and Cylinders			
G.1.1.1	Identify and/or use parts of circles and segments associated with circles, spheres, and cylinders.			
Eligible Content G.1.1.1.1	Identify, determine, and/or use the radius, diameter, segment, and/or tangent of a circle.			
Eligible Content G.1.1.1.2	Identify, determine, and/or use the arcs, semicircles, sectors, and/or angles of a circle.			
Eligible Content G.1.1.1.3	Use chords, tangents, and secants to find missing arc measures or missing segment measures.			
Eligible Content G.1.1.1.4	Identify and/or use the the properties of sphere or cylinder.			
PA CC Standard CC.2.3.HS.A.8	Apply geometric theorems to verify properties of circles.			
PA CC Standard CC.2.3.HS.A.9	Extend the concept of similarity to determine arc lengths and areas of sectors of circles.			
PA CC Standard CC.2.3.HS.A.13	Analyze relationships between two-dimensional and three-dimensional objects.			
G.1.2	Properties of Polygons and Polyhedra			
G.1.2.1	Recognize and/or apply properties of angles, polygons, and polyhedra.			
Eligible Content G.1.2.1.1	Identify and/or use properties of triangles.			
Eligible Content G.1.2.1.2	Identify and/or use properties of quadrilaterals.			
Eligible Content G.1.2.1.3	Identify and/or use properties of isosceles and equilateral triangles.			
Eligible Content G.1.2.1.4	Identify and/or use properties of regular polygons.			
Eligible Content G.1.2.1.5	Identify and/or use properties of pyramids and prisms.			
PA CC Standard CC.2.3.HS.A.3	Verify and apply geometric theorems as they relate to geometric figures.			
PA CC Standard CC.2.3.HS.A.13	Analyze relationships between two-dimensional and three-dimensional objects.			
G.1.3	Congruence, Similarity, and Proofs			
G.1.3.1	Use properties of congruence, correspondence, and similarity in problem-solving settings involving 2- and 3-dimensional figures.			
Eligible Content G.1.3.1.1	Identify and/or use properties of congruent and similar polygons or solids.			
Eligible Content G.1.3.1.2	Identify and/or use proportional relationships in similar figures.			
PA CC Standard CC.2.3.HS.A.2	Apply rigid transformations to determine and explain congruence.			
PA CC Standard CC.2.3.HS.A.5	Create justifications based on transformations to establish similarity in plane figures.			
PA CC Standard CC.2.3.HS.A.6	Verify and apply theorems involving similarity as the relate to plane figures.			
G.1.3.2	Write formal proofs and/or use logic statements to construct or validate arguments.			
Eligible Content G.1.3.2.1	Write, analyze, complete, or identify formal proofs (e.g., direct and/or indirect proofs/proofs by contradiction).			
PA CC Standard CC.2.3.HS.A.3	Verify and apply geometric theorems as they relate to geometric figures.			
PA CC Standard CC.2.3.HS.A.6	Verify and apply theorems involving similarity as the relate to plane figures.			
PA CC Standard CC.2.3.HS.A.8	Apply geometric theorems to verify properties of circles.			
PA CC Standard CC.2.2.HS.C.9	Prove the Pythagorean identify and use it to calculate trigonometri ratios.			

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Module 2	Coordinate Geometry and Measurement					
G.2.1	Coordinate Geometry and Right Triangles					
G.2.1.1	Solve problems involving right triangles.					
Eligible Content G.2.1.1.1	Use the Pythagorean Theorem to write and/or solve problems involving right triangles.					
Eligible Content G.2.1.1.2	Use trigonometric ratios to write and/or solve problems involving right triangles.					
PA CC Standard CC.2.3.HS.A.7	Represent, solve and interpret equations/inequalities and systems of equations/inequalities algebraically and graphically.					
PA CC Standard CC.2.2.HS.C.9	Prove the Pythagorean identify and use it to calculate trigonometri ratios.					
G.2.1.2	Solve problems using analytic geometry.					
Eligible Content G.2.1.2.1	Calculate the distance and/or midpoint between two points on a number line or on a coordinate plane.					
Eligible Content G.2.1.2.2	Relate slope to perpendicularity and/or parallelism (limit to linear algebraic equations).					
Eligible Content G.2.1.2.3	Use slope, distance, and/or midpoint between two points on a coordinate plane to establish properties of a 2-dimensional shape.					
PA CC Standard CC.2.3.HS.A.11	Apply coordinate geometry to prove simple geometric theorems algebraically.					
G.2.2	Measurements of Two-Dimensional Shapes and Figures					
G.2.2.1	Use and/or compare measurements of angles.					
Eligible Content G.2.2.1.1	Use properties of angles formed by intersecting lines to find the measures of missing angles.					
Eligible Content G.2.2.1.2	Use properties of angles formed when two parallel lines are cut by a transversal to find the measures of missing angles.					
PA CC Standard CC.2.3.HS.A.3	Verify and apply geometric theorems as they relate to geometric figures.					
G.2.2.2	Use and/or develop procedures to determine or describe measures of perimeter, circumference, and/or area. (May require conversions within the same system.)					
Eligible Content G.2.2.2.1	Estimate area, perimeter, or circumference of an irregular figure.					
Eligible Content G.2.2.2.2	Find the measurement of a missing length, given the perimeter, circumference, or area.					
Eligible Content G.2.2.2.3	Find the side lengths of a polygon with a given perimeter to maximize the area of the polygon.					
Eligible Content G.2.2.2.4	Develop and/or use strategies to estimate the area of a compound/composite figure.					
Eligible Content G.2.2.2.5	Find the area of a sector of a circle.					
PA CC Standard CC.2.3.HS.A.3	Verify and apply geometric theorems as they relate to geometric figures.					
PA CC Standard CC.2.3.HS.A.9	Extend the concept of similarity to determine arc lengths and areas of sectors of circles.					
PA CC Standard CC.2.2.HS.C.1	Use the concept and notation of functions to interpret and apply them in terms of their context.					

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Module 2	Coordinate Geometry and Measurement			
G.2.2	Measurements of Two-Dimensional Shapes and Figures			
G.2.2.3	Describe how a change in one dimension of a 2-dimensional figure affects other measurements of that figure.			
Eligible Content G.2.2.3.1	Describe how a change in the linear dimension of a figure affects its perimeter, circumference, and area (e.g., How does changing the length of the radius of a circle affect the circumference of the circle?).			
PA CC Standard CC.2.3.HS.A.8	Apply geometric theorems to verify properties of circles.			
PA CC Standard CC.2.3.HS.A.9	Extend the concept of similarity to determine arc lengths and areas of sectors of circles.			
G.2.2.4	Apply probability to practical situations.			
Eligible Content G.2.2.4.1	Use area models to find probabilities.			
PA CC Standard CC.2.3.HS.A.14	Apply geometric concepts to model and solve real world problems.			
G.2.3	Measurements of Three-Dimensional Shapes and Figures			
G.2.3.1	Use and/or develop procedures to determine or describe measures of surface area and/or volume. (May require conversions within the same system.)			
Eligible Content G.2.3.1.1	Calculate the surface area of prisms, cylinders, cones, pyramids, and/or spheres. Formulas are provided on a reference sheet.			
Eligible Content G.2.3.1.2	Calculate the volume of prisms, cylinders, cones, pyramids, and/or spheres. Formulas are provided on a reference sheet.			
Eligible Content G.2.3.1.3	Translate from one representation of a linear function to another (i.e., graph, table, and equation).			
PA CC Standard CC.2.3.HS.A.12	Explain volume formulas and use them solve problems.			
PA CC Standard CC.2.3.HS.A.14	Apply geometric concepts to model and solve real world problems.			
G.2.3.2	Describe how a change in one dimension of a 3-dimensional figure affects other measurements of that figure.			
Eligible Content G.2.3.2.1	Describe how a change in the linear dimension of a figure affects its surface area or volume (e.g., How does changing the length of the edge of a cube affect the volume of the cube?).			
PA CC Standard CC.2.3.HS.A.13	Analyze relationships between two-dimensional and three-dimensional objects.			