

Practice B

For use with pages 422–429

Find the inverse of the relation.

1.

x	1	2	3	4	5
y	-6	-3	0	3	6

2.

x	-1	$-\frac{2}{3}$	0	$\frac{1}{2}$	3
y	1	2	4	6	0

Use the horizontal line test to determine whether the inverse of f is a function.

3. $f(x) = -3x + 5$

4. $f(x) = 2x^2 - 3$

5. $f(x) = 1 - x^2$

6. $f(x) = |x|$

7. $f(x) = 3 - 2x$

8. $f(x) = \frac{1}{2}x + 4$

Verify that f and g are inverse functions.

9. $f(x) = 2x$, $g(x) = \frac{x}{2}$

10. $f(x) = 1 - x$, $g(x) = 1 - x$

11. $f(x) = x - 2$, $g(x) = x + 2$

12. $f(x) = -3x + 6$, $g(x) = -\frac{1}{3}x + 2$

13. $f(x) = \frac{1}{2}x - 4$, $g(x) = 2x + 8$

14. $f(x) = 4x + 1$, $g(x) = \frac{1}{4}x - \frac{1}{4}$

15. $f(x) = x^2$, $x \geq 0$, $g(x) = \sqrt{x}$

16. $f(x) = x^3$, $g(x) = \sqrt[3]{x}$

Find an equation for the inverse of the relation.

17. $y = 4x$

18. $y = -x + 5$

19. $y = 3x + 1$

20. $y = 4x - 9$

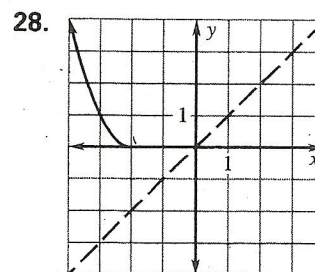
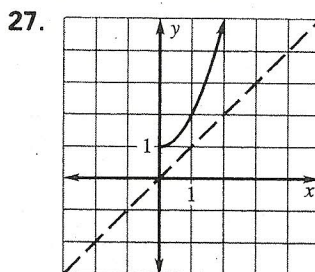
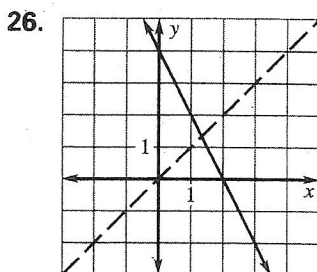
21. $y = \frac{1}{2}x + 6$

22. $y = 3 - 2x$

23. $y = x^2 + 3$

24. $y = x^2 - 1$

25. $y = \sqrt{x}$

Sketch the inverse of f on the coordinate system.

29. **Temperature Conversion** The formula to convert temperatures from degrees Celsius to Kelvins is $K = C + 273.15$. Write the inverse of the function, which converts temperatures from Kelvins to degrees Celsius. Then find the Celsius temperature that is equal to 295 Kelvins.

30. **Sale Price** A gift shop is having a storewide 25% off sale. The sale price S of an item that has a regular price of R is $S = R - 0.25R$. Write the inverse of the function. Then find the regular price of an item that you got for \$19.88.