

# Practice 6-4

## Point-Slope Form and Writing Linear Equations

Write an equation in point-slope form for the line through the given points or through the given point with the given slope.

1.  $(5, 7), (6, 8)$
2.  $(-2, 3); m = -1$
3.  $(1, 2), (3, 8)$
4.  $(-2, 3); m = 4$
5.  $(4, 7); m = \frac{3}{2}$
6.  $(6, -2); m = -\frac{4}{3}$
7.  $(0, 5), (-3, 2)$
8.  $(8, 11), (6, 16)$
9.  $(4, 2), (-4, -2)$
10.  $(15, 16), (13, 10)$
11.  $(0, -7); m = -4$
12.  $(-3, 4), (1, 6)$
13.  $(1, 2); m$  undefined
14.  $(-6, 7); m = -\frac{1}{2}$
15.  $(21, -2), (27, 2)$
16.  $(7, 5); m = 0$
17.  $(8, -2), (14, 1)$
18.  $(4, 8), (2, 12)$
19.  $(-5, 13), (-10, 9)$
20.  $(6, 2); m = \frac{3}{4}$
21.  $(5, -3); m = -2$
22.  $(4, 3.5); m = 0.5$
23.  $(-6, 2); m = \frac{5}{3}$
24.  $(100, 90), (80, 120)$
25.  $(-3, 6), (3, -6)$
26.  $(11, 7), (9, 3)$
27.  $(2, 7); m = \frac{5}{2}$
28.  $(-9, 8); m = -\frac{5}{3}$

Is the relationship shown by the data linear? If it is, model the data with an equation.

29.

| $x$ | $y$ |
|-----|-----|
| 2   | 3   |
| 3   | 7   |
| 4   | 11  |
| 5   | 15  |

30.

| $x$ | $y$ |
|-----|-----|
| -3  | 4   |
| -1  | 6   |
| 1   | 7   |
| 3   | 10  |

31.

| $x$ | $y$ |
|-----|-----|
| -4  | 12  |
| -1  | 8   |
| 5   | -4  |
| 10  | -8  |

32.

| $x$ | $y$ |
|-----|-----|
| -2  | 5   |
| 3   | -5  |
| 7   | -13 |
| 11  | -21 |

33.

| $x$ | $y$ |
|-----|-----|
| -6  | -5  |
| -2  | 1   |
| 0   | 4   |
| 8   | 16  |

34.

| $x$ | $y$ |
|-----|-----|
| -6  | 11  |
| -3  | 9   |
| 6   | 3   |
| 15  | -3  |

35.

| $x$ | $y$ |
|-----|-----|
| -7  | -3  |
| -5  | 0   |
| -1  | 3   |
| 3   | 7   |

36.

| $x$ | $y$ |
|-----|-----|
| -4  | 1   |
| 2   | 4   |
| 6   | 6   |
| 14  | 10  |

Write an equation of each line in point-slope form.

