4.2 Writing Equations in Point-Slope Form
Pg. 185
A: 8, 10, 12, 18, 24, 26, 28, 30, 34, 36, 38 – 44 (e)
B: 1, 2, 4 – 32 (M4), 40 – 44
C: 6, 8, 12, 14, 16, 22, 28, 30, 32, 42, 44

Answers without work to check. If you cannot find your mistake then please seek help EARLY! This assignment is worth 4 pts. 1) did you complete it 2) did you show all the work 3) did you correct in pen 4) did you get 75% of the problems correct?

4.2 pg. 185 answers with no work. Check the ones you were supposed to do for your assignment. Ask questions on any in class that you cannot figure out your mistake. Remember odd answers are always in the back of your textbook.

1. $-2; (-5, 5)$

2. Substitute 4 for m, 3 for x_1, and -2 for y_1 in the slope formula, eliminate the subscripts for the second point, and solve for y.

3. $y - 1 = 2(x - 2)$

4. $y - 5 = -(x - 3)$

5. $y + 4 = -6(x - 7)$

6. $y + 2 = 5(x + 8)$

7. $y = -3(x - 9)$

8. $y - 2 = 4x$

9. $y - 6 = \frac{3}{2}(x + 6)$

10. $y + 12 = -\frac{2}{5}(x - 5)$

11. $y = 2x - 5$

12. $y = -x - 4$

13. $y = -\frac{1}{2}x + 1$

14. $y = \frac{3}{4}x - 2$

15. $y = -2x + 16$

16. $y = \frac{1}{2}x - 5$

17. $y = 2x - 13$

18. $y = 5x + 15$

19. $y = -9$

20. $y = -\frac{3}{5}x + 16$

21. $f(x) = -3x + 4$

22. $f(x) = x + 2$

23. $f(x) = -\frac{1}{2}x$

24. $f(x) = 4$

25. $f(x) = \frac{1}{4}x + \frac{7}{4}$

26. $f(x) = -\frac{3}{2}x - \frac{7}{2}$

27. no; y does not increase at a constant rate.

28. yes, y decreases at a constant rate; $y = -3x + 7$

29. yes; y increases at a constant rate; $y = 0.2x + 1.2$

30. no; y does not decrease at a constant rate.

31. In point-slope form, the slope is multiplied by the quantity, $x - x_1$; $y - y_1 = m(x - x_1)$; $y - 4 = -3(x - 5)$; $y - 4 = -3x + 15$; $y = -3x + 19$; A function is $g(x) = -3x + 19$.

32. The coordinates substituted into the point-slope form were not from the same point; $y - 2 = \frac{1}{3}(x - 1)$ or $y - 3 = \frac{1}{3}(x - 4)$

33. **a.** $C = 80n + 145$

 b. \$865

34. **a.** yes; The total cost increases at a constant rate.

 b. \$42; \$102

 c. 11 days

35. *Sample answer:* Plot the point (4, 1), then use the slope of $\frac{3}{2}$ to find a second point on the graph and draw a line through the points; Rewrite the equation in slope-intercept form, then use the y-intercept (0, -5) and the slope of $\frac{3}{2}$ to graph the equation.

36. *Sample answer:* $y + 5 = \frac{2}{5}(x - 12)$; $y = \frac{2}{5}x - \frac{49}{5}$

37. *Sample answer:* point-slope form; The value of the y-intercept is unknown.

38. a. *Sample answer:* negative; It appears the line through the two points will extend below the x-axis before crossing the y-axis.

   b. *Sample answer:* (8, 4); $\left(4, \frac{5}{3}\right)$; Use the two points to find the slope of the line. Substitute the slope and one of the points into $y - y_1 = m(x - x_1)$. Rewrite the equation in slope-intercept form and determine the y-intercept from the rewritten equation.

31. **a.** $y = 513.5x - 298$; $r = 0.993$; strong positive correlation

b. no; The year does not determine the number of text messages sent.

c. 25.5; -128; 117.5; 50; -63.5
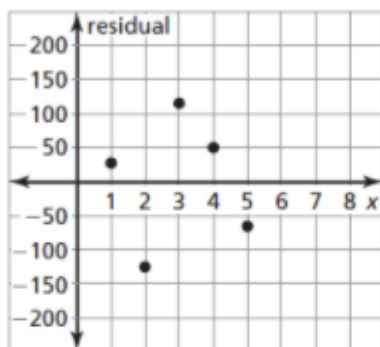
The equation $y = 513.5x - 298$ is a good fit.

d. *Sample answer:* part (a); The correlation coefficient is a single value, which is easily interpreted where as interpreting the scatter plot of the residuals is more subjective.

40. **a.** B; A

b. B; A

c. C; A

41. $\frac{1}{5}$

42. $-\frac{1}{8}$

43. $-\frac{7}{2}$

44. $\frac{2}{3}$