Name _____ Date _____

3.6 Practice B

In Exercises 1 and 2, use the graphs of f and g to describe the transformation from the graph of f to the graph of g.

1. $f(x) = -x - 3; g(x) = f(x + 5)$ **2.** $f(x) = \frac{1}{3}x - 2; g(x) = f(x - 6)$

3. The total cost C (in dollars) to rent a 14-foot by 20-foot canopy for d days is given by the function $C(d) = 15d + 30,$ where the setup fee is \$30 and the charge per day is \$15. The setup fee increases by \$20. The new total cost T is given by the function $T(d) = C(d) + 20.$ Describe the transformation from the graph of C to the graph of T.

In Exercises 4 and 5, use the graphs of f and h to describe the transformation from the graph of f to the graph of h.

4. $f(x) = -3 - x; h(x) = f(-x)$ **5.** $f(x) = \frac{1}{3}x + 1; h(x) = -f(x)$

In Exercises 6 and 7, use the graphs of f and r to describe the transformation from the graph of f to the graph of r.

6. $f(x) = 5x - 10; r(x) = f\left(\frac{2}{5}x\right)$ **7.** $f(x) = -\frac{1}{3}x + 2; r(x) = 6f(x)$

In Exercises 8–11, use the graphs of f and g to describe the transformation from the graph of f to the graph of g.

8. $f(x) = -3x + 5; g(x) = f(x - 3)$ **9.** $f(x) = -2x + 6; g(x) = f\left(\frac{4}{3}x\right)$

10. $f(x) = 4x - 3; g(x) = \frac{1}{2}f(x)$ **11.** $f(x) = -2x; g(x) = f(x) + 3$

In Exercises 12 and 13, write a function g in terms of f so that the statement is true.

12. The graph of g is a horizontal shrink by a factor of $\frac{2}{3}$ of the graph of f.

13. The graph of g is a horizontal translation 5 units left of the graph of f.

In Exercises 14–17, graph f and h. Describe the transformations from the graph of f to the graph of h.

14. $f(x) = x; h(x) = -2x + 1$ **15.** $f(x) = x; h(x) = \frac{3}{2}x + 2$

16. $f(x) = 2x; h(x) = 8x - 3$ **17.** $f(x) = 3x; h(x) = -3x - 5$