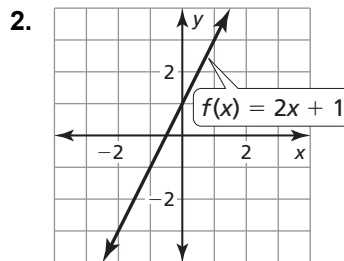
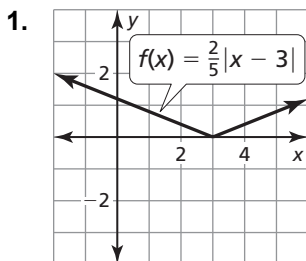


2.1 Practice B

In Exercises 1 and 2, identify the function family to which f belongs. Compare the graph of f with the graph of its parent function.



In Exercises 3–8, graph the function and its parent function. Then describe the transformation.

3. $h(x) = x + 2$

4. $f(x) = -x$

5. $g(x) = -x^2$

6. $f(x) = (x + 2)^2$

7. $h(x) = |x| - 2$

8. $f(x) = -3$

In Exercises 9–11, graph the function and its parent function. Then describe the transformation.

9. $f(x) = \frac{3}{5}x$

10. $h(x) = \frac{3}{2}|x|$

11. $h(x) = \frac{4}{3}x^2$

In Exercises 12–14, use a graphing calculator to graph the function and its parent function. Then describe the transformations.

12. $g(x) = \frac{1}{10}x^2 + 5$

13. $h(x) = (x - 5)^2 + \frac{4}{9}$

14. $f(x) = -|x + 2| - \frac{1}{3}$

In Exercises 15–18, identify the function family and describe the domain and range. Use a graphing calculator to verify your answer.

15. $h(x) = |x + 5| + 3$

16. $g(x) = -2x - 10$

17. $g(x) = 7x^2 - 3$

18. You are throwing a football with your friends. The height (in feet) of the ball above the ground t seconds after it is released from your hand is modeled by the function $f(t) = -16t^2 + 45t + 6$.

- Without graphing, identify the type of function modeled by the equation.
- What is the value of t when the ball is released from your hand? Explain.
- How many feet above the ground is the ball when it is released from your hand? Explain.