Performance Indicators: Short Form

* + 1. I can work with and manipulate sets.
    2. I can analyze real-valued functions.
    3. I can compare and contrast families of functions.
    4. I can apply basic function transformations to a parent function.
    5. I can combine functions and find inverses.
    6. I can solve equations over the real numbers.

Performance Indicators: Long Form (with learning targets)

* + 1. I can distinguish between the real numbers, rational numbers, integers, and natural numbers, find the union and intersections of sets, and use both interval and set-builder notation.
    2. I can analyze real-valued functions by recognizing and describing domain and range, axis intercepts, extrema, end behavior, asymptotes, and symmetry (odd and even functions), connecting these concepts to graphs of functions.
    3. I can compare and contrast characteristics of different families of functions, translating among verbal, tabular, graphical, and symbolic representations of functions.
       1. Polynomial functions
       2. Radical functions
       3. Power functions
       4. Exponential functions
       5. Logarithmic functions
       6. Reciprocal function
       7. Absolute value function
       8. Piecewise-defined functions
    4. I can apply basic function transformations to a parent function , including , , , , , and , and interpret the results of these transformations verbally, graphically, and numerically.
    5. I can combine two functions in a variety of ways to produce a new function.
       1. I can find, interpret, and graph the sum, difference, and product of two functions, indicating the relevant domain and range for and providing a graph of the resulting function.
       2. I can form the composition of two functions, and determine the domain, range, and graph of the composite function. I can compose two functions to determine whether they are inverses.
    6. I can solve equations over the real numbers.
       1. I can solve polynomial equations over the real numbers.
       2. I can solve polynomial equations over the real numbers, identifying extraneous solutions.
       3. I can solve exponential and logarithmic equations over the real numbers, identifying extraneous solutions.
       4. I can solve equations using the method of substitution (“chunking”).
       5. I can solve functional equations.