7-6 Practice
Transformations of Exponential Functions

Write a function $g(x)$ to represent the translated graph.

1. $f(x) = 4.6^x + 2$ moves 5 units up

2. $f(x) = 0.5^x$ moves 2 units down

3. $f(x) = 4^x$ moves 3 units right

4. $f(x) = 9^x$ moves 1 unit left

5. $f(x) = 6^x$ is compressed vertically by a factor of $\frac{1}{4}$

6. $f(x) = 2^x$ is stretched vertically by a factor of 3

Tell how the transformed function compares to the parent function.

11. $f(x) = 5^x$; $g(x) = 5^{3x}$

12. $f(x) = 2^x - 5$; $g(x) = 2^{0.4x} - 5$

13. $f(x) = 3.8^x$; $g(x) = -3.8^x$

14. $f(x) = 2^x + 3$; $g(x) = -0.5(2^x + 3)$

15. $f(x) = 5.2^x$; $g(x) = 5.2^{-x}$

16. $f(x) = 4^x$; $g(x) = 4^{-x} - 10$

17. $f(x) = 2.8^x$; $g(x) = -2.8^{x+2}$

18. $f(x) = 6^x - 1$; $g(x) = 6^{-x} + 8$

19. Describe how the graph of $g(x) = -\frac{1}{4}\left[2^{(x+1)} - 5\right]$ is related to the parent function of $f(x) = 2^x$.

20. Write an exponential function that is the parent function $f(x) = 5^x$ stretched vertically by a factor of 2, translated 4 units left and 1 unit down.