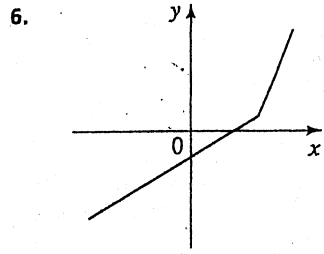
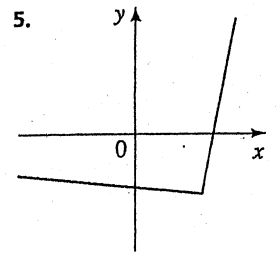
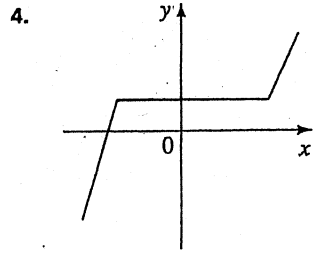
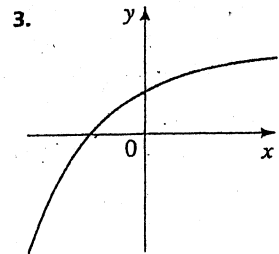
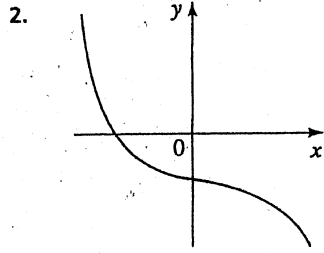
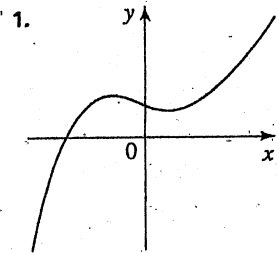


1-6 ■ The graph of a function f is given. Determine whether f is one-to-one.



7-16 ■ Determine whether the function is one-to-one.

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

8. $f(x) = x^2 - 2x + 5$

9. $g(x) = \sqrt{x}$

10. $g(x) = |x|$

11. $h(x) = x^3 + 1$

12. $h(x) = \sqrt[3]{x}$

13. $f(x) = x^4 + 5$

14. $f(x) = x^4 + 5, 0 \leq x \leq 2$

15. $f(x) = \frac{1}{x^2}$

16. $f(x) = \frac{1}{x}$

17-20 ■ Assume f is a one-to-one function.

17. (a) If $f(2) = 7$, find $f^{-1}(7)$.
(b) If $f^{-1}(3) = -1$, find $f(-1)$.

18. (a) If $f(5) = 18$, find $f^{-1}(18)$.
(b) If $f^{-1}(4) = 2$, find $f(2)$.

19. If $f(x) = 5 - 2x$, find $f^{-1}(3)$.

20. If $g(x) = x^2 + 4x$ with $x \geq -2$, find $g^{-1}(5)$.

31-50 ■ Find the inverse function of f .

31. $f(x) = 2x + 1$

32. $f(x) = 6 - x$

33. $f(x) = 4x + 7$

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

35. $f(x) = \frac{x}{2}$

36. $f(x) = \frac{1}{x^2} \quad (x > 0)$

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

38. $f(x) = \frac{x-2}{x+2}$

39. $f(x) = \frac{1+3x}{5-2x}$

40. $f(x) = 5 - 4x^3$

41. $f(x) = \sqrt{2+5x}$

42. $f(x) = x^2 + x, x \geq -\frac{1}{2}$

43. $f(x) = 4 - x^2, x \geq 0$

44. $f(x) = \sqrt{2x-1}$

45. $f(x) = 4 + \sqrt[3]{x}$

46. $f(x) = (2 - x^3)^5$

47. $f(x) = 1 + \sqrt{1+x}$

48. $f(x) = \sqrt{9-x^2}, 0 \leq x \leq 3$

49. $f(x) = x^4, x \geq 0$

50. $f(x) = 1 - x^3$

51-54 ■ A function f is given.

(a) Sketch the graph of f

(b) Use the graph of f to sketch the graph of f^{-1} .

(c) Find f^{-1} .

51. $f(x) = 3x - 6$

52. $f(x) = 16 - x^2, x \geq 0$

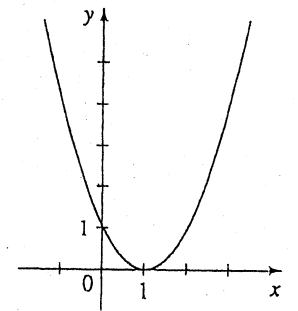
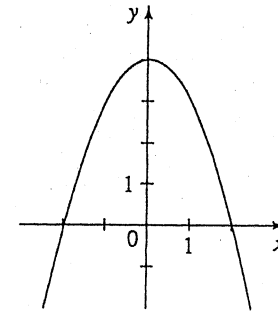
53. $f(x) = \sqrt{x+1}$

54. $f(x) = x^3 - 1$

61-64 ■ The given function is not one-to-one. Restrict its domain so that the resulting function is one-to-one. Find the inverse of the function with the restricted domain. (There is more than one correct answer.)

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

62. $g(x) = (x-1)^2$



63. $h(x) = (x+2)^2$

64. $k(x) = |x-3|$

