VOCABULARY

1. What is the inverse of a relation?

SKILLS Objective B

2. The function \( M = \frac{F}{5280} \) converts lengths from feet to miles.
   Write the inverse function and explain what the inverse does.

3. The function \( P = 0.0625O \) converts weights from ounces to pounds.
   Write the inverse function and explain what the inverse does.

In 4–9, a function is defined. a. Write the inverse of the function. b. Tell if the inverse is a function.

4. \( f(x) = \{(2, 8), (6, -1), (-4, 4), (0, -1)\} \)
   a. ___________________
   b. ___________________

5. \( y = 5x \)
   a. ___________________
   b. ___________________

6. \( y = 9x - 2 \)
   a. ___________________
   b. ___________________

7. \( y = x^2 + 5x + 4 \)
   a. ___________________
   b. ___________________

8. \( y = |x| + 1 \)
   a. ___________________
   b. ___________________

9. \( y = -x^3 \)
   a. ___________________
   b. ___________________

PROPERTIES Objective F

10. Fill in the Blank According to the horizontal-line test for inverses, if no horizontal line intersects the graph of a function \( f \) in more than one point, then ___________________.
11. How are the domain and range of a function $g$ related to the domain and range of the inverse of $g$?

12. How is the graph of a function related to the graph of its inverse?

13. **Multiple Choice** Identify all of the graphs below which represent a function whose inverse is also a function.

   - [A]
   - [B]
   - [C]
   - [D]

14. a. Sketch the graph of the inverse of the function that is shown at the right.

   b. Is the inverse also a function? Why or why not?

15. a. At the right, graph the inverse of the function with equation $y = -2x^2$.

   b. Is the inverse also a function? Why or why not?