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| **LG #** | **A209** | **Standards:** | **F-IF.3.7, F-IF.3.8, F-IF.3.9** |
| **4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond instruction to the standard.**  **The student will be able to:**   * Transform a given polynomial function to attain a given characteristic. For example, state the transformation that will make an odd function.   **No major errors or omissions regarding the score 4.0 content.** | | |
| **3.5** | In addition to 3.0, in-depth inferences and applications with partial success. | | |
| **3.0** | **Students will be able to graph and write equivalent forms of functions by hand and using technology, and compare functions in different representations.**  **The student will be able to:**   * Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. (F-IF.3.7) * Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. (F-IF.3.7) * Graph exponential and logarithmic functions, showing intercepts and end behavior. (F-IF.3.7) * Graph trigonometric functions, showing period, midline, and amplitude, and using phase shift. (F-IF.3.7) * Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. (F-IF.3.7) * Interpret different properties of a function in terms of a content. (F-IF.3.8a) * Use the properties of exponents to interpret expressions for exponential functions.   (F-IF.3.8b)   * Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). (F-IF.3.9)   **No major errors or omissions regarding the score 3.0 content (simple or complex).** | | |
| **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of 3.0 content. | | |
| **2.0** | **The student recognizes and describes specific terminology such as:**   |  |  |  | | --- | --- | --- | | * Asymptotes | * x-intercept | * Maxima | | * Zeroes * Removable Discontinuity | * y-intercept * Domain * Range | * Minima * End Behavior | |  |  |  |   **The student will be able to:**   * Identify key features of the graph such as intercepts, relative maxima/minima, removable and non-removable discontinuities, etc. (F-IF.3.7) * Graph linear and quadratic functions and show intercepts, maxima, and minima.   (F-IF.3.7)   * Factor a quadratic expression to find the zeros of the function. (F-IF.3.8a) * Use completing the square to show extreme values and symmetry for quadratic functions. (F-IF.3.8a) | | |
| **1.5** | Partial knowledge of the score 2.0 content, but major errors or omissions regarding score 3.0 content. | | |
| **1.0** | With partial understanding of some of the simpler details and processes and some of the more complex ideas and processes. | | |
| **0.5** | With help, a partial understanding of some of the simpler details and processes and some of the more complex ideas and processes. | | |
| **0.0** | Even with help, no understanding or skill is demonstrated | | |