Mathematical Practices

1. Make Sense of Problems and Persevere in Solving them
2. Reasoning Abstractly & Quantitatively
3. Construct Viable Arguments and Critique the Reasoning of Others
4. Model with Mathematics
5. Use Appropriate Tools Strategically
6. Attend to Precision
7. Look for and Make use of Structure
8. Look for and Express Regularity in Repeated Reasoning

Critical Areas of Focus Being Addressed:
- o   Reasoning Abstractly & Quantitatively
- o   Model with Mathematics
- o   Make Sense of Problems and Persevere in Solving them

Content Statements Addressed and Whether they are Knowledge, Reasoning, Performance Skill, or Product:(DOK1) (DOK2) (DOK3) (DOK4)	Underpinning Targets Corresponding with Standards and Whether they are Knowledge, Reasoning, Performance Skill, or Product: "I can…..", "Students Will Be Able To……."
F.BF.1b (DOK2) Write a function that describes a relationship between two quantities; Combine standard function types using arithmetic operations. For example: build a function that models the temperature of a cooling	• Identify functions and determine their domains, ranges y-intercepts, and zeros (K) • Evaluate the continuity, end behavior, limits, and extrema of a function. (K)

body by adding a constant function to a decaying exponential, and relate these functions to the model. _Chapter 1 through 1-6_ **F.BF.1c (DOK2)** Write a function that describes a relationship between two quantities; (+) Compose functions. For example: if T(y) is the temperature in the atmosphere as a function of height, and h(t) is the height of a weather balloon as a function of time, then T(h(t)) is the temperature at the location of the weather balloon as a function of time. _Chapter 1 through 1-6, 1-7_ **F.BF.4b (DOK2)** Find inverse functions. (+) verify by composition that one function is the inverse of another _Chapter 1-7_ **F.BF.4c (DOK2)** Find inverse functions. (+) read values of an inverse function from a graph or a table, given that the function has an inverse. _Chapter 1-7_ **F.BF.4d (DOK2)** Find inverse functions. (+) produce an invertible function from a non-invertible function by restricting the domain. _Chapter 1-6, 1-7_ **F.IF7d (DOK2)** Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. (+) graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. _Chapter 2-1 through 2-5_	• Calculate rates of change of nonlinear functions. (K) • Identify parent functions and transformations. (K) • Perform operations with functions, identify composite functions, and calculate inverse functions. (R) • Graph and analyze power, radical, polynomial, and rational functions. (R) • Divide polynomials using long division and synthetic division. (K) • Use the Remainder and Factor Theorems. (K) • Find all zeros of polynomial functions. (K) • Solve radical and rational equations. (K) • Solve polynomial and rational inequalities. (K)

F.BF.5 (+) (DOK3) understand the inverse relationship between exponents and logarithms and use this relationship to solve problems involving logarithms and exponents *Chapter 3-1, 3-2, 3-3, 3-4*	- Identify the mathematical domains ranges, and end behaviors of exponential and logarithmic functions. (R) - Use the properties of exponents and logarithms to solve exponential and logarithmic equations. (K) - Collect and organize data, make and interpret scatter plots, fit the graph of a function to the data, and interpret the results. (PS) - Use function models to predict and make decisions and critical judgments. (PS) - Use non-linear regression. (K)