SIDE BY SIDE OF OKLAHOMA PASS STRANDS AND COMMON CORE STATE STANDARDS

PASS			Strand and Standard		
Strand	**Standard #**	**PASS**		**Grade**	**Common Core State Standard**
ALGEBRA I					
*** Legends/Abbreviations can be found in a separate table.**					
NA	1	**Standard 1: Number Sense and Algebraic Operations - The student will use expressions and equations to model number**			
NA	1.1a	Equations and Formulas: Translate word phrases and sentences into expressions and equations and vice versa.	A.CED.1	9-12	Create equations that describe numbers or relationship. Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.*
NA	1.1b	Equations and Formulas: Solve literal equations involving several variables for one variable in terms of the others.	A.CED.4	9-12	Create equations that describe numbers or relationship. Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. For example, rearrange Ohm's law V = IR to highlight resistance R.*
NA	1.1b	Equations and Formulas: Solve literal equations involving several variables for one variable in terms of the others.	A.REI.3	9-12	Solve equations and inequalities in one variable. Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.
NA	1.1b	Equations and Formulas: Solve literal equations involving several variables for one variable in terms of the others.	F.IF8	9-12	Analyze functions using different representations. Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.

SIDE BY SIDE OF OKLAHOMA PASS STRANDS AND COMMON CORE STATE STANDARDS

NA	1.1c	Equations and Formulas: Use the formulas from measurable attributes of geometric models (perimeter, circumference, area and volume), science, and statistics to solve problems within an algebraic context.	N.Q.1	9-12	Reason quantitatively and use units to solve problems. Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.*
NA	1.1c	Equations and Formulas: Use the formulas from measurable attributes of geometric models (perimeter, circumference, area and volume), science, and statistics to solve problems within an algebraic context.	A.SSE.1	9-12	Interpret the structure of expressions. Interpret expressions that represent a quantity in terms of its context.*
NA	1.1c	Equations and Formulas: Use the formulas from measurable attributes of geometric models (perimeter, circumference, area and volume), science, and statistics to solve problems within an algebraic context.	A.CED.1	9-12	Create equations that describe numbers or relationship. Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.*
NA	1.1d	Equations and Formulas: Solve two-step and three-step problems using concepts such as rules of exponents, rate, distance, ratio and proportion, and percent.	N.Q.1	9-12	Reason quantitatively and use units to solve problems. Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.*
NA	1.2a	Expressions: Simplify and evaluate linear, absolute value, rational and radical expressions.	A.SSE.3	9-12	Write expressions in equivalent forms to solve problems. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.*
NA	1.2b	Expressions: Simplify polynomials by adding, subtracting or multiplying.	A.SSE.3	9-12	Write expressions in equivalent forms to solve problems. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.*
NA	1.2b	Expressions: Simplify polynomials by adding, subtracting or multiplying.	A.APR.1	9-12	Perform arithmetic operations on polynomials. Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.
NA	1.2c	Expressions: Factor polynomial expressions.	A.SSE.3	9-12	Write expressions in equivalent forms to solve problems. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.*

SIDE BY SIDE OF OKLAHOMA PASS STRANDS AND COMMON CORE STATE STANDARDS

NA	1.2c	Expressions: Factor polynomial expressions.	A.SSE.3a	9-12	Factor a quadratic expression to reveal the zeros of the function it defines.*
R	2	**Standard 2: Relations and Functions - The student will use relations and functions to model number relationships.**			
R	2.1a	Relations and Functions: Distinguish between linear and nonlinear data.	F.3	8	Define, evaluate, and compare functions. Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function A = s^2 giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line.
R	2.1b	Relations and Functions: Distinguish between relations and functions.	F.1	8	Define, evaluate, and compare functions. Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. (Function notation is not required in Grade 8.)
R	2.1b	Relations and Functions: Distinguish between relations and functions.	F.IF.1	9-12	Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then f(x) denotes the output of f corresponding to the input x. The graph

SIDE BY SIDE OF OKLAHOMA PASS STRANDS AND COMMON CORE STATE STANDARDS

R	2.1c	Relations and Functions: Identify dependent and independent variables, domain and range.	EE.9	6	Represent and analyze quantitative relationships between dependent and independent variables. Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation d = 65t to represent the relationship between distance and time.
R	2.1c	Relations and Functions: Identify dependent and independent variables, domain and range.	F.IF.1	9-12	Understand the concept of a function and use function notation. Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then f(x) denotes the output of f corresponding to the input x. The graph of f is the graph of the equation y = f(x).
R	2.1d	Relations and Functions: Evaluate a function using tables, equations or graphs.	F.1	8	Define, evaluate, and compare functions. Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. (Function notation is not required in Grade 8.)
R	2.1d	Relations and Functions: Evaluate a function using tables, equations or graphs.	F.IF.1	9-12	Understand the concept of a function and use function notation. Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then f(x) denotes the output of f corresponding to the input x. The graph of f is the graph of the equation y = f(x).

SIDE BY SIDE OF OKLAHOMA PASS STRANDS AND COMMON CORE STATE STANDARDS

R	2.1d	Relations and Functions: Evaluate a function using tables, equations or graphs.	F.IF.2	9-12	Understand the concept of a function and use function notation. Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.
R	2.2a	Linear Equations and Graphs: Solve linear equations by graphing or using properties of equality.	A.REI.3	9-12	Solve equations and inequalities in one variable. Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.
R	2.2a	Linear Equations and Graphs: Solve linear equations by graphing or using properties of equality.	A.REI.10	9-12	Represent and solve equations and inequalities graphically. Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).
R	2.2a	Linear Equations and Graphs: Solve linear equations by graphing or using properties of equality.	F.IF.7	9-12	Analyze functions using different representations. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.*
R	2.2b	Linear Equations and Graphs: Recognize the parent graph of the functions y = k, y = x, y = |x|, and predict the effects of transformations on the parent graph.	REI.12	9-12	Represent and solve equations and inequalities graphically. Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.
R	2.2b	Linear Equations and Graphs: Recognize the parent graph of the functions y = k, y = x, y = |x|, and predict the effects of transformations on the parent graph.	F.IF.7	9-12	Analyze functions using different representations. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.*
R	2.2b	Linear Equations and Graphs: Recognize the parent graph of the functions y = k, y = x, y = |x|, and predict the effects of transformations on the parent graph.	F.IF.7b	9-12	Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.*
R	2.2b	Linear Equations and Graphs: Recognize the parent graph of the functions y = k, y = x, y = |x|, and predict the effects of transformations on the parent graph.	F.BF3	9-12	Build new functions from existing functions. Identify the effect on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them.

SIDE BY SIDE OF OKLAHOMA PASS STRANDS AND COMMON CORE STATE STANDARDS

R	2.2c	Linear Equations and Graphs: Slope: I. Calculate the slope of a line using a graph, an equation, two points or a set of data points. II. Use the slope to differentiate between lines that are parallel, perpendicular, horizontal, or vertical. III. Interpret the slope and intercepts within the context of everyday life (e.g., telephone charges based on base rate [y-intercept] plus rate per minute [slope]).	EE.5	8	Understand the connections between proportional relationships, lines, and linear equations. Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.
R	2.2c	Linear Equations and Graphs: Slope: I. Calculate the slope of a line using a graph, an equation, two points or a set of data points. II. Use the slope to differentiate between lines that are parallel, perpendicular, horizontal, or vertical. III. Interpret the slope and intercepts within the context of everyday life (e.g., telephone charges based on base rate [y-intercept] plus rate per minute [slope]).	EE.8c	8	Solve real-world and mathematical problems leading to two linear equations in two variables. For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.
R	2.2c	Linear Equations and Graphs: Slope: I. Calculate the slope of a line using a graph, an equation, two points or a set of data points. II. Use the slope to differentiate between lines that are parallel, perpendicular, horizontal, or vertical. III. Interpret the slope and intercepts within the context of everyday life (e.g., telephone charges based on base rate [y-intercept] plus rate per minute [slope]).	F.2	8	Define, evaluate, and compare functions. Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.

SIDE BY SIDE OF OKLAHOMA PASS STRANDS AND COMMON CORE STATE STANDARDS

R	2.2c	Linear Equations and Graphs: Slope: I. Calculate the slope of a line using a graph, an equation, two points or a set of data points. II. Use the slope to differentiate between lines that are parallel, perpendicular, horizontal, or vertical. III. Interpret the slope and intercepts within the context of everyday life (e.g., telephone charges based on base rate [y-intercept] plus rate per minute [slope]).	F.4	8	Use functions to model relationships between quantities. Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.
R	2.2c	Linear Equations and Graphs: Slope: I. Calculate the slope of a line using a graph, an equation, two points or a set of data points. II. Use the slope to differentiate between lines that are parallel, perpendicular, horizontal, or vertical. III. Interpret the slope and intercepts within the context of everyday life (e.g., telephone charges based on base rate [y-intercept] plus rate per minute [slope]).	SP.3	8	Investigate patterns of association in bivariate data. Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.
R	2.2c	Linear Equations and Graphs: Slope: I. Calculate the slope of a line using a graph, an equation, two points or a set of data points. II. Use the slope to differentiate between lines that are parallel, perpendicular, horizontal, or vertical. III. Interpret the slope and intercepts within the context of everyday life (e.g., telephone charges based on base rate [y-intercept] plus rate per minute [slope]).	F.IF.5	9-12	Interpret functions that arise in applications in terms of the context. Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.*

SIDE BY SIDE OF OKLAHOMA PASS STRANDS AND COMMON CORE STATE STANDARDS

R	2.2c	Linear Equations and Graphs: Slope: I. Calculate the slope of a line using a graph, an equation, two points or a set of data points. II. Use the slope to differentiate between lines that are parallel, perpendicular, horizontal, or vertical. III. Interpret the slope and intercepts within the context of everyday life (e.g., telephone charges based on base rate [y-intercept] plus rate per minute [slope]).	F.IF.6	9-12	Interpret functions that arise in applications in terms of the context. Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.*
R	2.2c	Linear Equations and Graphs: Slope: I. Calculate the slope of a line using a graph, an equation, two points or a set of data points. II. Use the slope to differentiate between lines that are parallel, perpendicular, horizontal, or vertical. III. Interpret the slope and intercepts within the context of everyday life (e.g., telephone charges based on base rate [y-intercept] plus rate per minute [slope]).	F.IF.7	9-12	Analyze functions using different representations. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.*
R	2.2c	Linear Equations and Graphs: Slope: I. Calculate the slope of a line using a graph, an equation, two points or a set of data points. II. Use the slope to differentiate between lines that are parallel, perpendicular, horizontal, or vertical. III. Interpret the slope and intercepts within the context of everyday life (e.g., telephone charges based on base rate [y-intercept] plus rate per minute [slope]).	F.LE.1b	9-12	Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.*

SIDE BY SIDE OF OKLAHOMA PASS STRANDS AND COMMON CORE STATE STANDARDS

R	2.2c	Linear Equations and Graphs: Slope: I. Calculate the slope of a line using a graph, an equation, two points or a set of data points. II. Use the slope to differentiate between lines that are parallel, perpendicular, horizontal, or vertical. III. Interpret the slope and intercepts within the context of everyday life (e.g., telephone charges based on base rate [y-intercept] plus rate per minute [slope]).	S.ID.7	9-12	Interpret linear models. Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.*
R	2.2d	Linear Equations and Graphs: Develop the equation of a line and graph linear relationships given the following: slope and y-intercept, slope and one point on the line, two points on the line, x-intercept and y-intercept, a set of data points.	F.4	8	Use functions to model relationships between quantities. Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.
R	2.2d	Linear Equations and Graphs: Develop the equation of a line and graph linear relationships given the following: slope and y-intercept, slope and one point on the line, two points on the line, x-intercept and y-intercept, a set of data points.	A.CED.2	9-12	Create equations that describe numbers or relationship. Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.*
R	2.2d	Linear Equations and Graphs: Develop the equation of a line and graph linear relationships given the following: slope and y-intercept, slope and one point on the line, two points on the line, x-intercept and y-intercept, a set of data points.	F.IF.4	9-12	Interpret functions that arise in applications in terms of the context. For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*
R	2.2d	Linear Equations and Graphs: Develop the equation of a line and graph linear relationships given the following: slope and y-intercept, slope and one point on the line, two points on the line, x-intercept and y-intercept, a set of data points.	F.IF.7	9-12	Analyze functions using different representations. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.*

SIDE BY SIDE OF OKLAHOMA PASS STRANDS AND COMMON CORE STATE STANDARDS

R	2.2d	Linear Equations and Graphs: Develop the equation of a line and graph linear relationships given the following: slope and y-intercept, slope and one point on the line, two points on the line, x-intercept and y-intercept, a set of data points.	F.IF.7a	9-12	Graph linear and quadratic functions and show intercepts, maxima, and minima.*
R	2.2d	Linear Equations and Graphs: Develop the equation of a line and graph linear relationships given the following: slope and y-intercept, slope and one point on the line, two points on the line, x-intercept and y-intercept, a set of data points.	F.BF.1a	9-12	Determine an explicit expression, a recursive process, or steps for calculation from a context.
R	2.2d	Linear Equations and Graphs: Develop the equation of a line and graph linear relationships given the following: slope and y-intercept, slope and one point on the line, two points on the line, x-intercept and y-intercept, a set of data points.	F.LE.2	9-12	Construct and compare linear, quadratic, and exponential models and solve problems. Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).*
R	2.2e	Linear Equations and Graphs: Match equations to a graph, table, or situation and vice versa.	EE.5	8	Understand the connections between proportional relationships, lines, and linear equations. Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.
R	2.2e	Linear Equations and Graphs: Match equations to a graph, table, or situation and vice versa.	F.5	8	Use functions to model relationships between quantities. Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.
R	2.2e	Linear Equations and Graphs: Match equations to a graph, table, or situation and vice versa.	A.CED.2	9-12	Create equations that describe numbers or relationship. Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.*

SIDE BY SIDE OF OKLAHOMA PASS STRANDS AND COMMON CORE STATE STANDARDS

R	2.2e	Linear Equations and Graphs: Match equations to a graph, table, or situation and vice versa.	F.IF.7	9-12	Analyze functions using different representations. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.*
R	2.2e	Linear Equations and Graphs: Match equations to a graph, table, or situation and vice versa.	F.BF.1a	9-12	Determine an explicit expression, a recursive process, or steps for calculation from a context.
R	2.2e	Linear Equations and Graphs: Match equations to a graph, table, or situation and vice versa.	F.LE.1b	9-12	Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.*
R	2.2e	Linear Equations and Graphs: Match equations to a graph, table, or situation and vice versa.	F.LE.2	9-12	Construct and compare linear, quadratic, and exponential models and solve problems. Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).*
R	2.3a	Linear Inequalities and Graphs: Solve linear inequalities by graphing or using properties of inequalities.	A.REI.3	9-12	Solve equations and inequalities in one variable. Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.
R	2.3a	Linear Inequalities and Graphs: Solve linear inequalities by graphing or using properties of inequalities.	A.REI.10	9-12	Represent and solve equations and inequalities graphically. Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).
R	2.3a	Linear Inequalities and Graphs: Solve linear inequalities by graphing or using properties of inequalities.	A.REI.12	9-12	Represent and solve equations and inequalities graphically. Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.
R	2.3b	Linear Inequalities and Graphs: Match inequalities (with 1 or 2 variables) to a graph, table, or situation and vice versa.	A.REI.10	9-12	Represent and solve equations and inequalities graphically. Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).
R	2.4	Solve a system of linear equations by graphing, substitution or elimination.	EE.8	8	Analyze and solve linear equations and pairs of simultaneous linear equations. Analyze and solve pairs of simultaneous linear equations.

SIDE BY SIDE OF OKLAHOMA PASS STRANDS AND COMMON CORE STATE STANDARDS

R	2.4	Solve a system of linear equations by graphing, substitution or elimination.	EE.8a	8	Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.
R	2.4	Solve a system of linear equations by graphing, substitution or elimination.	EE.8b	8	Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. For example, 3x + 2y = 5 and 3x + 2y = 6 have no solution because 3x + 2y cannot simultaneously be 5 and 6.
R	2.4	Solve a system of linear equations by graphing, substitution or elimination.	EE.8c	8	Solve real-world and mathematical problems leading to two linear equations in two variables. For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.
R	2.4	Solve a system of linear equations by graphing, substitution or elimination.	A.REI.5	9-12	Solve systems of equations. Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.
R	2.4	Solve a system of linear equations by graphing, substitution or elimination.	A.REI.6	9-12	Solve systems of equations. Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.
R	2.4	Solve a system of linear equations by graphing, substitution or elimination.	A.REI.11	9-12	Represent and solve equations and inequalities graphically. Explain why the x-coordinates of the points where the graphs of the equations y = f(x) and y = g(x) intersect are the solutions of the equation f(x) = g(x); find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where f(x) and/or g(x) are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.*
R	2.4	Solve a system of linear equations by graphing, substitution or elimination.	F.IF.7	9-12	Analyze functions using different representations. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.*

SIDE BY SIDE OF OKLAHOMA PASS STRANDS AND COMMON CORE STATE STANDARDS

R	2.5a	*Nonlinear Functions: Match exponential and quadratic functions to a table, graph or situation and vice versa.	F.3	8	Define, evaluate, and compare functions. Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function A = s^2 giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line.
R	2.5a	*Nonlinear Functions: Match exponential and quadratic functions to a table, graph or situation and vice versa.	F.5	8	Use functions to model relationships between quantities. Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.
R	2.5a	*Nonlinear Functions: Match exponential and quadratic functions to a table, graph or situation and vice versa.	F.IF.7	9-12	Analyze functions using different representations. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.*
R	2.5a	*Nonlinear Functions: Match exponential and quadratic functions to a table, graph or situation and vice versa.	F.IF.7a	9-12	Graph linear and quadratic functions and show intercepts, maxima, and minima.*
R	2.5b	*Nonlinear Functions: Solve quadratic equations by graphing, factoring, or using the quadratic formula.	A.SSE.3a	9-12	Factor a quadratic expression to reveal the zeros of the function it defines.*
R	2.5b	*Nonlinear Functions: Solve quadratic equations by graphing, factoring, or using the quadratic formula.	A.REI.4	9-12	Solve equations and inequalities in one variable. Solve quadratic equations in one variable.
R	2.5b	*Nonlinear Functions: Solve quadratic equations by graphing, factoring, or using the quadratic formula.	A.REI.4b	9-12	Solve quadratic equations by inspection (e.g., for x^2 = 49), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as a ± bi for real numbers a and b.
R	2.5b	*Nonlinear Functions: Solve quadratic equations by graphing, factoring, or using the quadratic formula.	F.IF.7	9-12	Analyze functions using different representations. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.*

SIDE BY SIDE OF OKLAHOMA PASS STRANDS AND COMMON CORE STATE STANDARDS

R	2.5b	*Nonlinear Functions: Solve quadratic equations by graphing, factoring, or using the quadratic formula.	F.IF.8a	9-12	Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.
DP	3	**Standard 3: Data Analysis, Probability and Statistics - The student will use data analysis, probability and statistics to formulate and justify predictions from a set of data.**			
DP	3.1a	Data Analysis: Translate from one representation of data to another and understand that the data can be represented using a variety of tables, graphs, or symbols and that different modes of representation often convey different messages.	N.Q.1	9-12	Reason quantitatively and use units to solve problems. Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.*
DP	3.1b	Data Analysis: Make valid inferences, predictions, and/or arguments based on data from graphs, tables, and charts.	N.Q.1	9-12	Reason quantitatively and use units to solve problems. Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.*
DP	3.1b	Data Analysis: Make valid inferences, predictions, and/or arguments based on data from graphs, tables, and charts.	F.LE.5	9-12	Construct and compare linear, quadratic, and exponential models and solve problems. Interpret the parameters in a linear or exponential function in terms of a context.*
DP	3.1b	Data Analysis: Make valid inferences, predictions, and/or arguments based on data from graphs, tables, and charts.	S.ID.1	9-12	Summarize, represent, and interpret data on a single count or measurement variable. Represent data with plots on the real number line (dot plots, histograms, and box plots).*
DP	3.1c	Data Analysis :Solve two-step and three-step problems using concepts such as probability and measures of central tendency.	S.ID.2	9-12	Summarize, represent, and interpret data on a single count or measurement variable. Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.*

SIDE BY SIDE OF OKLAHOMA PASS STRANDS AND COMMON CORE STATE STANDARDS

DP	3.1c	Data Analysis :Solve two-step and three-step problems using concepts such as probability and measures of central tendency.	S.CP.1	9-12	Understand independence and conditional probability and use them to interpret data. Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events (“or,” “and,” “not”).*
DP	3.1c	Data Analysis :Solve two-step and three-step problems using concepts such as probability and measures of central tendency.	S.CP.2	9-12	Understand independence and conditional probability and use them to interpret data. Understand that two events A and B are independent if the probability of A and B occurring together is the product of their probabilities, and use this characterization to determine if they are independent.*
DP	3.2	Collect data involving two variables and display on a scatter plot; interpret results using a linear model/equation and identify whether the model/equation is a line best fit for the data.	SP.1	8	Investigate patterns of association in bivariate data. Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.
DP	3.2	Collect data involving two variables and display on a scatter plot; interpret results using a linear model/equation and identify whether the model/equation is a line best fit for the data.	SP.2	8	Investigate patterns of association in bivariate data. Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.
DP	3.2	Collect data involving two variables and display on a scatter plot; interpret results using a linear model/equation and identify whether the model/equation is a line best fit for the data.	SP.3	8	Investigate patterns of association in bivariate data. Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.

SIDE BY SIDE OF OKLAHOMA PASS STRANDS AND COMMON CORE STATE STANDARDS

DP	3.2	Collect data involving two variables and display on a scatter plot; interpret results using a linear model/equation and identify whether the model/equation is a line best fit for the data.	F.IF.5	9-12	Interpret functions that arise in applications in terms of the context. Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.*
DP	3.2	Collect data involving two variables and display on a scatter plot; interpret results using a linear model/equation and identify whether the model/equation is a line best fit for the data.	F.IF.7	9-12	Analyze functions using different representations. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.*
DP	3.2	Collect data involving two variables and display on a scatter plot; interpret results using a linear model/equation and identify whether the model/equation is a line best fit for the data.	F.BF.1a	9-12	Build a function that models a relationship between two quantities. Write a function that describes a relationship between two quantities.*
DP	3.2	Collect data involving two variables and display on a scatter plot; interpret results using a linear model/equation and identify whether the model/equation is a line best fit for the data.	F.BF.1a	9-12	Determine an explicit expression, a recursive process, or steps for calculation from a context.
DP	3.2	Collect data involving two variables and display on a scatter plot; interpret results using a linear model/equation and identify whether the model/equation is a line best fit for the data.	S.ID.6	9-12	Summarize, represent, and interpret data on two categorical and quantitative variables. Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.*
DP	3.2	Collect data involving two variables and display on a scatter plot; interpret results using a linear model/equation and identify whether the model/equation is a line best fit for the data.	S.ID.6c	9-12	Fit a linear function for a scatter plot that suggests a linear association.*