

# Practice 6-5

## 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

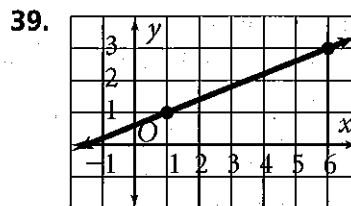
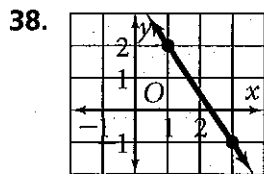
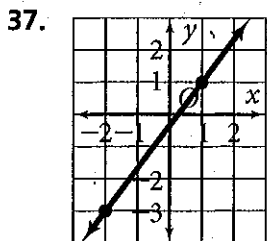
35.

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.



# Chapter 6 Answers (continued)

## Practice 6-5

Note: One possible form of the answer is given.

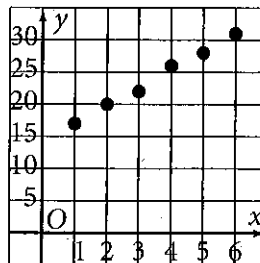
1.  $y - 8 = x - 6$  2.  $y - 3 = -1(x + 2)$
3.  $y - 8 = 3(x - 3)$  4.  $y - 3 = 4(x + 2)$
5.  $y - 7 = \frac{3}{2}(x - 4)$  6.  $y + 2 = -\frac{4}{3}(x - 6)$
7.  $y - 2 = x + 3$  8.  $y - 16 = -\frac{5}{2}(x - 6)$
9.  $y + 2 = \frac{1}{2}(x + 4)$  10.  $y - 10 = 3(x - 13)$
11.  $y + 7 = -4x$  12.  $y - 6 = \frac{1}{2}(x - 1)$  13.  $x = 1$
14.  $y - 7 = -\frac{1}{2}(x + 6)$  15.  $y - 2 = \frac{2}{3}(x - 27)$
16.  $y = 5$  17.  $y - 1 = \frac{1}{2}(x - 14)$
18.  $y - 12 = -2(x - 2)$  19.  $y - 9 = \frac{4}{5}(x + 10)$
20.  $y - 2 = \frac{3}{4}(x - 6)$  21.  $y + 3 = -2(x - 5)$
22.  $y - 3.5 = 0.5(x - 4)$  23.  $y - 2 = \frac{5}{3}(x + 6)$
24.  $y - 120 = -\frac{3}{2}(x - 80)$  25.  $y + 6 = -2(x - 3)$
26.  $y - 3 = 2(x - 9)$  27.  $y - 7 = \frac{5}{2}(x - 2)$
28.  $y - 8 = -\frac{5}{3}(x + 9)$  29. yes;  $y - 3 = 4(x - 2)$
30. no 31. no 32. yes;  $y - 5 = -2(x + 2)$
33. yes;  $y + 5 = \frac{3}{2}(x + 6)$
34. yes;  $y - 11 = -\frac{2}{3}(x + 6)$
35. no 36. yes;  $y - 1 = \frac{1}{2}(x + 4)$
37.  $y - 1 = \frac{4}{3}(x - 1)$  38.  $y - 2 = -\frac{3}{2}(x - 1)$
39.  $y - 1 = \frac{2}{5}(x - 1)$

## Practice 6-6

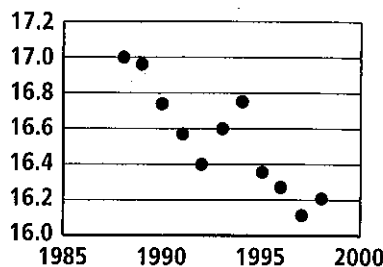
1. 4 2.  $\frac{2}{7}$  3. -9 4.  $-\frac{1}{2}$  5. -3 6. 0 7. 1 8.  $\frac{9}{5}$  9.  $\frac{1}{3}$
10.  $\frac{6}{7}$  11. undefined 12.  $-\frac{3}{5}$  13.  $y = -\frac{1}{3}x + 6$
14.  $y = \frac{1}{5}x + 6$  15.  $y = -6x - 10$  16.  $y = 4x - 3$
17.  $y = -\frac{1}{4}x - 3$  18.  $y = \frac{3}{4}x - 3$
19.  $y = \frac{2}{3}x + 2$  20.  $y = -\frac{4}{3}x$  21.  $y = -2x - 1$
22.  $y = 2x - 2$  23.  $y = -4x + 7$  24.  $y = x - 5$
25.  $y = \frac{3}{2}x - 6$  26.  $y = -\frac{3}{4}x - 10$
27.  $y = -\frac{7}{3}x + 14$  28.  $y = -\frac{2}{3}x - 4$
29.  $y = 5x + 20$  30.  $y = \frac{1}{4}x + 1$  31. parallel
32. perpendicular 33. neither 34. neither 35. parallel
36. perpendicular

## Practice 6-7

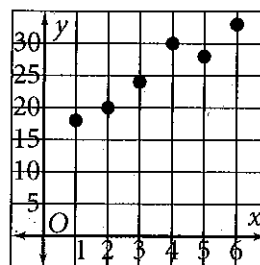
1. Answers may vary. Sample:  $y = 30x + 25$
2. not linear
3. Answers may vary. Sample:  $y = 15x + 120$
4.  $y = -2.6x + 9.6$ ; -0.8535; yes
5.  $y = -3x + 12$ ; -0.6049; no
6.  $y = 0.4223x + 3.9990$ ; 0.7649; yes
7.  $y = -0.2x + 34.8$ ; -0.0721; no
8. Answers may vary. Sample:  $y = 3x + 15$



9. Answers may vary. Sample:  $y = -0.0857x + 17.3$



10. Answers may vary. Sample:  $y = 3x + 15$



11. Answers may vary. Sample:  $y = -0.1x + 15$

