

Advanced Algebra Learning Targets

AA1 Parent Graphs and their Transformations

- a. I can read and write using function notation.
- b. I can identify and write domain & range.
- c. I can recognize and graph parent relations of linear, quadratic, rational, exponential, absolute value, radical, cubic, and circle.
- d. I can transform parent and piecewise relations up, down, left, right, and dilate.
- e. I can write an equation of any transformed graph.
- f. I can convert between the three forms of the quadratic equation, by any method including completing the square.

AA2 Solving Equations & Inequalities

- a. I can use factoring and zero product property to solve quadratics.
- b. I can use graphs to solve quadratics.
- c. I can model situations using quadratics.
- d. I can solve by using reversing operations: linear, quadratic, rational, absolute value, radical, cubic.
- e. I can solve 1 or 2 variable inequalities and write solutions using inequality notation, shaded regions and number lines.
- f. I can model and solve systems of linear equalities and inequalities.

AA3 Functions and Their Inverses

- a. I can determine whether a relation is a function.
- b. I can identify one-to-one and many-to-one functions.
- c. I can recognize an inverse using tables, graphs, and equations.
- d. I can find an inverse of an algebraic relationship algebraically.
- e. I can manipulate composite functions to prove two relations are inverses.

AA4 Logarithms and Exponentials

- a. I can use exponential properties to simplify exponential expressions.
- b. I can use the definition of logarithms to evaluate logarithms and convert between logarithmic and exponential forms.
- c. I can use logarithm properties to simplify logarithmic expressions and to solve logarithmic equations.
- d. I can interpret, model, and graph exponential and logarithmic situations; interpreting intercepts and end behavior if appropriate.