Pacing Guide: Algebra 2 A					
Content and Duration	**Content Expectation (GLCE/HSCE)**	**Student Learning Targets**	**Content Vocabulary**	**Required Activities**	**Common Assessments and Rubrics**
UNIT #1 Functions 1-2 weeks		*Students will be able to:* - evaluate expressions and formulas, including correct units in answers - use mapping and f(x) notation for functions - solve and check linear equations - solve formulas for their variables - find terms of sequences - determine whether a given relation is a function - describe relationships between variables in a formula - evaluate and interpret values in real-world situations - use linear equations to solve real-world problems	variable algebraic expression expression algebraic sentence evaluating an expression order of operations vinculum equation formula relation independent variable dependent variable input output maps mathematical model f(x) notation argument of a function value of a function mapping notation real function set builder notation trace standard window natural numbers counting numbers whole numbers integers rational numbers irrational numbers real numbers	1.1 #1-27 1.2 #1-20 1.3 #1-25 1.4 #1-21 1.5 #1-23 1.6 #1-27 1.7 #1-20 1.8 #1-20 Unit Review WKS	Quiz #1 Unit Test Algebra 2 A Exam

		- use a graphing calculator to graph functions and generate tables for functions			

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UNIT #2 Variation and Graphs 1-2 weeks		*Students will be able to:* - translate variation language into formulas and formulas into variation language - solve variation problems - find slopes of rates of change - identify the properties of variation functions - recognize variation situations - solve real-world variation problems - fit an appropriate model to data - graph variation equations - identify variation equations from graphs	varies directly as directly proportional to direct variation equation constant of variation direct variation function inverse variation function varies inversely as inversely proportional to rate of change slope parabola vertex of a parabola reflection-symmetric line of symmetry hyperbola branches of a hyperbola vertical asymptote horizontal asymptote discrete set inverse-square curve combined variation joint variation	2.1 #1-23 2.2 #1-22 2.3 #1-23 2.4 #1-26 2.5 #1-19 2.6 #1-24 2.7 #1-22 2.8 #1-16 2.9 #1-17 Unit Review WKS	Quiz #1 Unit Test Homework Quiz Algebra 2 A Exam

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Content and Duration	**Content Expectation (GLCE/HSCE)**	**Student Learning Targets**	**Content Vocabulary**	**Required Activities**	**Common Assessments and Rubrics**
UNIT #3 Linear Functions and Sequences 1-2 weeks		*Students will be able to:* - determine the slope and intercepts of a line given its equation - find an equation of a line given two points on it or given a point on it and a slope - evaluate expressions based on step functions - evaluate or find explicit and recursive formulas for sequences - recognize properties of linear functions - recognize properties of linear or arithmetic sequences - model linear combination situations - in a real-world context, find an equation fro a line containing two points	y-intercept linear function slope-intercept function x-intercept linear combination standard form point-slope form piecewise linear linear regression least-squares line regression line line of best fit deviation recursive formula Fibonacci sequence linear sequence arithmetic sequence step function floor symbol ceiling symbol floor function greatest-integer function rounding-down function ceiling function rounding-up function	3.1 #1-27 3.2 #1-16 3.3 #1-21 3.4 #1-22 3.5 #1-15 3.6 #1-23 3.7 #1-16 3.8 #1-23 3.9 #1-21 Unit Review WKS	Quiz #1 Unit Test Homework Quiz Algebra 2 A Exam

		- fit lines to data - model situations leading to piecewise linear functions or to step functions - model situations with recursive formulas - graph or interpret graphs of linear equations - graph or interpret graphs of piecewise linear functions, step functions, or sequences			

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UNIT #4 Matrices 1-2 weeks		*Students will be able to:* - write matrices for points and polygons - add, subtract, and find scalar multiples of matrices - multiply matrices - determine equations of lines perpendicular to given lines - recognize properties of matrix operations - recognize relationships between figures and their transformation images - relate transformations to matrices, and vice versa - given their slopes, determine whether lines are parallel or perpendicular to each other, and vice versa	matrix element dimensions equal matrices point matrix matrix addition sum of two matrices scalar multiplication scalar product difference of matrices row-by-column multiplication matrix multiplication matrix product transformation preimage image size change center of size change magnitude of size change identity matrix identity transformation similar scale change horizontal magnitude vertical magnitude stretch shrink reflection image of a point over a line	4.1 #1-22 4.2 #1-21 4.3 #1-22 4.4 #1-21 4.5 #1-21 4.6 #1-22 4.7 #1-25 4.8 #1-15 4.9 #1-26 4.10 #1-20 Unit Review WKS	Quiz #1 Unit Test Homework Quiz Algebra 2 A Exam

		- use matrices to store data - use matrix addition, subtraction, multiplication, and scalar multiplication to solve real-world problems - graph figures and their transformation images	reflecting line line of reflection reflection		

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Content and Duration	**Content Expectation (GLCE/HSCE)**	**Student Learning Targets**	**Content Vocabulary**	**Required Activities**	**Common Assessments and Rubrics**
UNIT #5 Systems 1-2 weeks		*Students will be able to:* - solve 2x2 and 3x3 systems using the linear-combination method or substitution - find the determinant and inverse of a square matrix - use matrices to solve systems of two or three linear equations - recognize properties of systems of equations - recognize properties of systems of inequalities - use systems of two or three linear equations to solve real-world problems - solve problems using linear programming - solve and graph linear inequalities in one variable	compound sentence double inequality union of two sets intersection of two sets system solution to a system substitution method consistent system inconsistent system linear-combination method inverse matrices square matrix singular matrix determinant matrix form of a system coefficient matrix constant matrix half-plane boundary line lattice point feasible set/region linear programming	5.1 #1-24 5.2 #1-21 5.3 #1-20 5.4 #1-21 5.5 #1-19 5.6 #1-20 5.7 #1-22 5.8 #1-19 5.9 #1-18 Unit Review WKS	Quiz #1 Unit Test Homework Quiz Algebra 2 A Exam

		- estimate solutions to systems by graphing - graph linear inequalities in two variables - solve systems of inequalities by graphing			