

Graph each of the following.

$$39. f(x) = \begin{cases} \frac{1}{2}x, & \text{for } x < 0, \\ x + 3, & \text{for } x \geq 0 \end{cases}$$

$$40. f(x) = \begin{cases} -\frac{1}{3}x + 2, & \text{for } x \leq 0, \\ x - 5, & \text{for } x > 0 \end{cases}$$

$$41. f(x) = \begin{cases} -\frac{3}{4}x + 2, & \text{for } x < 4, \\ -1 + x, & \text{for } x \geq 4 \end{cases}$$

$$42. h(x) = \begin{cases} 2x - 1, & \text{for } x < 2, \\ 2 - x, & \text{for } x \geq 2 \end{cases}$$

$$43. f(x) = \begin{cases} x + 1, & \text{for } x \leq -3, \\ -1, & \text{for } -3 < x < 4, \\ \frac{1}{2}x, & \text{for } x \geq 4 \end{cases}$$

$$44. f(x) = \begin{cases} 4, & \text{for } x \leq -2, \\ x + 1, & \text{for } -2 < x < 3, \\ -x, & \text{for } x \geq 3 \end{cases}$$

$$45. g(x) = \begin{cases} \frac{1}{2}x - 1, & \text{for } x < 0, \\ 3, & \text{for } 0 \leq x \leq 1, \\ -2x, & \text{for } x > 1 \end{cases}$$

$$46. f(x) = \begin{cases} \frac{x^2 - 9}{x + 3}, & \text{for } x \neq -3, \\ 5, & \text{for } x = -3 \end{cases}$$

$$47. f(x) = \begin{cases} 2, & \text{for } x = 5, \\ \frac{x^2 - 25}{x - 5}, & \text{for } x \neq 5 \end{cases}$$

$$48. f(x) = \begin{cases} \frac{x^2 + 3x + 2}{x + 1}, & \text{for } x \neq -1, \\ 7, & \text{for } x = -1 \end{cases}$$

Determine the domain and the range of the piecewise function. Then write an equation for the function.

