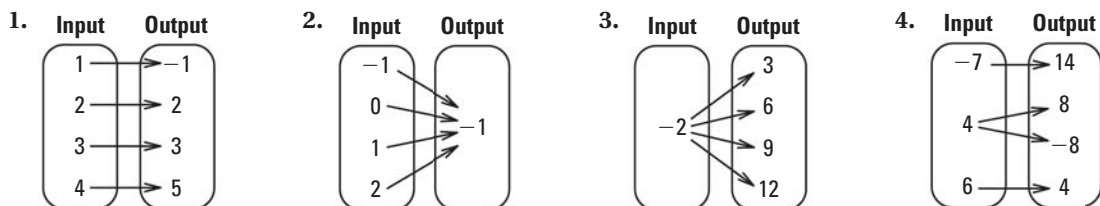


## Chapter 2

### 2.1 Tell whether the relation is a function. Explain.



### 2.2 Find the slope of the line passing through the given points. Then tell whether the line rises, falls, is horizontal, or is vertical.

5.  $(-3, 0), (5, -4)$       6.  $(2, -1), (8, -1)$       7.  $(3, 5), (3, -12)$       8.  $(1, 8), (-1, -4)$

### 2.2 Tell whether the lines are parallel, perpendicular, or neither.

9. Line 1: through  $(5, -4)$  and  $(-4, 2)$   
Line 2: through  $(-5, -4)$  and  $(-2, -2)$
10. Line 1: through  $(0, -4)$  and  $(-2, 2)$   
Line 2: through  $(4, -3)$  and  $(5, -6)$

### 2.3 Graph the equation using any method.

11.  $y = 2x - 2$       12.  $y = -x + 2$       13.  $f(x) = \frac{2}{3}x - 1$       14.  $x + 2y = -6$
15.  $-4x + 5y = 10$       16.  $y - 2 = 0$       17.  $-2x = 6y + 5$       18.  $2y + 10 = -2.5x$

### 2.4 Write an equation of the line that satisfies the given conditions.

19.  $m = 7, b = -3$       20.  $m = \frac{1}{3}, b = 4$
21.  $m = 0$ , passes through  $(7, -2)$       22.  $m = -\frac{1}{4}$ , passes through  $(3, 6)$
23. passes through  $(-1, -3)$  and  $(2, 7)$       24. passes through  $(4, -2)$  and  $(0, 4)$

### 2.5 The variables $x$ and $y$ vary directly. Write an equation that relates $x$ and $y$ . Then find $y$ when $x = -2$ .

25.  $x = 2, y = 4$       26.  $x = -1, y = 3$       27.  $x = -28, y = -7$       28.  $x = 6, y = -4$

### 2.6 In Exercises 29 and 30, (a) draw a scatter plot of the data, (b) approximate the best-fitting line, and (c) estimate $y$ when $x = 12$ .

29.

$x$	1	2	3	4	5
$y$	8	11	13	16	18

30.

$x$	1	2	3	4	5
$y$	50	41	37	22	20

### 2.7 Graph the function. Compare the graph with the graph of $y = |x|$ .

31.  $y = |x + 3|$       32.  $y = -2|x - 5|$       33.  $y = 3|x + 1| - 2$       34.  $y = -\frac{1}{2}|x + 2| + 3$

### 2.8 Graph the inequality in a coordinate plane.

35.  $x < 4$       36.  $y \geq -2$       37.  $y \leq -x - 1$       38.  $x + 2y > 8$
39.  $-x - 4y \leq 6$       40.  $3x + 4y > 12$       41.  $y < |x + 1|$       42.  $y \geq 3|x - 2| - 1$