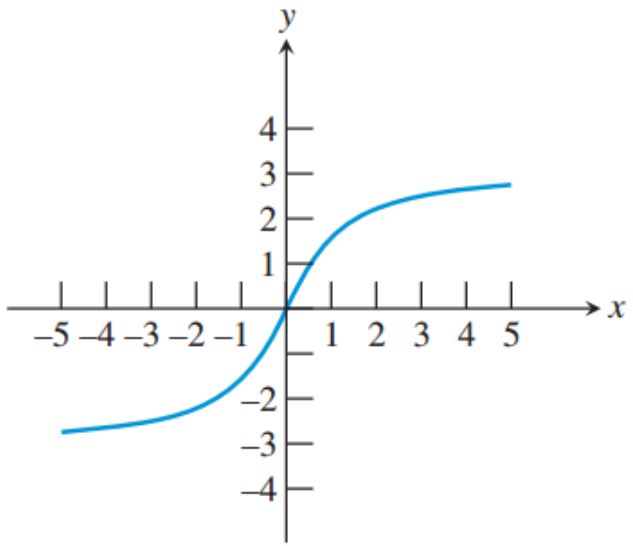
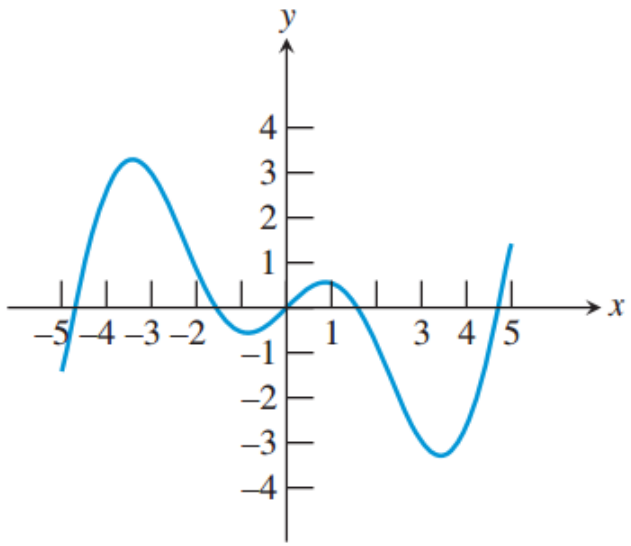
In Exercises 23–26, determine whether the function is one-to-one. If it is one-to-one, sketch the graph of the inverse.

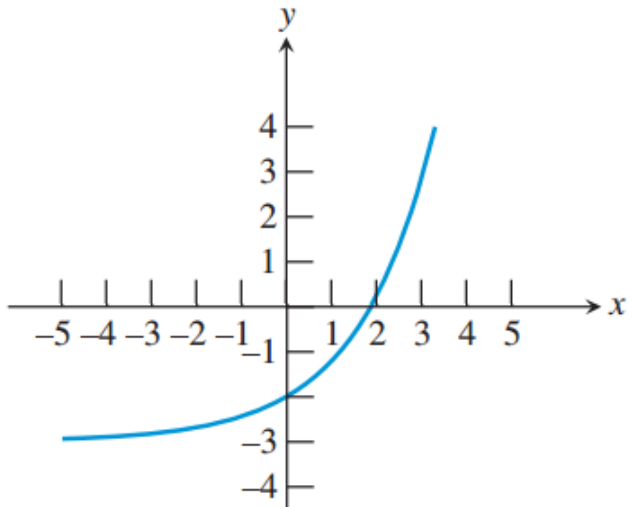
23.



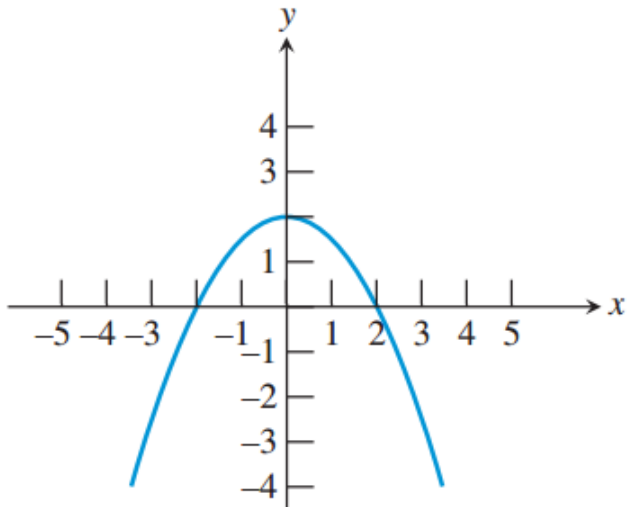
24.



25.



26.



In Exercises 27–32, confirm that f and g are inverses by showing that $f(g(x)) = x$ and $g(f(x)) = x$.

27. $f(x) = 3x - 2$ and $g(x) = \dfrac{x+2}{3}$

29. $f(x) = x^3 + 1$ and $g(x) = \sqrt[3]{x-1}$

31. $f(x) = \dfrac{x+1}{x}$ and $g(x) = \dfrac{1}{x-1}$

32. $f(x) = \dfrac{x+3}{x-2}$ and $g(x) = \dfrac{2x+3}{x-1}$

37. Which basic function can be defined parametrically as follows?

$$x = t^3 \text{ and } y = \sqrt{t^6} \text{ for } -\infty < t < \infty$$

38. Which basic function can be defined parametrically as follows?

$$x = 8t^3 \text{ and } y = (2t)^3 \text{ for } -\infty < t < \infty$$

41. Multiple Choice Which ordered pair is in the *inverse* of the relation given by $x^2y + 5y = 9$?

(A) $(2, 1)$ **(B)** $(-2, 1)$ **(C)** $(-1, 2)$ **(D)** $(2, -1)$

(E) $(1, -2)$

43. Multiple Choice Which function is the *inverse* of the function $f(x) = 3x - 2$?

(A) $g(x) = \frac{x}{3} + 2$

(B) $g(x) = 2 - 3x$

(C) $g(x) = \frac{x + 2}{3}$

(D) $g(x) = \frac{x - 3}{2}$

(E) $g(x) = \frac{x - 2}{3}$

44. Multiple Choice Which function is the *inverse* of the function $f(x) = x^3 + 1$?

(A) $g(x) = \sqrt[3]{x - 1}$

(B) $g(x) = \sqrt[3]{x} - 1$

(C) $g(x) = x^3 - 1$

(D) $g(x) = \sqrt[3]{x + 1}$

(E) $g(x) = 1 - x^3$