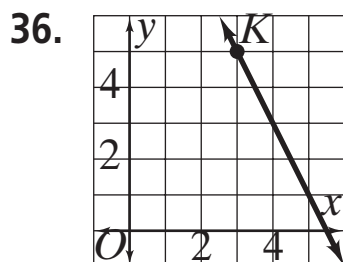
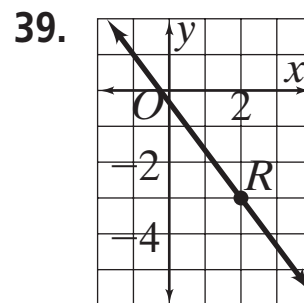
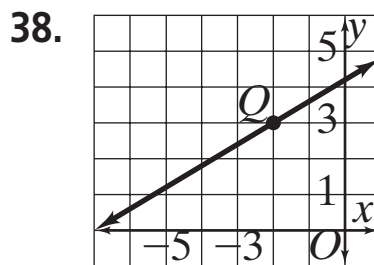
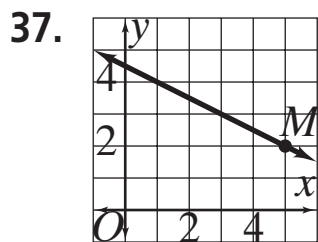


## Answers for Lesson 6-1, pp. 312–315 Exercises

1. 3; the temperature increases  $3^{\circ}\text{F}$  each hour.
2. 3.95; the cost per person is \$3.95.
3.  $-\frac{1}{15}$  gal/mi
4.  $\frac{2}{3}$ ; there are 2 lb of carbon emissions for every 3 h of television use.
5.  $-16\frac{2}{3}$ ; the skydiver descends  $16\frac{2}{3}$  ft/s.
6.  $\frac{1}{4}$ ; the cost of oregano is \$1 for 4 ounces.
7.  $\frac{1}{2}$
8.  $-3$
9.  $\frac{2}{3}$
10. 2
11. 2
12.  $\frac{3}{4}$
13.  $-\frac{3}{2}$
14.  $-1$
15.  $-1$
16.  $\frac{5}{9}$
17.  $\frac{5}{3}$
18.  $-\frac{6}{5}$
19.  $-\frac{2}{5}$
20.  $\frac{1}{2}$
21.  $-5$
22. 0
23. undefined
24. 0
25. undefined
26. undefined
27.  $\frac{9}{10}$  in./month
28. \$5/person
29. 30 mi/hr
30.  $\frac{1}{2}$
31.  $\frac{1}{6}$
32.  $\frac{1}{4}$
33.  $-20$
34. undefined
35.  $-3$



Answers for Lesson 6-1, pp. 312–315 Exercises (cont.)



40. a.  $C$   
 b.  $C$  greatest;  $A$  least; the slope

41. a.  $\frac{2}{3}$   
 b.  $\frac{2}{3}$   
 c. Answers may vary. Sample:  

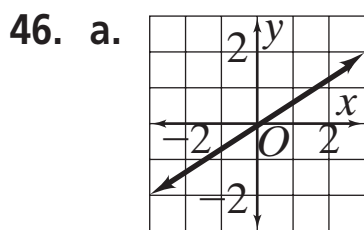
$$\frac{y_2 - y_1}{x_2 - x_1} = \frac{y_1 - y_2}{x_2 - x_1}$$

42.  $2\frac{2}{5}$ ;  $3\frac{3}{5}$

43. No; for example, the line passing through two points such as  $(1, 6)$  and  $(2, 5)$  has a slope of  $-1$ .

44.  $\overline{PQ}$ :  $\frac{1}{2}$ ;  $\overline{QR}$ :  $0$ ;  $\overline{RS}$ :  $5$ ;  $\overline{SP}$ :  $-1$

45.  $\overline{JK}$ :  $-\frac{1}{2}$ ;  $\overline{KL}$ :  $2$ ;  $\overline{ML}$ :  $-\frac{1}{2}$ ;  $\overline{MJ}$ :  $2$



- b.  $-\frac{2}{3}$       c.  $-\frac{2}{3}$       d. equal

47. a. Answers may vary. Sample:  $(0, 0)$ ,  $(1, \frac{3}{4})$

- b. Answers may vary. Sample:  $(0, 0)$ ,  $(1, -\frac{1}{2})$

48.  $0$       49.  $-6$       50.  $6$

51.  $4$       52.  $12$       53.  $3$

## Answers for Lesson 6-1, pp. 312–315 Exercises (cont.)

### 54–60. Counterexamples may vary.

54. False; it can be neg. or undefined; for instance, the rate of change for  $(2, 3)$  and  $(4, -1)$  is negative.

55. true                                      56. false;  $y = x + 2$     57. true

58. false;  $y = x$                       59. false;  $y = 0x$             60. true

61. a. 111; \$111/h            b. 56 customers per h

62. Friend found  $\frac{\text{run}}{\text{rise}}$  instead of  $\frac{\text{rise}}{\text{run}}$ .

63. 0                                      64.  $-\frac{n}{2m}$                                       65.  $\frac{2d - b}{c - 2a}$

66. Yes;  $\overleftrightarrow{AB}$  and  $\overleftrightarrow{BC}$  have the same slope.

67. Yes;  $\overleftrightarrow{GH}$  and  $\overleftrightarrow{HI}$  have the same slope.

68. No;  $\overleftrightarrow{DE}$  and  $\overleftrightarrow{EF}$  do not have the same slope.

69. No;  $\overleftrightarrow{PQ}$  and  $\overleftrightarrow{QR}$  do not have the same slope.

70. Yes;  $\overleftrightarrow{GH}$  and  $\overleftrightarrow{HI}$  have the same slope.

71. No;  $\overleftrightarrow{ST}$  and  $\overleftrightarrow{TX}$  do not have the same slope.

## Answers for Lesson 6-2, pp. 320–322 Exercises

1.  $-2; 1$

3.  $1; -\frac{5}{4}$

5.  $\frac{2}{3}; 1$

7.  $-1; -7$

9.  $-\frac{3}{4}; -5$

11.  $y = 3x + \frac{2}{9}$

13.  $y = 1$

15.  $y = -\frac{2}{3}x + 5$

17.  $y = 0.4x + 0.6$

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

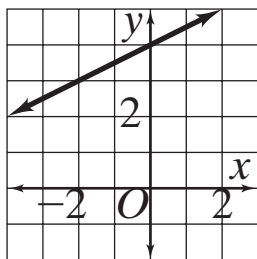
21.  $y = \frac{8}{3}x + \frac{2}{3}$

23.  $y = \frac{3}{4}x + 2$

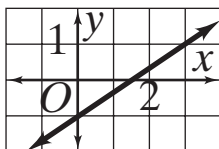
25.  $y = \frac{1}{2}x + \frac{1}{2}$

27.  $y = \frac{5}{4}x - \frac{1}{2}$

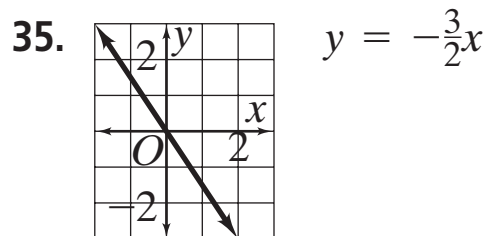
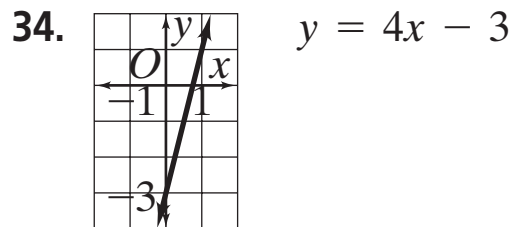
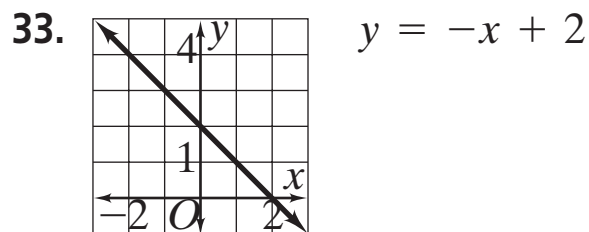
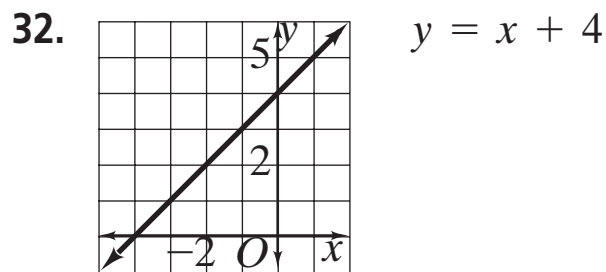
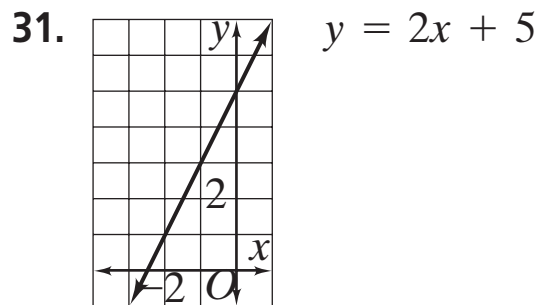
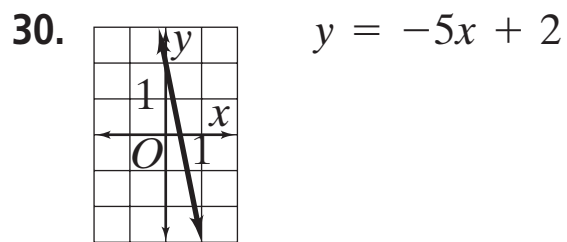
28.  $y = \frac{1}{2}x + 4$



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

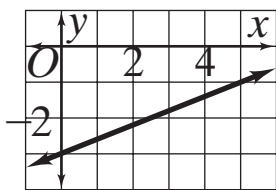


**Answers for Lesson 6-2, pp. 320–322 Exercises (cont.)**

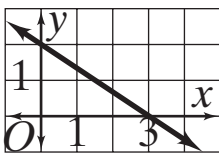


**Answers for Lesson 6-2, pp. 320–322 Exercises (cont.)**

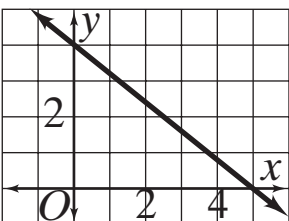
36.  $y = \frac{2}{5}x - 3$



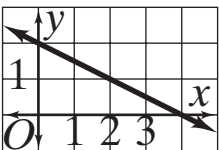
37.  $y = -\frac{2}{3}x + 2$



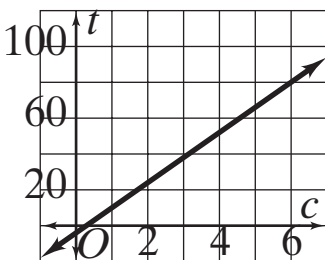
38.  $y = -\frac{4}{5}x + 4$



39.  $y = -0.5x + 2$



40. a.  $t = 14c - 4$



b. \$80

41.  $-3; 2$

42.  $-\frac{1}{2}; 0$

43.  $9; \frac{1}{2}$

44.  $3; -9$

45.  $\frac{3}{2}; 3$

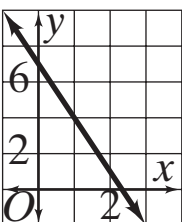
46.  $9; -15$

47.  $c; d$

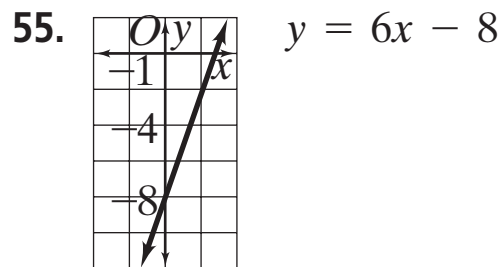
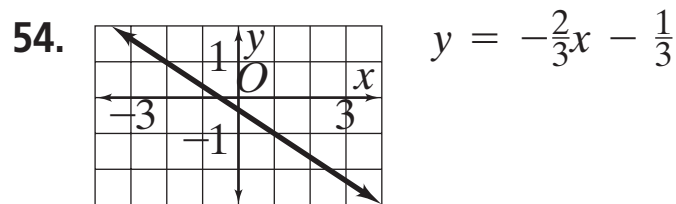
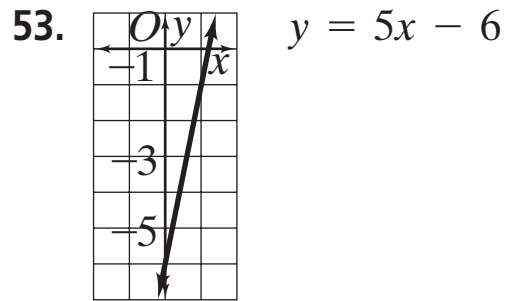
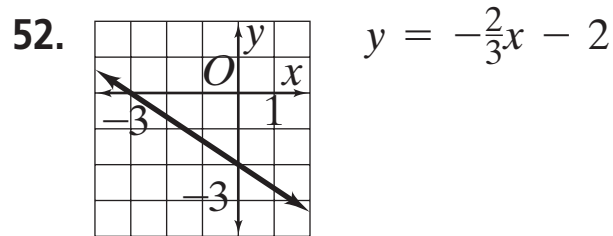
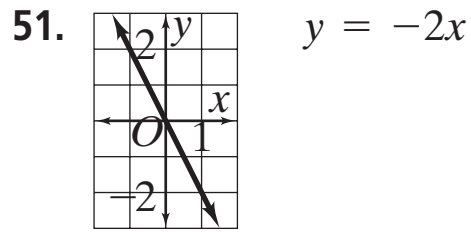
48.  $2 - a; a$

49.  $-3; -2n$

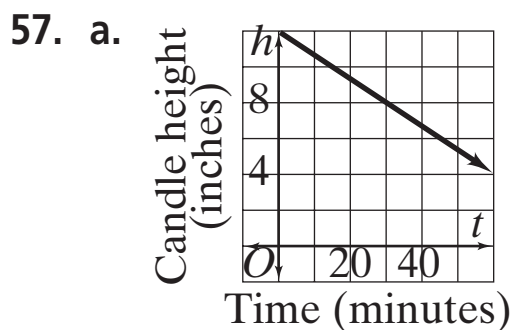
50.  $y = 7 - 3x$



**Answers for Lesson 6-2, pp. 320–322 Exercises (cont.)**



56. The slope was used for the y-int., and the y-int. was used for the slope.



b.  $h = -\frac{2}{15}t + 12$

c. 90 min

58. a. Slope represents the weight of a gallon of fuel.

b. 2662 lb

59. no

60. yes

61. no

62. C

63. a.  $t = 5d + 15$

b.

$t = 5d + 15$

c. Answers may vary. Sample: no neg. charges and no neg. number of days

64. Answers may vary. Sample: Plot point (0, 5), then move up 3 and right 4. Plot (4, 8) and connect the two points.

65. A; slope in A =  $\frac{10}{4.5} > \frac{8}{4} = 2 =$  slope in B.

66.  $y = 2x - 1$

67.  $y = -4x + 7$

68.  $y = -\frac{1}{2}x + 8$

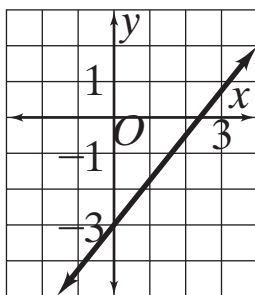
69.  $y = \frac{1}{4}x + 5$

70.  $y = -x - 3$

71.  $y = 3x - 6$



72. a–b.



c. Both; check students' work.

73. a.  $\frac{1}{4}; \frac{1}{4}$

b. 2; -2

c. same slopes

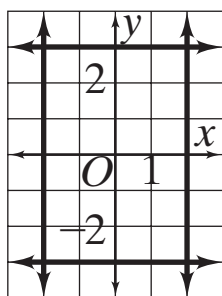
74. Check students' work.

75.  $-\frac{1}{2}$

76. -5

77.  $\frac{3}{4}$

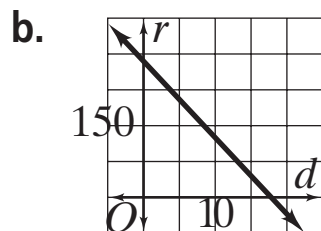
78. a.  $x = -2; x = 2$   
 $y = 3; y = -3$



b. Rectangle; check students' work.

c.  $y = \frac{3}{2}x$  OR  $y = -\frac{3}{2}x$ ; explanations may vary.

79. a.  $r = -15d + 265$

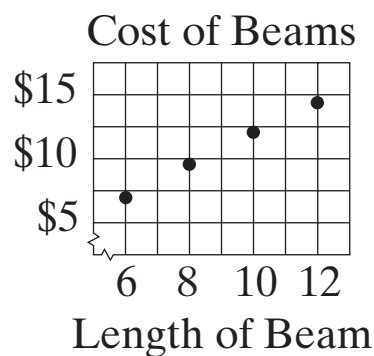


$$r = -15d + 265$$

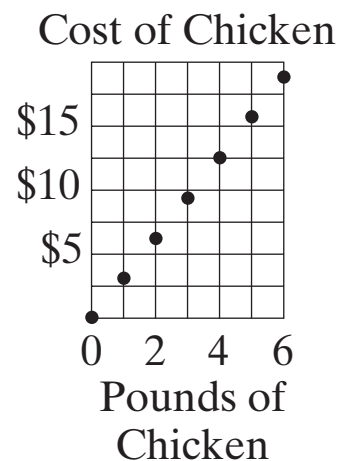
c. 18 days

## Answers for Lesson 6-3, pp. 325–327 Exercises

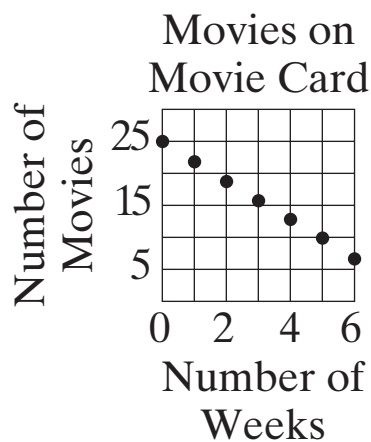
1. Relate length to cost.



2. Relate number of pounds to cost.



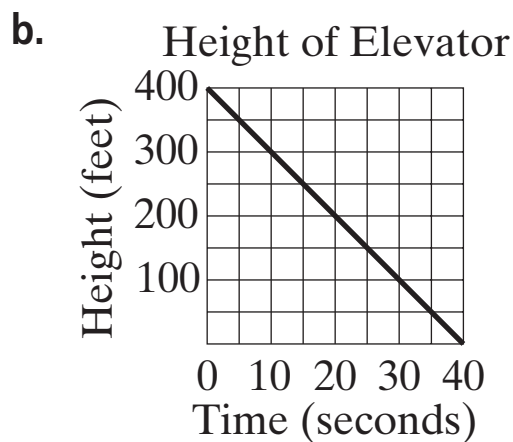
3. Relate number of movies on card to number of weeks.



4. a. The slope is 50, which means the helicopter altitude increases 50 ft/min. The  $y$ -intercept is 200, which means the roof of the building is 200 ft above ground level.
- b. A slope of 85 means the helicopter's altitude increases 85 ft/min. A  $y$ -intercept of 250 means the roof of the building is 250 ft above ground level.

## Answers for Lesson 6-3, pp. 325–327 Exercises (cont.)

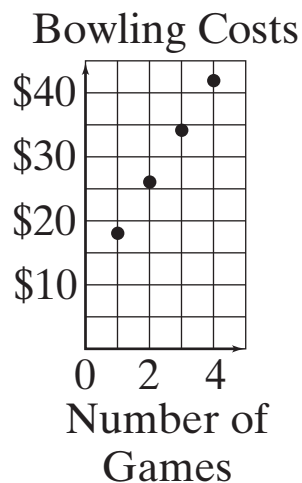
5. a. Yes, the candle burns continuously.  
b.  $h$  = height of candle in inches, and  $t$  = time in hours the candle has burned;  $h = 8 - 2t$   
c. The graph of the line would be steeper, but the  $y$ -intercept would be the same.
6. a.  $h$  = height of elevator in feet, and  $t$  = time in seconds;  
 $h = 400 - 10t$



- c. Answers may vary. Sample: If there are basement levels of the building, negatives are reasonable in the range.
7. a. Teen World. The slope of the line on the Teen World graph is less than the slope of the line on the Clothing Connection graph. This means that, for items with the same original price, the discounted price at Teen World will also be lower.  
b. Clothing Connection:  $D = 0.8p$ ; Teen World:  $D = 0.6p$   
c. \$12.80; \$9.60
8. a–b. Check students' work.
9. a. Yes; both time and distance are continuous.  
b. The line will be less steep, because the kayakers are going more slowly. Since the kayakers are headed back to camp, the slope is negative.

## Answers for Lesson 6-3, pp. 325–327 Exercises (cont.)

10. a. The equations for both direct variations and linear equations have an  $x$ -term. A direct variation has no constant term, which means its graph must go through  $(0, 0)$ . Some linear functions like  $y = 2x + 0$  are direct variations, but many like  $y = 2x + 3$  are not.
- b. Answers may vary. Sample: Altitude of skier coming down a mountain.
11. C
12. a.  $d = 7e$
- b. 84 dog years
13. a.  $C = 4(2.5 + 2g)$



- b. domain: natural numbers; range: 10 plus multiples of 8
14. a.  $h = \frac{2}{3}m + 21.5$
- b. 12 ft
- c. The linear model is not a good model for this situation.

## Answers for Lesson 6-4, pp. 333–334 Exercises

1. 18; 9

2. 3; -9

3. -6; 30

4.  $\frac{3}{2}$ ; -3

5.  $-\frac{9}{2}$ ;  $-\frac{3}{2}$

6. -8; 12

7. 6; 4

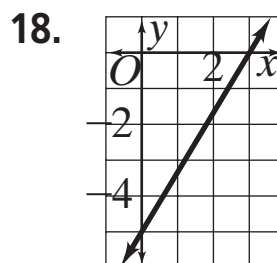
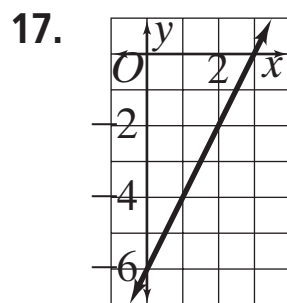
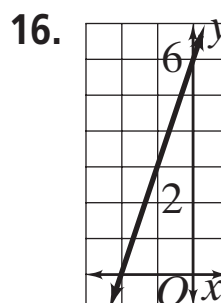
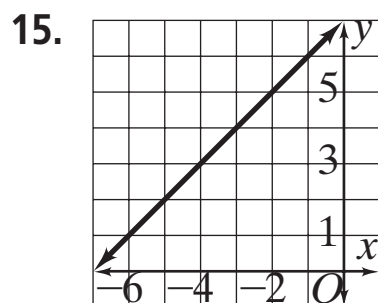
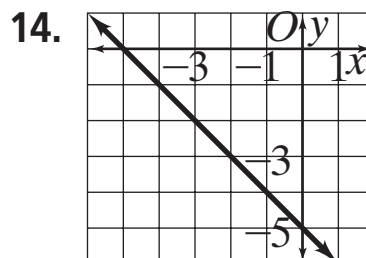
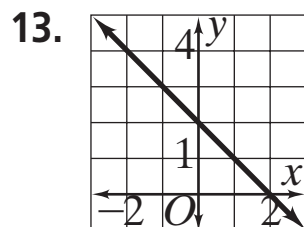
8.  $\frac{4}{7}$ ; -2

9. -5; 4

10. B

11. C

12. A

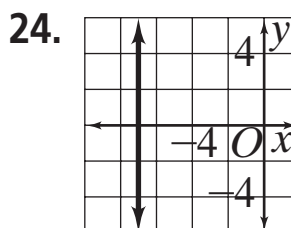
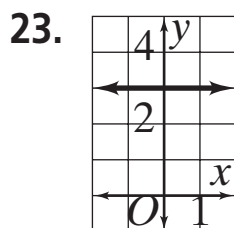


19. horizontal

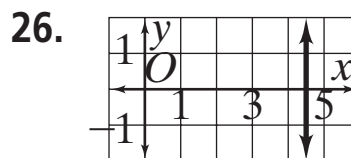
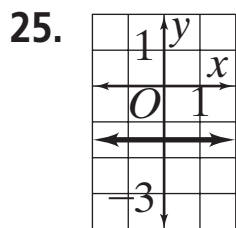
20. vertical

21. horizontal

22. vertical



**Answers for Lesson 6-4, pp. 333–334 Exercises (cont.)**



27.  $-3x + y = 1$

28.  $4x - y = 7$

29.  $x - 2y = 6$

30.  $-2x + 3y = 15$

31.  $-3x - 4y = 16$

32.  $-4x - 5y = 35$

33.  $-14x + 4y = 1$

34.  $4x + 10y = 1$

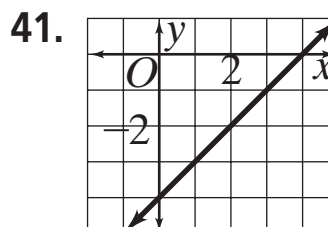
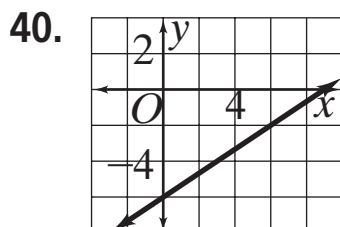
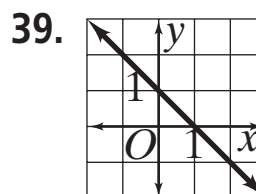
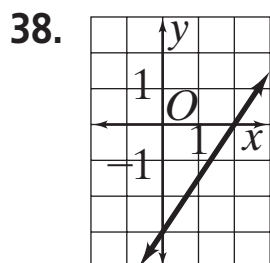
35.  $3x + y = 0$

36. a. Answers may vary. Sample:  $x$  = no. of cars;  
 $y$  = no. of vans or trucks

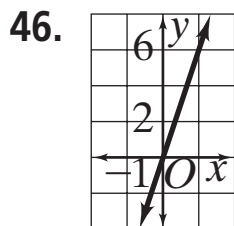
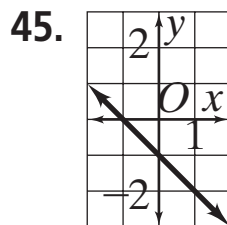
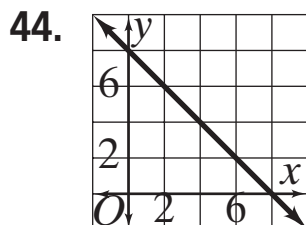
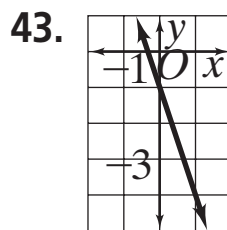
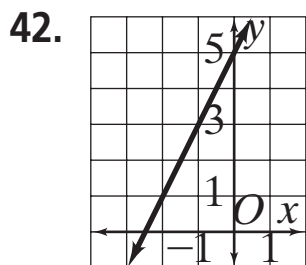
b.  $5x + 6.5y = 800$

37. a. Answers may vary. Sample:  $x$  = time walking;  
 $y$  = time running

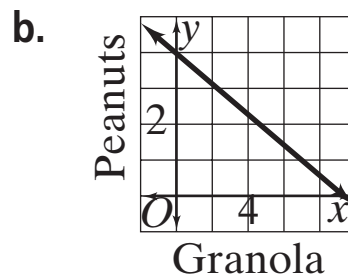
b.  $3x + 8y = 15$



Answers for Lesson 6-4, pp. 333–334 Exercises (cont.)



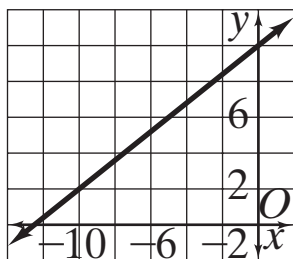
47. a.  $3x + 7y = 28$



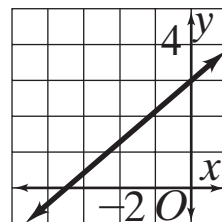
7 oz

48.  $4.29x + 3.99y = 30$

49.  $y = \frac{4}{5}x + 10$

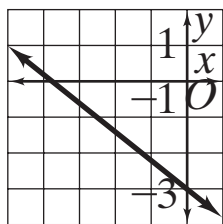


50.  $y = \frac{6}{7}x + 3$

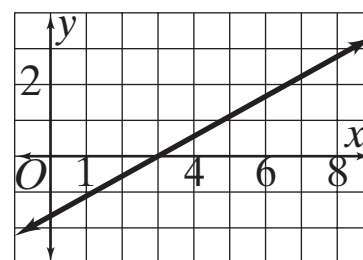


**Answers for Lesson 6-4, pp. 333–334 Exercises (cont.)**

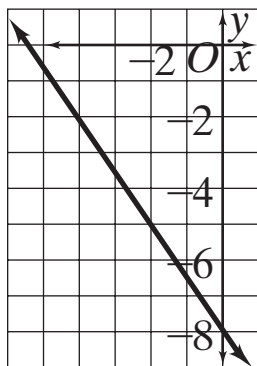
51.  $y = -\frac{4}{5}x - 3$



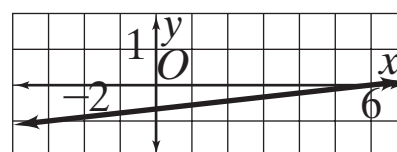
52.  $y = \frac{5}{9}x - \frac{5}{3}$



53.  $y = -\frac{16}{11}x - 8$



54.  $y = \frac{1}{9}x - \frac{2}{3}$

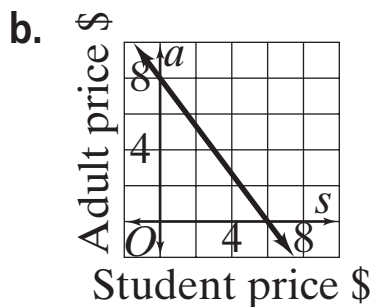


55. Answers may vary. Sample: slope-intercept form when comparing the steepness of two lines; standard form when making quick graphs
56. Answers may vary. Sample:  $0x + 0y = 0$ , no linear equation exists.
57.  $-3x$  instead of  $3x$
58.  $y = 2$
59.  $y = -2$
60.  $x = 1$
61.  $x = -2$



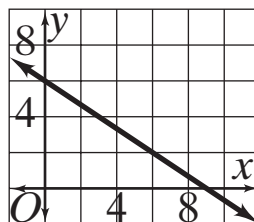
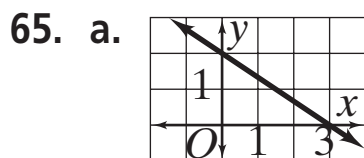
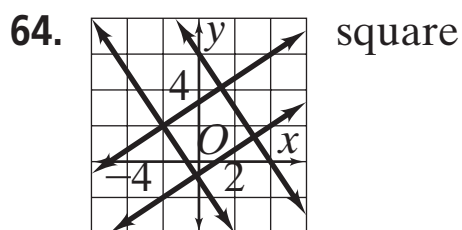
**Answers for Lesson 6-4, pp. 333–334 Exercises (cont.)**

62. a.  $200s + 150a = 1200$



Answers may vary. Sample:  
 $s = \$3.00, a = \$4.00;$   
 $s = \$3.60, a = \$3.20;$   
 $s = \$4.50, a = \$2.00$   
 $s = \$3.00$  and  
 $a = \$4.00$  because they are whole dollar amounts, and adults pay more.

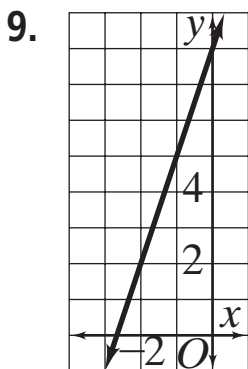
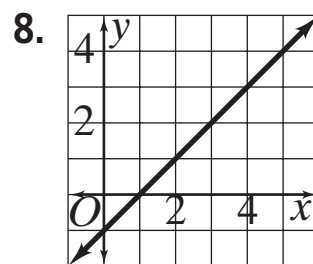
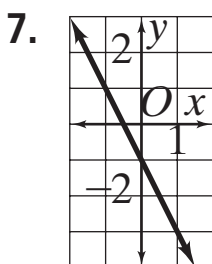
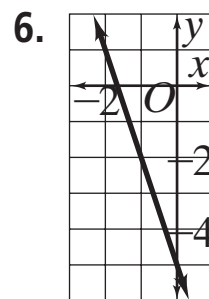
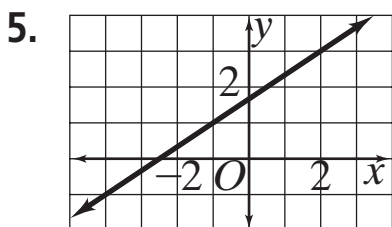
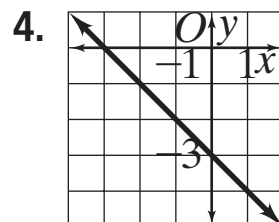
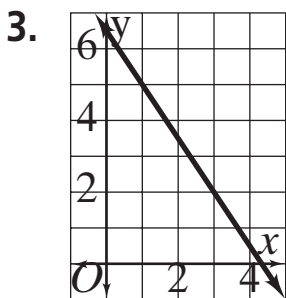
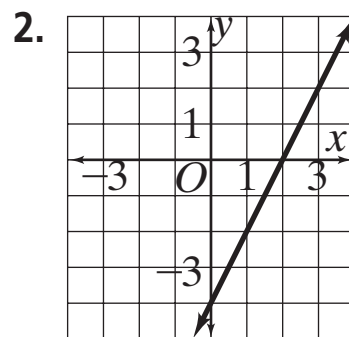
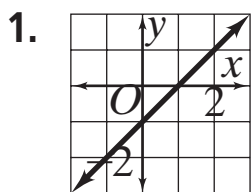
63.  $y = \frac{3}{5}x + 4$



b.  $-\frac{2}{3}; -\frac{2}{3}$

c. Answers may vary. Sample: The  $x$ - and  $y$ -intercepts of  $2x + 3y = 18$  are 3 times those of  $2x + 3y = 6$ .

Answers for Lesson 6-5, pp. 339–341 Exercises



10.  $y + 4 = 6(x - 3)$

11.  $y - 2 = -\frac{5}{3}(x - 4)$

12.  $y - 2 = \frac{4}{5}(x)$

**Answers for Lesson 6-5, pp. 339–341 Exercises (cont.)**

13.  $y + 7 = -\frac{3}{2}(x + 2)$

14.  $y = 1(x - 4)$

15.  $y + 8 = -3(x - 5)$

16.  $y - 2 = 0(x + 5)$  or  $y = 2$

17.  $y + 8 = -\frac{1}{5}(x - 1)$

18.  $y - 1 = \frac{2}{3}(x + 6)$

**19–30. Answers may vary for the point indicated by the equation.**

19.  $y = 1(x + 1); y = x + 1$

20.  $y - 5 = \frac{5}{3}(x - 3); y = \frac{5}{3}x$

21.  $y + 2 = -\frac{6}{5}(x - 4); y = -\frac{6}{5}x + \frac{14}{5}$

22.  $y + 4 = -1(x - 6); y = -x + 2$

23.  $y + 5 = \frac{1}{6}(x + 1); y = \frac{1}{6}x - \frac{29}{6}$

24.  $y + 4 = \frac{1}{3}(x + 3); y = \frac{1}{3}x - 3$

25.  $y - 7 = 11(x - 2); y = 11x - 15$

26.  $y - 6 = -\frac{5}{7}(x + 2); y = -\frac{5}{7}x + 4\frac{4}{7}$

27.  $y + 8 = -\frac{13}{5}(x - 3); y = -\frac{13}{5}x - \frac{1}{5}$

28.  $y - \frac{1}{2} = \frac{3}{4}(x - 1); y = \frac{3}{4}x - \frac{1}{4}$

29.  $y - 2 = -1(x - \frac{1}{2}); y = -x + \frac{5}{2}$

30.  $y - 1.1 = \frac{1.9}{6.8}(x - 0.2); y = \frac{1.9}{6.8}x + \frac{7.1}{6.8}$

31. Yes; answers may vary. Sample:  $y - 9 = -2(x + 4)$

32. Yes; answers may vary. Sample:  $y - 40 = 3(x - 5)$

33. no

34. Yes; answers may vary. Sample:  $y - 75 = 10(x - 10)$

35. no

**Answers for Lesson 6-5, pp. 339–341 Exercises (cont.)**

**36–53. Answers may vary for point indicated by the equation.**

36.  $y - 2 = \frac{3}{4}(x - 1)$

37.  $y + 3 = \frac{2}{5}(x - 1)$

38.  $y = -\frac{5}{7}(x - 5)$

39.  $y - 4 = \frac{3}{2}(x - 1); -3x + 2y = 5$

40.  $y + 3 = 0(x - 6); y = -3$

41.  $y + 2 = 2(x + 1); -2x + y = 0$

42.  $y - 2 = 0(x - 0); y = 2$

43.  $y - 6 = -\frac{1}{3}(x + 6); x + 3y = 12$

44.  $y - 3 = -\frac{2}{3}(x - 2); 2x + 3y = 13$

45.  $y + 3 = -\frac{7}{2}(x - 5); 7x + 2y = 29$

46.  $y - 2 = -\frac{5}{3}(x - 2); 5x + 3y = 16$

47.  $y - 1 = -\frac{1}{6}(x + 7); x + 6y = -1$

48.  $y - 4 = -\frac{3}{2}(x + 8); 3x + 2y = -16$

49.  $y - 4 = 2(x - 2); -2x + y = 0$

50.  $y - 3 = -2(x - 5); 2x + y = 13$

51.  $y - 1 = \frac{1}{3}x; -x + 3y = 3$

52.  $y - 4 = -\frac{9}{2}(x + 2); 9x + 2y = -10$

53.  $y - 2 = \frac{3}{5}(x - 6); -3x + 5y = -8$

54. a.  $y = -\frac{1}{33}x + 1$

b. about 4 atmospheres

55.  $y = -2.6x + 315.6$

**Answers for Lesson 6-5, pp. 339–341 Exercises (cont.)**

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56. a. Answers may vary. Sample:  $y + 6 = 2(x + 4)$ ;  
chose slope and substituted into  $y - y_1 = m(x - x_1)$   
b. Infinitely many; any real number can be used for the  
slope.
57. y-intercept changes from  $-4$  to  $4$
58. Yes; the point satisfies the equation.
59. Answers may vary. Sample:  
a.  $y = x + 1$   
b.  $-x + y = 1$   
c.  $y - 1 = 1(x - 0)$
60. Answers may vary. Sample:  
a.  $y - 332 = \frac{3}{5}(x - 0)$   
b.  $341$  m/s  
c.  $368$  m/s
61.  $y = 7x + 16$
62.  $y = 3$
63.  $y = \frac{2}{5}x - \frac{14}{5}$
64. a.  $14.75$   
b.  $57.5$   
c.  $-4$   
d.  $100$

**Answers for Lesson 6-6, pp. 346–348 Exercises**

1.  $\frac{1}{2}$                       2.  $-\frac{2}{3}$                       3. 1  
4. 0                              5.  $-\frac{3}{4}$                       6. 7  
7. no, different slopes  
8. yes, same slopes and different  $y$ -intercepts  
9. yes, same slopes and different  $y$ -intercepts  
10. no, different slopes  
11. yes, same slopes and different  $y$ -intercepts  
12. yes, same slopes and different  $y$ -intercepts  
13.  $y = 6x$                       14.  $y = -3x + 9$                       15.  $y = -2x - 1$   
16.  $y = -\frac{7}{2}x - 20$                       17.  $y = 0.5x - 9$                       18.  $y = -\frac{2}{3}x + \frac{1}{3}$   
19.  $-\frac{1}{2}$                               20.  $\frac{1}{3}$                               21.  $-\frac{5}{7}$   
22. 5                                23.  $\frac{3}{2}$                               24. undefined  
25.  $y = -\frac{1}{2}x$                       26.  $y = -x + 10$                       27.  $y = 3x - 10$   
28.  $y = \frac{5}{3}x + \frac{11}{3}$                       29.  $y = -\frac{4}{5}x + 24$                       30.  $y = -\frac{1}{2}x + 2$   
31.  $y = \frac{5}{4}x + 1$                       32. perpendicular                      33. parallel  
34. perpendicular                      35. neither                              36. parallel  
37. perpendicular                      38. parallel                              39. neither  
40. C  
41.  $y = -\frac{4}{5}x - \frac{19}{5}$ ;  $y = -\frac{4}{5}x + \frac{3}{5}$   
42.  $y = \frac{1}{3}x + \frac{4}{3}$ ;  $y = -3x + 7$   
43.  $y = -\frac{1}{2}x$ ;  $y = 2x$   
44.  $y = \frac{2}{5}x + \frac{3}{5}$ ;  $y = \frac{2}{5}x - \frac{21}{5}$   
45.  $y = 4$ ;  $y = 2$

## Answers for Lesson 6-6, pp. 346–349 Exercises (cont.)

46.  $y = x; y = -x + 1$
47. about  $\frac{5}{4}$
48. Answers may vary. Sample: same slope of  $-\frac{1}{2}$
49. Answers may vary. Sample:  $\frac{5}{4} \cdot -\frac{1}{2} \neq -1$
50. a. The units on the axes are different, so the screen is not square.  
b. The lines appear perpendicular.
51. Answers may vary. Sample:  $y = 4x + 1$
52. No; the slopes are not equal.
53. No; the slopes are not neg. reciprocals.
54. yes; same slopes and different  $y$ -intercepts
55. False; the product of two positive numbers can't be  $-1$ .
56. True;  $y = x + 2$  and  $y = x + 3$  are parallel.
57. False; all direct variations go through the point  $(0, 0)$ . If they have the same slope, they are the same line, not parallel lines.
58. The slopes of  $\overleftrightarrow{AD}$  and  $\overleftrightarrow{BC}$  are both undefined, so they are parallel. The slopes of  $\overleftrightarrow{AB}$  and  $\overleftrightarrow{CD}$  are both  $\frac{2}{5}$ , so they are parallel. The quadrilateral is a parallelogram.
59. The slope of  $\overleftrightarrow{JK}$  is  $\frac{1}{5}$ . The slope of  $\overleftrightarrow{KL}$  is  $-2$ . The slope of  $\overleftrightarrow{LM}$  is  $\frac{1}{6}$ . The slope of  $\overleftrightarrow{JM}$  is  $-4$ . The quadrilateral is not a parallelogram.
60. The slopes of  $\overleftrightarrow{PQ}$  and  $\overleftrightarrow{RS}$  are both  $-\frac{1}{2}$ . The slopes of  $\overleftrightarrow{QR}$  and  $\overleftrightarrow{SP}$  are both  $-\frac{3}{2}$ . The quadrilateral is a parallelogram.

**Answers for Lesson 6-6, pp. 346–348 Exercises (cont.)**

61. The slopes of  $\overleftrightarrow{AB}$  and  $\overleftrightarrow{CD}$  are both  $\frac{2}{5}$ . The slopes of  $\overleftrightarrow{BC}$  and  $\overleftrightarrow{AD}$  are both  $-\frac{5}{2}$ . The product is  $-1$ , so the quadrilateral is a rectangle.
62. The slopes of  $\overleftrightarrow{KL}$  and  $\overleftrightarrow{MN}$  are both  $-\frac{1}{6}$ . The slopes of  $\overleftrightarrow{LM}$  and  $\overleftrightarrow{KN}$  are both  $5$ . The product is not  $-1$ , so the quadrilateral is not a rectangle.
63. The slopes of  $\overleftrightarrow{PQ}$  and  $\overleftrightarrow{RS}$  are both  $\frac{1}{2}$ . The slopes of  $\overleftrightarrow{PS}$  and  $\overleftrightarrow{QR}$  are both  $-2$ . The product is  $-1$ , so the quadrilateral is a rectangle.
64.  $\overleftrightarrow{BC}$  and  $\overleftrightarrow{AD}$  both have a slope of zero.  $\overleftrightarrow{BC}$  and  $\overleftrightarrow{AD}$  are parallel.  $\overleftrightarrow{AB}$  and  $\overleftrightarrow{CD}$  both have a slope of  $\frac{4}{3}$ .  $\overleftrightarrow{AB}$  and  $\overleftrightarrow{CD}$  are parallel. The diagonal  $\overleftrightarrow{BD}$  has a slope of  $-2$ . The diagonal  $\overleftrightarrow{AC}$  has a slope of  $\frac{1}{2}$ . The diagonals are perpendicular.  
 $\square ABCD$  is a rhombus.
65.  $\overleftrightarrow{RP}$  has a slope of  $\frac{2}{3}$ .  $\overleftrightarrow{RQ}$  has a slope of  $-\frac{3}{2}$ .  $\overleftrightarrow{RP}$  is the neg. reciprocal of  $\overleftrightarrow{RQ}$ , so  $\triangle PQR$  is a right triangle.
66. parallel
67. perpendicular
68.  $y = -\frac{3}{8}x - \frac{17}{8}$ ;  $y = \frac{8}{3}x + 7$
69.  $y = \frac{1}{2}x - 3$ ;  $y = -2x + 7$
70.  $-1.5$ ;  $24$



1–6. Trend lines may vary. Samples given.

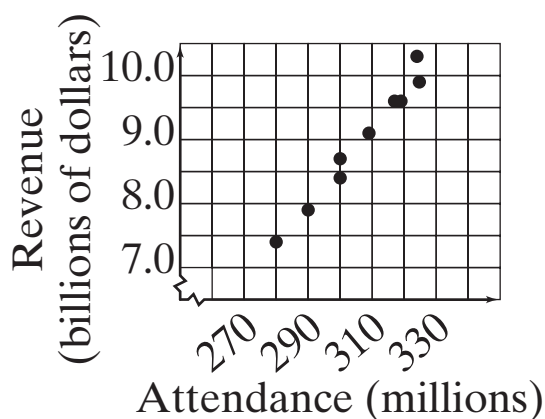
1.  $y - 52.5 = 2(x - 91)$

2.  $y - 100 = 15.71(x - 5)$

3.  $y - 16.4 = 0.64(x - 69.9)$

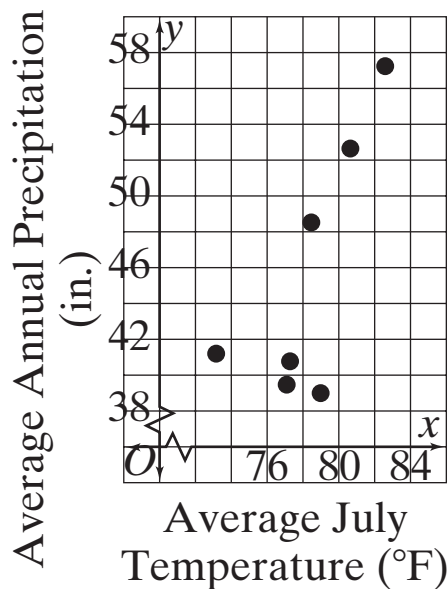
4.  $y - 85 = -15.25(x - 1)$

5.



$y - 7.5 = 0.06(x - 280)$

6.



$y = 1.6x - 80; 40 \text{ in.}$

7.  $y = -1.06x + 92.31; -0.970$

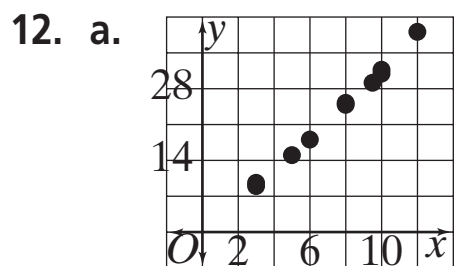
8.  $y = 10.60x - 772.66; 0.991$

9.  $y = -1.63x + 556.76; -0.725$

10.  $y = 2.64x + 70.51; 0.990$

**Answers for Lesson 6-7, pp. 352–355 Exercises (cont.)**

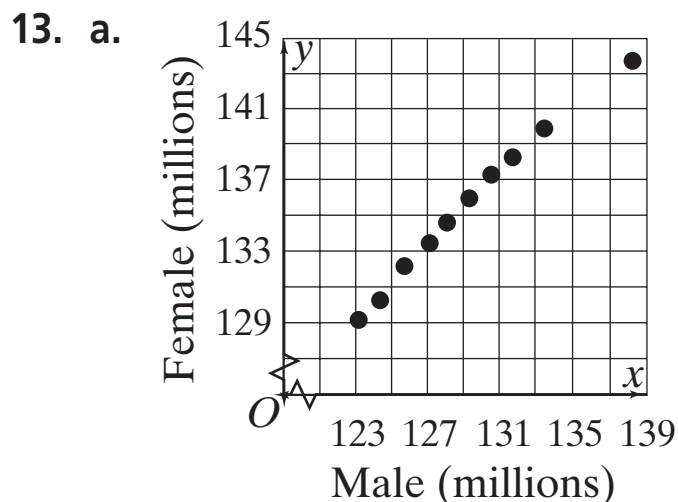
11.  $y = 1.35x - 31.42$ ; 1.000



b. Answers may vary. Sample:  $y = 3.25x - 1$

c. Answers may vary. Sample: The slope is the approximate ratio of the circumference to the diameter.

d. about 14 cm



b. Answers may vary. Sample:  
 $y = 0.939x + 13.8$

c. 154,650,000

d. Answers may vary. Sample: No, the year is too far in the future.

14. a. Check students' work.

b. 1

15. Answers may vary. Sample: pos. slope; as temp. increases, more students are absent.

**Answers for Lesson 6-7, pp. 352–355 Exercises (cont.)**

16. a.  $y = 0.61x + 35.31$

b. Answers may vary. Sample: No; small set of data with weak correlation

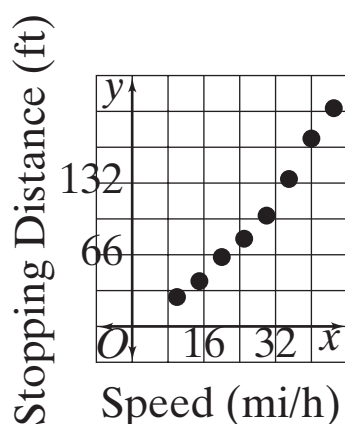
17.  $y = 0.37x - 28.66$ ; \$12.04 billion

18. a–d. Check students' work.

19. a. (2, 3) and (6, 6);  
 $y = 0.75x + 1.5$

b.  $y = 0.75x + 1.21$

20. a.  $y = 4.82x - 29.65$

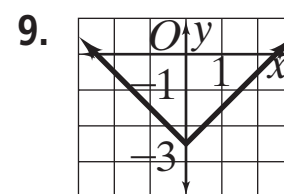
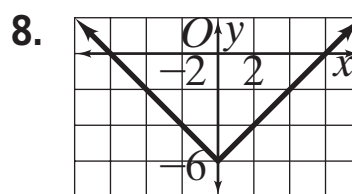
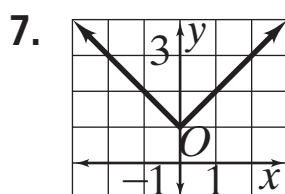
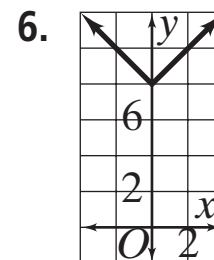
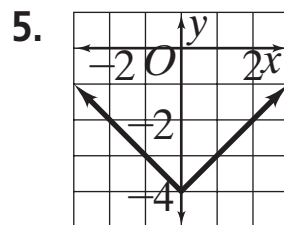
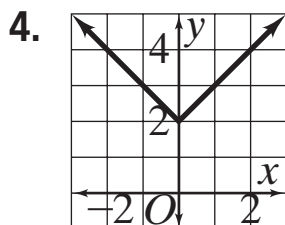


b. 404 ft

c. The speed is much faster than those speeds used to find the equation of a trend line.

## Answers for Lesson 6-8, pp. 361–363 Exercises

- Answers may vary. Sample: same shape, shifted 3 units up
- Answers may vary. Sample: same shape, shifted 3 units down
- Answers may vary. Sample: same shape, shifted 7 units down



10.  $y = |x| + 9$

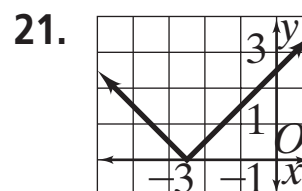
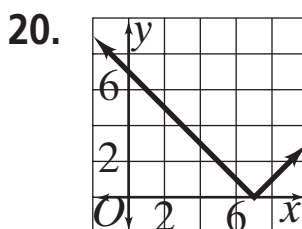
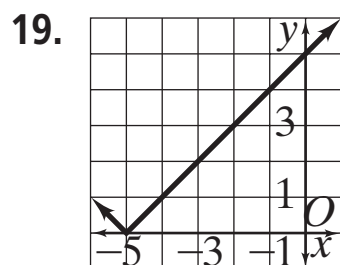
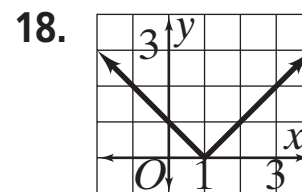
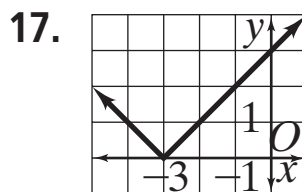
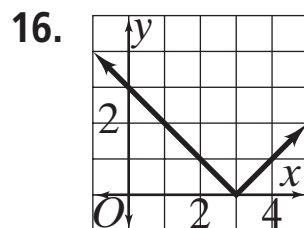
11.  $y = |x| - 6$

12.  $y = |x| + 0.25$

13.  $y = |x| + \frac{5}{2}$

14.  $y = |x| + 5.90$

15.  $y = |x| - 1$



22.  $y = |x + 9|$

23.  $y = |x - 9|$

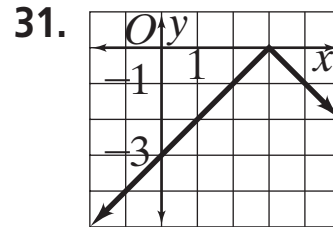
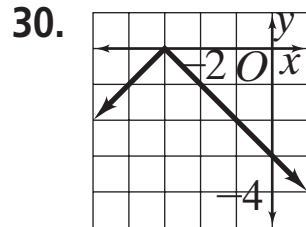
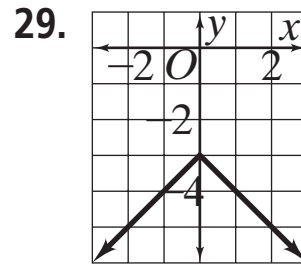
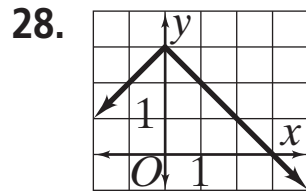
24.  $y = |x - \frac{5}{2}|$

25.  $y = |x + \frac{3}{2}|$

26.  $y = |x + 0.5|$

27.  $y = |x - 8.2|$

Answers for Lesson 6-8, pp. 361–363 Exercises (cont.)



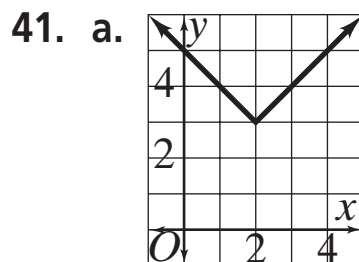
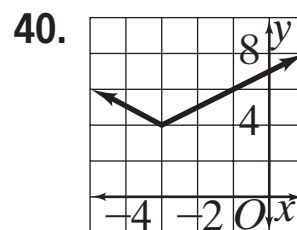
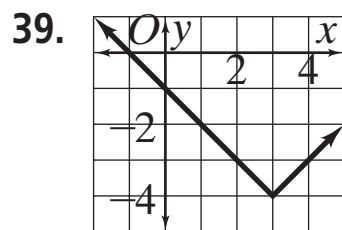
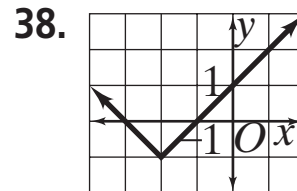
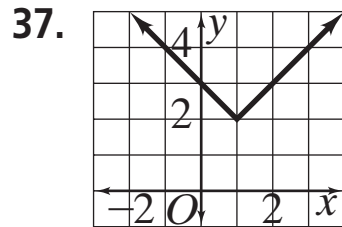
32.  $y = -|x| + 2$

33.  $y = -|x + 2.25|$

34.  $y = -|x| - \frac{3}{2}$

35.  $y = -|x - 4|$

36. B

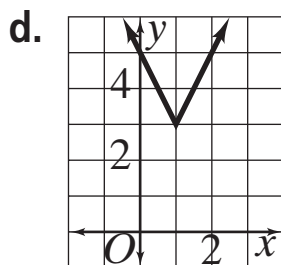
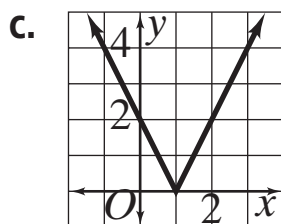
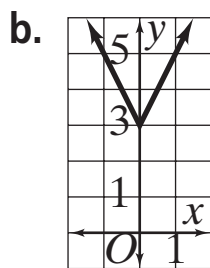
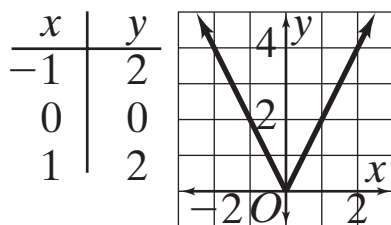


b. (2, 3)

**Answers for Lesson 6-8, pp. 361–363 Exercises (cont.)**

- c. Answers may vary. Sample: The  $x$ -coordinate is the horizontal translation, and the  $y$ -coordinate is the vertical translation.
- d. Use  $(a, b)$  for the vertex. Graph part of  $y = x$  and part of  $y = -x$  above the vertex.

42. a. Tables may vary. Sample:



43. a.  $y = |x|$ ;  $y = 1$
- b. -1 and 1
- c.  $y = -\frac{1}{2}x$  or  $y = -\frac{1}{2}x + 2$