

Algebra 2 Advanced/GT Year at a Glance (YAG) 2023-2024



First Semester		Second Semester		
1 st Nine Weeks		3 rd Nine Weeks		
TEKS 2A.2A, 2A.3A, 2A.3B, 2A.3E, 2A.3F, 2A.3G 6.2A, A.2A, A.5A, A.5B, A.2C, A.3C, A.12B 2A.6D, 2A.6E, 2A.6F 2A.3A, 2A.3B, 2A.3A, 2A.3B, 2A.3A, 2A.3B, 2A.3A, 2A.3B, 2A.3G	 Unit 1: Parent Functions (12) Students will graph quadratic, square root, and absolute value functions using parameter changes. Students will analyze key attributes such as domain, range, x-int, y-int, minimum, maximum, etc. Unit 2: Absolute Value (8) Students will solve absolute value equations and inequalities. Students will solve compound absolute value equations and inequalities. Unit 3: Linear Systems & Matrices (9) Students will solve systems of three linear equations in three variables using substitution/elimination. Students will formulate and solve systems of three or more linear inequalities. Students will analyze linear programming in real world situations. 	2A.2A, 2A.6A, 2A.7B, 2A.7C, 2A.7D, 2A.7E 2A.2A, 2A.2B, 2A.2C, 2A.2D, 2A.4F, 2A.4G, 2A.7G, 2A.7H 2A.7G, 2A.7H 2A.5A, 2A.5B, 2A.5C, 2A.5D, 2A.5E	 Unit 5: Polynomial Functions (10) Students will add, subtract, multiply, and divide polynomials of degree three and four when divided by polynomials of degree one and two. Students will determine the linear factors of a polynomial of degree three or four using algebraic methods, difference/sum of cubes, and factoring by grouping in order to solve. Unit 6: Nth Roots & Radicals (13) Students will solve equations involving rational exponents. Students will solve equations involving rational exponents. Students will describe and analyze the relationship between a function and its inverse, including using composition of functions. Students will graph square root, cubic, and cube root functions. Unit 7: Exponential & Logarithms (11) Students will interpret exponential growth and decay given data they collect for a real world situation. Students will calculate exponential equations algebraically and with regression. Students will rewrite exponential equations algebraically and with regression. Students will rewrite exponential equations as their corresponding logarithmic equations and vice versa. 	



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2 nd NineWeeks		4 th NineWeeks	
TEKS 2A.3A, 2A.3B, 2A.3E, 2A.3F, 2A.3G 2A.7I, 2A.4F, 2A.7A, 2A.4B, 2A.4D, 2A.4H 2A.7I, 2A.4F, 2A.7A, 2A.4B, 2A.7A, 2A.4B, 2A.7A, 2A.4H	 Unit 3: Linear Systems & Matrices (10) Operations with matrices evaluate/calculate determinants and inverse of a 2x2 & 3x3 matrix. Students will solve systems of three linear equations in three variables using matrices and technology Unit 4: Quadratic Functions (13) Students will write the equation of a parabola given attributes including vertex, focus, directrix, axis of symmetry, and direction of opening. Students will solve quadratic equations by factoring, quadratic formula, and completing the square. Students will add, subtract, multiply, and divide complex numbers. Unit 4.5: Quadratic Applications (8) Students will write the quadratic function given three specified points in a plane using matrices and quadratic regression. 	2A.2C, 2A.5B, 2A.5C, 2A.5D, 2A.5E 2A.7F, 2A.6G, 2A.6H, 2A.6I, 2A.6J, 2A.6K, 2A.6L	 Unit 7: Logarithms (8) Students will rewrite exponential equations as their corresponding logarithmic equations and vice versa. Students will determine the reasonableness of a solution given a logarithmic equation. Students will apply mathematical processes to understand exponential and logarithmic functions can be used to model situations and solve problems. Students will solve logarithmic functions using logarithmic properties. Unit 8: Rational Functions (14) Students will add, subtract, multiply, and divide rational expressions. Students will identify key aspects of rational functions such as vertical and horizontal asymptotes in order to sketch rational functions. Students will solve rational equations that have real solutions. Students will formulate rational equations that model real world situations. Students will determine the reasonableness of a solution to a rational equation.

Resources

1st Nine Weeks	2nd Nine Weeks	3rd Nine Weeks	4th Nine Weeks
Textbook	Textbook	Textbook	Textbook