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| **LG #** | **A206** | **Standards:** | **A-SSE.2.3.c, F-BF.1.1.c, F-BF.2.3, F-BF.2.4** |
| **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:*** Create a multi-step real world problem in terms of function composition and write an equation to describe the composition.
* Justify the horizontal line test using the definitions of function, inverse function, and one-to-one 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 apply transformation rules to polynomial, exponential, logarithmic, and trigonometric functions, as well as graph basic inverse functions.****The student will be able to:*** Compose two or more functions. (F-BF.1.1.c)
* Experiment with cases and illustrate an explanation of the effects on the graph using technology. (F-BF.2.3)
* Find the value of a, b, h, and k given the graphs. (F-BF.2.3)
* Recognize even and odd functions from their graphs and algebraic expressions of them. (F-BF.2.3)
* Solve an equation of the form f(x) = c for a simple function f that has an inverse and write an expression for the inverse. (F-BF.2.4.a)
* Verify by composition that one function is the inverse of another. (F-BF.2.4.b)
* Produce an invertible function from non-invertible function by restricting the domain. (F-BF.2.4.d)

**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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| * Inverse
 | * Stretch
 | * Odd function
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| * Parent function
 | * Compression
 | * Even function
 |
| * Transformation
 | * Horizontal
 | * Composition
 |
| * Translation
 | * Vertical
 | * Reflection
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**The student will be able to:*** Use the properties of exponents to transform expressions for exponential functions.

(A-SSE.2.3.c)* Identify the parent function for polynomial, exponential, logarithmic, and trigonometric functions. (F-BF.2.3)
* Identify the effect on the graph of replacing f(x) by f(x)+k, af(x), f(bx), and f(x-h), for specific values of a, b, h, and k. (F-BF.2.3)
* Read values of an inverse function from a graph or a table given that the function has an inverse. (F-BF.2.4.c)
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| **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 |