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| **LG #** | **A108** | **Standards:** | **F-IF.3.7a, b, c, e; 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:*** Compare and contrast inverse, linear, quadratic, and cubic functions.

**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 compare and analyze functions using multiple representations, such as tables, graphs, equations, and verbal descriptions.****The student will be able to:*** Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. (F-IF.3.8)
* [Use the process of factoring in a quadratic function to show zeros, extreme values, and symmetry of the graph. (F-IF.3.8a)](http://www.cpalms.org/Public/PreviewResource/Preview/62614)
* [Use the process of completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph. (F-IF.3.8a)](http://www.cpalms.org/Public/PreviewResource/Preview/62615)
* Interpret the symmetry of a graph, extreme values, and zeros of a function in context. (F-IF.3.8a)
* [Use the properties of exponents to interpret expressions for exponential functions.](http://www.cpalms.org/Public/PreviewResource/Preview/68857) ([F-IF.3.8b](http://www.cpalms.org/Public/PreviewResource/Preview/68858))
* Compare properties of two functions ([linear](http://www.cpalms.org/Public/PreviewResource/Preview/68995), [exponential](http://www.cpalms.org/Public/PreviewResource/Preview/69098), and [quadratic](http://www.cpalms.org/Public/PreviewResource/Preview/69139)) 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:**

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| * Polynomial
 | * Vertex
 | * Minima (minimum)
 |
| * Maxima (maximum)
 | * Axis of Symmetry
 | * Exponential Growth
 |
| * End Behavior
 | * Step Function
 | * Piecewise Function
 |
| * Growth Rate
 | * Exponential Decay
 |  |

**The student will be able to:*** [Graph linear functions and show intercepts, maxima, and minima in real world application. (F-IF.3.7a)](http://www.cpalms.org/Public/PreviewResource/Preview/66650)
* [Graph quadratic functions and show intercepts, axis of symmetry, maxima, and minima. (F-IF.3.7a)](http://www.cpalms.org/Public/PreviewResource/Preview/68827)
* [Graph square root functions. (F-IF.3.7b)](http://www.cpalms.org/Public/PreviewResource/Preview/68766)
* [Graph cube root function. (F-IF.3.7.b)](http://www.cpalms.org/Public/PreviewResource/Preview/68766)
* [Graph piece wise functions, including step functions and absolute value functions. (F-IF.3.7b)](http://www.cpalms.org/Public/PreviewResource/Preview/68805)
* Graph polynomial functions, identifying zeros when available, and showing end behavior. (F-IF.3.7c)
* [Graph exponential functions showing intercepts and end behavior. (F-IF.3.7e)](http://www.cpalms.org/Public/PreviewResource/Preview/68849)
 |
| **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 |