

<b>ALGEBRA 2</b> <b>Student Learning Targets</b>	<b>Mastery</b>
<b>Big Idea: Functions</b>	
1. I can model real-world relationships with functions.	
2. I can describe a pattern using function notation.	
3. I can determine when a relation is a function.	
4. I can determine the domain and range of relations.	
5. I can find the value of a function at a given point.	
<b>Big Idea: Absolute Value Functions</b>	
6. I can solve and graph first-degree absolute value equations of a single variable.	
7. I can solve absolute value and compound inequalities of a single variable.	
8. I can identify the domain and range of absolute value functions.	
<b>Big Idea: Systems of Equations</b>	
9. I can solve systems of linear equations and inequalities graphically and algebraically.	
10. I can solve application problems involving systems of equations and inequalities	
11. I can solve systems that include a linear and absolute value equation.	
<b>Big Idea: Graphing and Solving Quadratics</b>	
12. I can identify the domain and range of the quadratic function.	
13. I can graph the quadratic functions, including transformations of parent functions.	
14. I can solve quadratic equations of a single variable over the set of complex numbers by factoring, completing the square, and using the quadratic formula.	
15. I can write an equation of a parabola in the form $y = a(x - h)^2 + k$ when given a graph or equation.	
16. I can approximate the real solutions of a quadratic equation graphically.	
17. I can model real-world situations using quadratic equations.	
18. I can solve quadratic inequalities of a single variable.	
19. I can write a quadratic equation when given the solutions of the equation.	
20. I can graph the solutions of quadratic inequalities on the coordinate plane.	
21. I can solve quadratic equations graphically and algebraically.	
22. I can simplify expressions involving complex numbers and express them in standard form, $a + bi$ .	
<b>Big Idea: Rational Functions and Composition of Functions</b>	
23. I can simplify algebraic expressions involving negative exponents.	
24. I can add, subtract, multiply, and divide rational expressions.	
25. I can solve rational equations.	
26. I can find the composition of functions when possible.	
27. I can add, subtract, multiply, and divide functions.	
28. I can determine whether or not a function has an inverse, and find the inverse when it exists.	
29. I can identify the domain and range of a function resulting from the combination or composition of functions.	
<b>Big Idea: Radical Functions</b>	
30. I can simplify numeric and algebraic expressions involving rational exponents.	
31. I can solve radical equations of a single variable, including those with extraneous roots.	
32. I can identify the domain and range of a radical function.	
33. I can graph radical functions and their transformations.	
<b>Big Idea: Exponential and Logarithmic Functions</b>	
34. I can define exponential functions as functions of the form $y = ab^x$ , $b > 0$ , $b \neq 1$ .	
35. I can model problems of growth and decay using exponential functions.	
36. I can graph exponential functions.	
37. I can relate logarithmic and exponential functions.	

38. I can simplify logarithmic functions.	
39. I can convert logarithms between bases.	
40. I can solve exponential and logarithmic equations.	
41. I can graph logarithmic functions.	
42. I can solve problems involving growth and decay.	
<b>Big Idea: Trigonometry</b>	
43. I can convert angle measurements between radians and degrees.	
44. I can find angle measures in degrees and radians using inverse trig functions, including exact values for special triangles.	
45. I can define the sine, cosine, and tangent functions using the unit circle.	
46. I can determine the exact values of the sine, cosine, and tangent functions for the special angles of the unit circle using reference angles.	
47. I can identify the domain and range of the sine and cosine functions.	
48. I can graph the sine and cosine functions.	
49. I can graph transformations of the parent sine and cosine functions.	
50. I can find the length of an arc using radian measure.	
51. I can find the area of a sector in a circle using radian measure.	
<b>Big Idea: Probability and Statistics</b>	
52. I can distinguish between permutations and combinations and identify situations in which each is appropriate.	
53. I can calculate probabilities using permutations and combinations to count events.	
54. I can compute conditional and unconditional probabilities in various ways, including by definitions, the general multiplication rule, and probability trees.	
55. I can define simple discrete random variables.	
56. I can compute different measures of spread, including the range, standard deviation, and interquartile range.	
57. I can compare the effectiveness of different measures of spread, including the range, standard deviation, and interquartile range in specific situations.	
58. I can use percentiles to summarize the distribution of a numerical variable.	
59. I can use histograms to obtain percentiles.	