

6-2 Practice

Inverse Functions and Relations

Find the inverse of each relation.

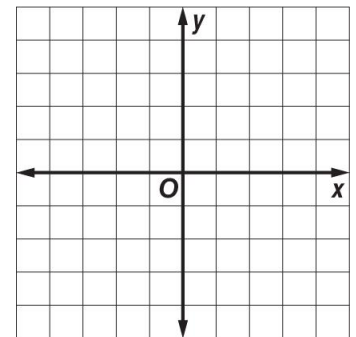
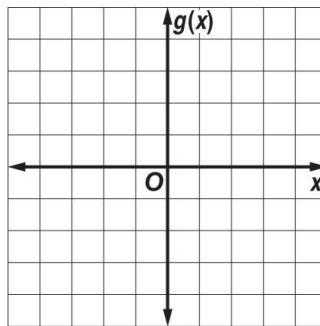
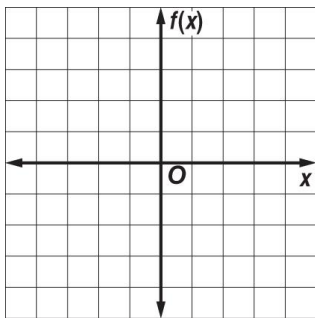
- | | |
|---|---|
| 1. $\{(0, 3), (4, 2), (5, -6)\}$ | 2. $\{(-5, 1), (-5, -1), (-5, 8)\}$ |
| 3. $\{(-3, -7), (0, -1), (5, 9), (7, 13)\}$ | 4. $\{(8, -2), (10, 5), (12, 6), (14, 7)\}$ |
| 5. $\{(-5, -4), (1, 2), (3, 4), (7, 8)\}$ | 6. $\{(-3, 9), (-2, 4), (0, 0), (1, 1)\}$ |

Find the inverse of each function. Then graph the function and its inverse.

7. $f(x) = \frac{3}{4}x$

8. $g(x) = 3 + x$

9. $y = 3x - 2$



Determine whether each pair of functions are inverse functions. Write *yes* or *no*.

10. $f(x) = x + 6$

$g(x) = x - 6$

11. $f(x) = -4x + 1$

$g(x) = \frac{1}{4}(1 - x)$

12. $g(x) = 13x - 13$

$h(x) = \frac{1}{13}x - 1$

13. $f(x) = 2x$

$g(x) = -2x$

14. $f(x) = \frac{6}{7}x$

$g(x) = \frac{7}{6}x$

15. $g(x) = 2x - 8$

$h(x) = \frac{1}{2}x + 4$

16. **MEASUREMENT** The points (63, 121), (71, 180), (67, 140), (65, 108), and (72, 165) give the weight in pounds as a function of height in inches for 5 students in a class. Give the points for these students that represent height as a function of weight.

17. **REMODELING** The Clearys are replacing the flooring in their 15-foot by 18-foot kitchen. The new flooring costs \$17.99 per square yard. The formula $f(x) = 9x$ converts square yards to square feet.

a. Find the inverse $f^{-1}(x)$. What is the significance of $f^{-1}(x)$ for the Clearys?

b. What will the new flooring cost the Clearys?