

Due Date: _____

Completed: _____

Formative Assessment #13 – Transformed Exponential Function

RF4.1a: I can describe the effects of transformations on the graph of an exponential function, $f(x) = b^x$, $b > 0$, $b \neq 1$.

1. Given: $g(x) = \frac{1}{2} \cdot 2^{-(x+4)} - 5$

- a) State the equation of the parent function, $f(x)$. _____
- b) Describe the transformations applied to the graph of the parent function.


RF4.1b: I can sketch the graph of an exponential function by applying a set of transformations to the graph of $f(x) = b^x$, $b > 0$, $b \neq 1$.

- c) Draw the graph of $g(x)$ on the graph paper provided. As part of your solution, include a mapping rule and a table of values containing five image points in the space below.

RF4.1c: I can state the characteristics of a transformed exponential function.

- d) Complete the chart for the function $g(x) = \frac{1}{2} \cdot 2^{-(x+4)} - 5$. Use interval notation where appropriate.

| Characteristic | Answer |
|---------------------------|-------------------------|
| Domain | |
| Range | |
| Equation of the Asymptote | |
| Interval of Increase | |
| Interval of Decrease | |
| End Behavior | Left End: Right End: |

| Code(s) | Learning Categories | | | | | |  Assessed by: |
|--------------|---------------------|----|----|----|----|----|---|
| RF1.1a | EH | EL | AH | AL | NH | NL | |
| RF4.1b | EH | EL | AH | AL | NH | NL | |
| RF4.1c | EH | EL | AH | AL | NH | NL | |
| Notes | | | | | | | |