Algebra 1 Workbook – Chapter 5

Lesson 5.1

Practice Level B

1. $y = 7x + 4$ **2.** $y = -3x + 5$ **3.** $y = x - 6$ **4.** $y = -5x + 5$ **5.** $y = 2x - 5$ **6.** $y = \frac{3}{4}x + 3$

7. $y = -2x - 2$ **8.** $y = \frac{3}{2}x + 4$ **9.** $y = -\frac{3}{4}x + 8$ **10.** $y = 2x - 7$ **11.** $y = -5x - 3$ **12.** $y = 4x - 5$

13. $f(x) = -3x - 1$ **14.** $f(x) = -\frac{1}{2}x + 3$ **15.** $f(x) = \frac{3}{2}x + 4$

16. a. $y = 23x + 30$ **b.** independent: x, number of cubic yards ordered; dependent: y, total cost **c.** \$214 **17. a.** $y = 16x + 44$ **b.** independent: x, number of premium channels; dependent: y, total cost **c.** Substitute 80 for y in the equation and solve for x.

18. a. 0.75 min **b.** $y = \frac{1}{6}x + 0.75$ **c.** about 9 min

Lesson 5.2

Practice Level B

1. $y = 5x + 11$ **2.** $y = -2x + 23$ **3.** $y = 7x - 17$ **4.** $y = 2x - 1$ **5.** $y = \frac{1}{3}x - \frac{17}{3}$ **6.** $y = -\frac{3}{4}x - 5$

7. $y = -4x + 5$ **8.** $y = 3x + 8$ **9.** $y = -\frac{1}{2}x + 5$ **10.** $y = -\frac{2}{3}x + \frac{1}{3}$ **11.** $y = 1.2x + 3$

12. $y = -10x + 4$ **13.** $f(x) = \frac{9}{7}x - \frac{20}{7}$ **14.** $f(x) = -\frac{5}{3}x + 6$ **15.** $f(x) = -\frac{8}{5}x - \frac{38}{5}$

16. 1 car per hour; 9 cars **17. a.** 10,101.1 million dollars **b.** $y = 499.79x + 10,101.1$ **c.** 14,599.21 million dollars **18.** $y = 437.5x + 4650.5$; between 1997 and 1998

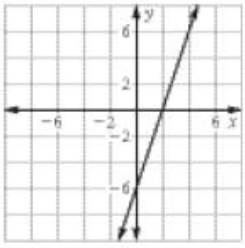
Lesson 5.3

Practice Level B

1. $y - 9 = -3(x - 1)$ **2.** $y + 10 = 2(x - 4)$ **3.** $y - 6 = 4(x + 5)$ **4.** $y + 8 = 3(x + 2)$

5. $y + 7 = -\frac{1}{2}(x + 4)$ **6.** $y - 2 = -5(x + 9)$ **7.** $y + 4 = \frac{2}{3}(x - 6)$ **8.** $y - 15 = \frac{4}{5}x$ **9.** $y = 2(x + 8)$

10.



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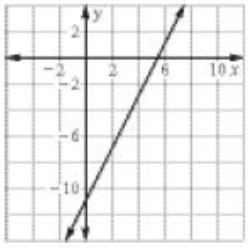

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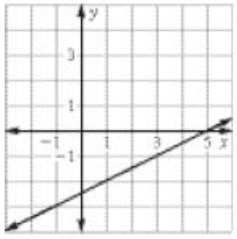

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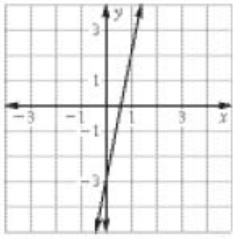

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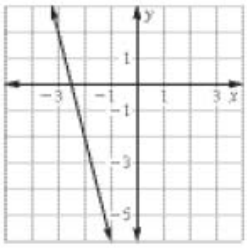

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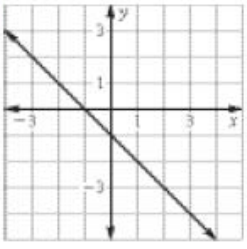

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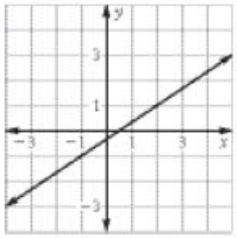

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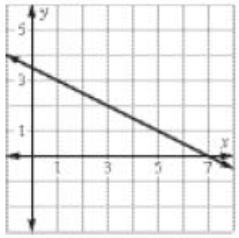
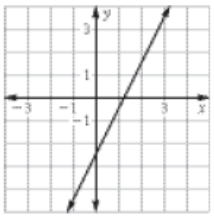


18. 

19. $y - 3 = 2(x + 2)$

22. $y - 3 = \frac{5}{3}(x - 1)$ **23.** $y = -1(x - 3)$

24. $y - 2 = -x$ **25.** $y - 4 = \frac{1}{4}(x - 9)$

20. $y - 6 = \frac{3}{4}(x - 4)$ **21.** $y + 8 = -3(x - 1)$ **26.** $y - 2 = -\frac{8}{7}(x - 4)$

27. $y + 8 = \frac{3}{2}(x - 3)$ **28.** $y + 4 = \frac{3}{2}(x + 4)$

29. a. $y - 1102.4 = 23.9(x - 10)$ **b.** 982.9 thousand visits

30. a. The slope between each pair of points is the same. **b.** $y - 0.85 = 0.25(x - 2)$ **c.** \$1.60

31. $y - 11.62 = 0.19(x - 5)$; 12.57 people per square mile

Lesson 5.4

Practice Level B

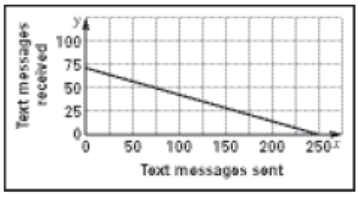
1. Answers will vary. **2.** Answers will vary. **3.** Answers will vary. **4.** Answers will vary.

5. Answers will vary. **6.** Answers will vary. **7.** $7x - y = 25$ **8.** $2x - y = 11$

9. $x - y = -8$ **10.** $3x + y = -13$ **11.** $4x + y = 26$ **12.** $x - 2y = -7$

13. $2x - y = -2$ **14.** $x - 3y = -7$ **15.** $4x + 3y = 19$ **16.** $x + 2y = -13$ **17.** $9x + 7y = -3$

18. $7x + 9y = -30$ **19.** $x = 8, y = 3$ **20.** $x = -2, y = 6$ **21.** $x = 5, y = -5$ **22. a.** $0.02x + 0.07y = 5$

b. 

x-intercept: the number of messages you can send when no messages are received; y-intercept: the number of messages you can receive when no messages are sent **c.** Answers will vary.

23. a. 1.5 lb **b.** $2x + 1.5y = 24$ **c.** Answers will vary.

Lesson 5.5

Practice Level B

1. $y - 7 = 5(x - 4)$ **2.** $y + 2 = \frac{2}{3}(x - 3)$ **7.** $y + 1 = -\frac{1}{3}(x - 1)$ **8.** $y = -\frac{3}{2}(x - 5)$

3. $y - 1 = -4(x + 6)$ **4.** $y + 5 = 6(x + 5)$ **9.** $y + 7 = 5(x - 3)$ **10.** $y - 2 = -\frac{1}{2}(x + 9)$

5. $y + 8 = -2x$ **6.** $y - 11 = \frac{1}{2}(x + 9)$ **11.** $y + 11 = -\frac{5}{2}(x - 10)$ **12.** $y + 8 = \frac{3}{8}(x + 4)$

13. Lines b and c are perpendicular. **14.** Lines a and b and lines b and c are perpendicular. Lines a and c are parallel. **15.** Lines a and b and lines b and c are perpendicular. Lines a and c are parallel.

16. a. $y = \frac{2}{3}x + 4$ **b.** $y = -\frac{4}{3}x + 4$ **c.** No. The lines for part A and part B are not perpendicular.

17. a. you: $y = \frac{1}{2}x$; your friend: $y = \frac{1}{2}x + 5$

b. you: 10 sandwiches; your friend: 15 sandwiches

c. The graphs are parallel because they have the same slope but different y-intercepts.

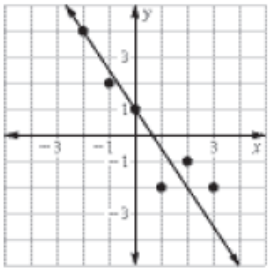
Lesson 5.6

Practice Level B

1. relatively no correlation **2.** positive correlation **3.** negative correlation

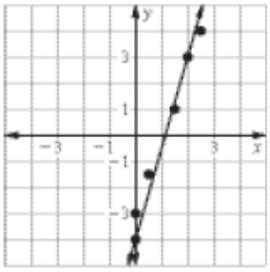
4. *Sample answer:*

$y = -\frac{3}{2}x + 1$



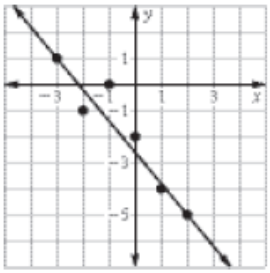
5. *Sample answer:*

$y = \frac{7}{2}x - 4$

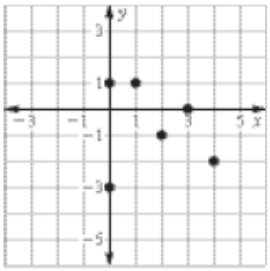


6. *Sample answer:*

$y = -1.2x - 2.6$



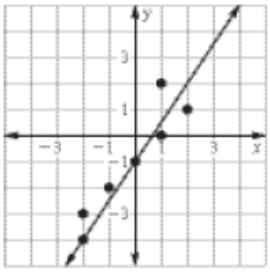
7. Answers will vary.



8. positive correlation

Sample answer:

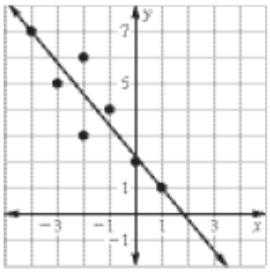
$y = \frac{3}{2}x - 1$



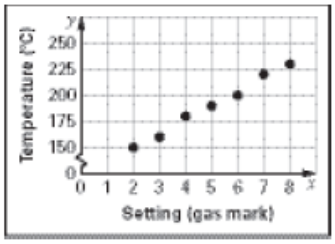
9. negative correlation

Sample answer:

$y = -1.2x + 2.2$

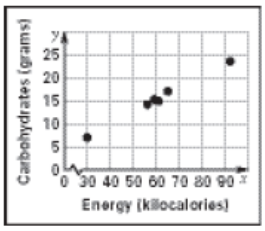


10. a.



b. positive correlation **c.** Yes; the temperature increases as the setting increases.

11. a.

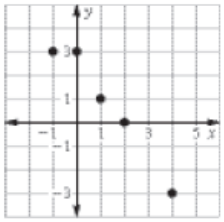


b. positive correlation **c.** No; the number of carbohydrates appears to increase as the number of kilocalories increases.

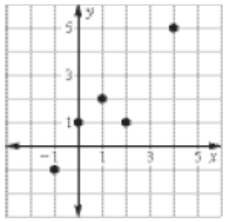
Lesson 5.7

Practice Level B

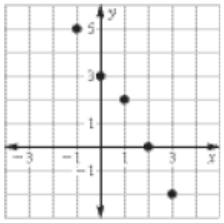
1. *Sample answer:* $y = -1.3x + 2.3$; -1.6



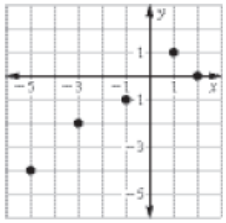
2. *Sample answer:* $y = x + 0.4$; 3.4



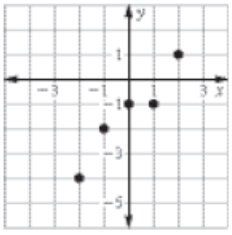
3. *Sample answer:* $y = -1.7x + 3.3$; -5.2



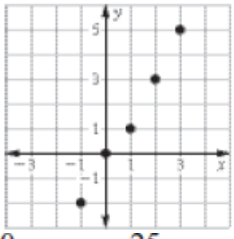
4. *Sample answer:* $y = 0.6x - 0.4$; 2.6



5. *Sample answer:* $y = 1.1x - 1.4$; 4.1

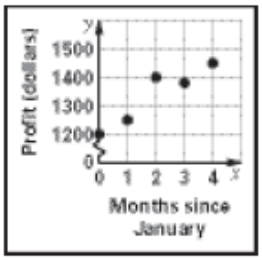


6. *Sample answer:* $y = 1.7x - 0.3$; 8.2



7. 0.25 **8.** 0.5 **9.** -10 **10.** -30 **11.** 4 **12.** 10 **13.** -2 **14.** $\frac{90}{7}$ **15.** $-\frac{25}{3}$ **16.** 12

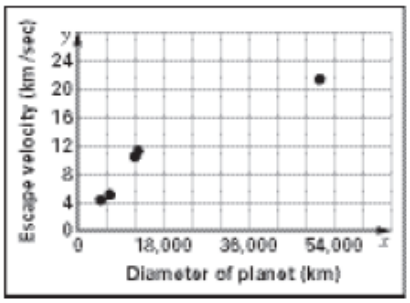
17. -10 **18.** 18.75 **19.** 4 **20.** 30 **21.** 1.2**22. a.**



b. *Sample answer:* $y = 63x + 1210$

c. *Sample answer:* $1651

23. a.



b. Answers will vary. **c.** Answers will vary.