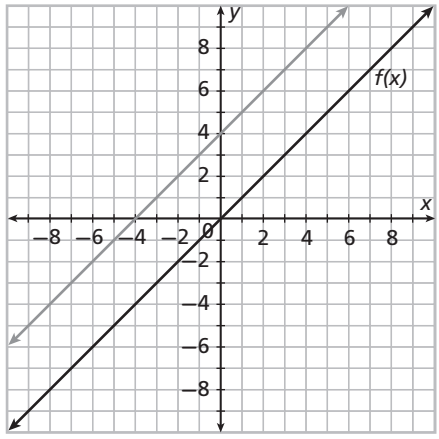
PRACTICE

1. The graph shows a translation of the function $f(x) = x$.



a. Describe the translation in two different ways.

b. Explain why the translations are the same.

c. Other parent functions do not have this same feature. Use the parent function $y = x^2$ to explain why.

Identify the parent function from the function rule. Describe the transformation of the parent function that each function represents. Use your graphing calculator to check your answers.

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

3. $g(x) = -x^3$

4. $f(x) = 5x^2$

5. $g(x) = \sqrt{-x}$

6. $f(x) = (x - 3)^3$

7. $g(x) = 0.5x^2$

8. $f(x) = 4\sqrt{x}$

9. $g(x) = x + 5$

10. $f(x) = -x$

11. $g(x) = 3x$

12. Why are the graphs of $f(x) = x^2$ and $f(-x) = (-x)^2$ the same graph? Explain algebraically and using the graph.