DUSD Essential Standards for Math: Algebra 1-2

Arizona Algebra 1-2 Standards Placemat

*Fluency Standard

Algebra	A1.A-SSE.A.1	A1.A-SSE.A.1 Interpret expressions that represent a quantity in terms of its context.
		    a. Interpret parts of an expression, such as terms, factors, and coefficients
		    b. Interpret expressions by viewing one or more of their parts as a single entity.

	A1.A-SSE.B.3	Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.
		    a. Factor a quadratic expression to reveal the zeros of the function it defines.
		    b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.

	A1.A-CED.A.1	Create equations and inequalities in one variable and use them to solve problems. Include problem-solving opportunities utilizing real-world context. Focus on linear, quadratic, exponential and piecewise-defined functions (limited to absolute value and step).
	A1.A-CED.A.2	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
	A1.A-REI.B.3	Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.
	A1.A-REI.B.4b	Solve quadratic equations in one variable. b. Solve quadratic equations by inspection (e.g., $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Focus on solutions for quadratic equations that have real roots. Include cases that recognize when a quadratic equation has no real solutions.
	A1.A-REI.D.11	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). Focus on cases where f(x) and/or g(x) are linear, quadratic, exponential and piecewise-defined functions (limited to absolute value and step).

Functions	**A1.F-IF.A.2**	Evaluate a function for inputs in the domain and interpret statements that use function notation in terms of a context.
	A1.F-IF.B.4	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. Include problem-solving opportunities utilizing real-world context. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums. Focus on linear, quadratic, exponential and piecewise-defined functions (limited to absolute value and step).
	A1.F-IF.B.6	Calculate and interpret the average rate of change of a continuous function (presented symbolically or as a table) on a closed interval. Estimate the rate of change from a graph. Include problem-solving opportunities utilizing real-world context. Focus on linear, quadratic, exponential and piecewise- defined functions (limited to absolute value and step).
	A1.F-IF.C.7*	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. Focus on linear, quadratic, exponential and piecewise-defined functions (limited to absolute value and step).
	A1.F-IF.C.9	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). Focus on linear, quadratic, exponential and piecewise-defined functions (limited to absolute value and step).
	A1.F-BF.A.1	Write a function that describes a relationship between two quantities. Determine an explicit expression, a recursive process, or steps for calculation from real-world context. Focus on linear, quadratic, exponential and piecewise-defined functions (limited to absolute value and step).
Linear, Quadratic and Exponential Models	**A1.F-LE.A.2**	Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or input/output pairs.
Statistics and Probability	**A1.S-ID.A.2**	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.

	A1.S-ID.B.6	Represent data on two quantitative variables on a scatter plot and describe how the quantities are related.
		     a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Focus on linear models.
		     b. Informally assess the fit of a function by plotting and analyzing residuals.