

WORKSHEET 7.4 INVERSE FUNCTIONS

Inverse Relations

Find the inverse for each relation.

1. $\{(1, -3), (-2, 3), (5, 1), (6, 4)\}$ 2. $\{(-5, 7), (-6, -8), (1, -2), (10, 3)\}$

Finding Inverses

Find an equation for the inverse for each of the following relations.

3. $y = 3x + 2$ 4. $y = -5x - 7$ 5. $y = 12x - 3$
6. $y = -8x + 16$ 7. $y = \frac{2}{3}x - 5$ 8. $y = -\frac{3}{4}x + 5$
9. $y = -\frac{5}{8}x + 10$ 10. $y = \frac{1}{2}x + 8$ 11. $y = x^2 + 5$
12. $y = x^2 - 4$ 13. $y = (x + 3)^2$ 14. $y = (x - 6)^2$
15. $y = \sqrt{x - 2}, y \geq 0$ 16. $y = \sqrt{x + 5}, y \geq 0$ 17. $y = \sqrt{x} + 8, y \geq 8$
18. $y = \sqrt{x} - 7, y \geq -7$

Verifying Inverses

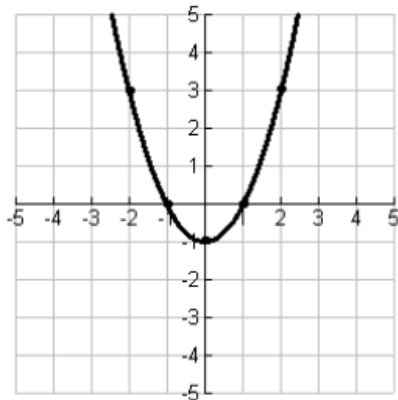
Verify that f and g are inverse functions.

19. $f(x) = x + 6, g(x) = x - 6$ 20. $f(x) = 5x + 2, g(x) = \frac{x - 2}{5}$
21. $f(x) = -3x - 9, g(x) = -\frac{1}{3}x - 3$ 22. $f(x) = 2x - 7, g(x) = \frac{x + 7}{2}$
23. $f(x) = -4x + 8, g(x) = -\frac{1}{4}x + 2$ 24. $f(x) = \frac{1}{2}x - 7, g(x) = 2x + 14$

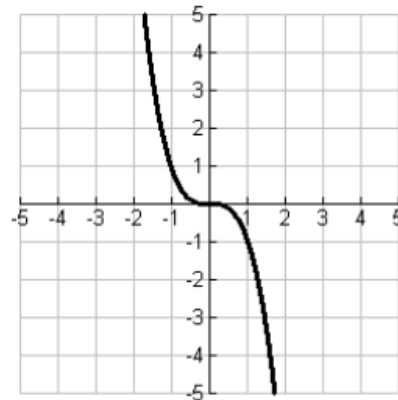
Graphing Inverses

Graph the inverse for each relation below (put your answer on the same graph).

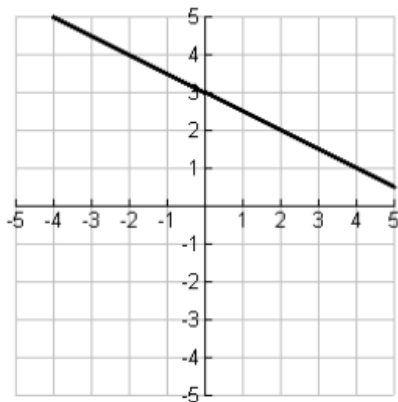
25.



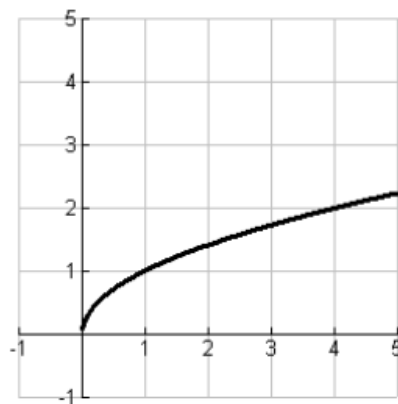
26.



27.



28.



1. $\{(-3, 1), (3, -2), (1, 5), (4, 6)\}$

2. $\{(7, -5), (-8, -6), (-2, 1), (3, 10)\}$

3. $y = \frac{x-2}{3}$

4. $y = -\frac{x+7}{5}$

5. $y = \frac{x+3}{12}$

6. $y = \frac{1}{8}x - 2$

7. $y = \frac{3}{2}x + \frac{15}{2}$

8. $y = -\frac{4}{3}x + \frac{20}{3}$

9. $y = -\frac{8}{5}x - 16$

10. $y = 2x - 16$

11. $y = \pm\sqrt{x-5}$

12. $y = \pm\sqrt{x+4}$

13. $y = -3 \pm \sqrt{x}$

14. $y = 6 \pm \sqrt{x}$

15. $y = x^2 + 2, x \geq 0$

16. $y = x^2 - 5, x \geq 0$

17. $y = (x-8)^2, x \geq 8$

18. $y = (x+7)^2, x \geq -7$

19. verify

20. verify

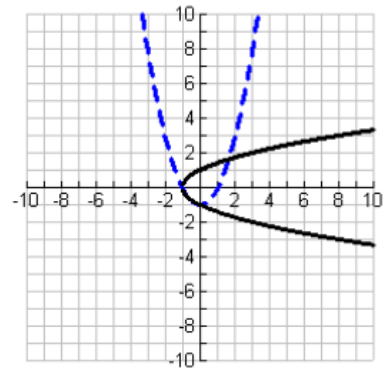
21. verify

22. verify

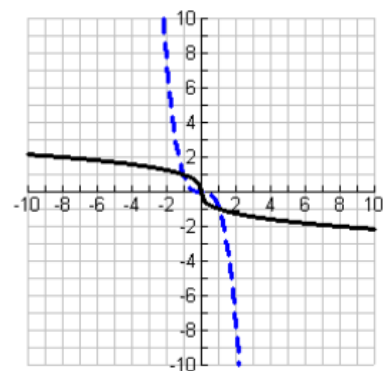
23. verify

24. verify

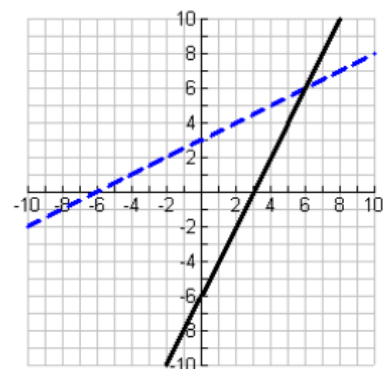
25.



26.



27.



28.

