

Act. #55 "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. $y = x^3 - 4$

13. $y = (x + 3)^2$

14. $y = (x - 6)^2$

15. $y = \sqrt{x - 2}$

16. $y = \sqrt{x + 5}$

17. $y = \sqrt{x} + 8$

18. $y = \sqrt{x} - 7$

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. $f(x) = \frac{1}{2}x - 7, g(x) = 2x + 14$

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24. $f(x) = \frac{1}{2}x - 7, g(x) = 2x + 14$