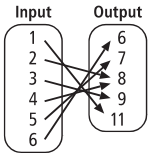
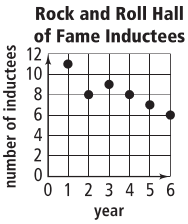
Algebra 2
Lesson 2-1 - Practice and Problem-Solving Exercises Answers

8a. Let 1 = 2001, 2 = 2002, 3 = 2003, 4 = 2004, 5 = 2005, and 6 = 2006.



8b. $\{(1, 11), (2, 8), (3, 9), (4, 8), (5, 7), (6, 6)\}$

8c.



9. domain: $\{1, 2, 3, 4, 5, 6\}$
range: $\{6, 7, 8, 9, 11\}$

10. No

11. Yes

12. No

13. Yes

14. No

15. yes

16. yes

17. 71; $(4, 71)$

18. 3; $(-5, 3)$

19. −15; $(9, -15)$

20. −65; $(7, -65)$

21. −2; $(3, -2)$

22. $\frac{12}{5}$; $\left(-1, \frac{12}{5}\right)$

23. −132; $(-11, -132)$

24. $-\frac{5}{2}$; $\left(9, -\frac{5}{2}\right)$

25. $C(m) = 0.12m + 4.52$; \$34.52

26. $C(m) = 0.18m + 3.12$; \$34.62

27. 13.5 cm^2

28. $S(h) = 2lw + 2lh + 2wh$; 136 in.^{2}

29. domain: all real numbers; range: $y \geq 0$; Yes

30. domain: $-3 \leq x \leq 3$; range: $-1 \leq y \leq 1$; No

31. ≈ 4849 cm^3

32a. $C(m) = 18 + 0.32m$

32b. $C(m) = 12 + 0.36m$

32c. Proxy

33a. 109.4°F

33b. 10.4°F

33c. −11.1°C

33d. −7.2°C

34a. into

34b. into

34c. onto

34d. into

35. $f(x)-g(x)=\left(3x-21\right)-\left(3x+21\right)$
$=3x-21+3x-21$
$=-42$

36. Yes; each nonzero x is paired with a unique y.

37. No; each $x>\frac{7}{3}$ is paired with two y values.

38. Yes, each x is paired with a unique y.

39a. Yes

39b. No, 6 would be paired with both 2.5 and 3.

40. B

41. H

42. C

43. $1.9, \sqrt{3}, \frac{5}{4}, -1.2$

44. $\frac{2}{3}, -\frac{20}{3}$

45. $-13, 15$

46. $x>-3$

47. $x\le\frac{3}{2}$

48. $-\frac{3}{2}<x<\frac{3}{2}$

49. $x\ge-3$

50. $\frac{1}{4}x$

51. $-\frac{1}{2}x$

52. $20x$

Algebra 2
Lesson 2-2 - Practice and Problem-Solving Exercises Answers

7. yes, 7, $y = 7x$

8. yes, $\frac{1}{3}$, $y = \frac{1}{3}x$

9. no

10. no

11. Yes, 12

12. Yes, 6

13. yes, -2

14. no

15. no

16. yes, -5

17. yes, 6

18. no

19. -3

20. 4

21. $\frac{6}{7}$

22. $\frac{3}{5}$

23. 21

24. 10

25. 4 min.

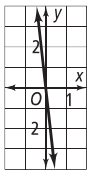
26. 13.5 min.

27.

x	y
−1	3
1	−3
2	−6

28.

x	y
−1	9
1	−9
2	−18



29.

x	y
−1	−1
1	1
2	2

30. no

31. yes, $k = \frac{2}{3}$, $y = \frac{2}{3}x$

32. no

33. no

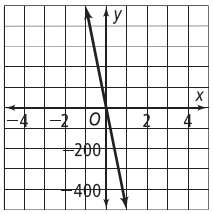
34. 49.4 cents

35. $y = 2x$

36. $y = \frac{7}{3}x$

37. $y = -4.5x$

38. $y = -500x$



39. $y = \frac{3}{5}x$

40. $y = -\frac{x}{9}$

41. $y = \frac{2}{7}x$

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

43. 0.625

44. 4.5

45. 0.225

46. –0.96

47. Every direct variation includes the point $(0, 0)$, so x cannot be determined because k could be any value. Also, the exercise does not state that y varies directly with x.

48. Answers may vary. Sample:
$y = 0.5x$

49. Answers may vary. Sample:
$y = 3.2x$

50. Answers may vary. Sample:
$y = -\frac{3}{4}x$

51. Answers may vary. Sample:
If y varies directly with x^2, and $y = 2$ when $x = 4$, then $y = \frac{81}{8}$ when $x = 9$.

52. About 20 strokes

53. Answers may vary. Sample:
No; the line $y = 0$ passes through the origin, but is not a direct variation.

54. If x is doubled, y is doubled.
In a direct variation, $y = kx$, so if x is doubled, $y = k(2x)$, or twice the original value of y.

55. y is divided by 7; In a direct variation, $y = kx$, so if x is divided by 7, $y = k\left(\frac{x}{7}\right)$, or $\frac{1}{7}$ the original value of y.

56a. $\frac{1}{2}$

56b. 32

56c. $z = kxy$, and $x = k_1 w$, so $z = kk_1 wy$, and z varies jointly with w and y.

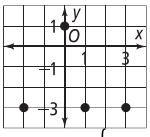
57. 1091

58. 1

59. 0

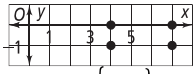
60. 21

61. -5

62. 

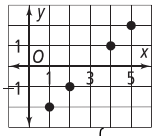
domain: $\{-2, 0, 1, 3\}$

range: $\{-3, 1\}$

63. 

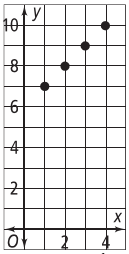
domain: $\{4, 7\}$

range: $\{-1, 0\}$

64. 

domain: $\{1, 2, 4, 5\}$

range: $\{-2, -1, 1, 2\}$

65. 

domain: $\{1, 2, 3, 4\}$

range: $\{7, 8, 9, 10\}$

66. $8n$; 40, 48, 56

67. $7-2n$; $-3, -5, -7$

68. $12(13-n)$; 96, 84, 72

69. $15(n+1)$; 90, 105, 120

70. 5.67, 7, 7.67, 9.67

71. $-3.2, -2, -1.4, 0.4$

72. $-5, 1, 4, 13$

73. $-9, -8, -7.5, -6$

Algebra 2
Lesson 2-3 - Practice and Problem-Solving Exercises Answers

8. -1

9. -2

10. 3

11. $\frac{4}{11}$

12. $-\frac{1}{5}$

13. 1

14. $-\frac{4}{5}$

15. 0

16. $\frac{17}{5}$

17. $y = 3x + 2$

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

19. $y = \frac{5}{6}x + 12$

20. $y = -2$

21. $y = -5x - 7$

22. $y = -5x + 4;\ -5;\ (0, 4)$

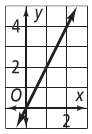
23. $y = \frac{3}{2}x + \frac{7}{2};\ \frac{3}{2};\ \left(0,\ \frac{7}{2}\right)$

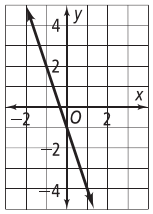
24. $y = -\frac{1}{2}x - \frac{3}{4};\ -\frac{1}{2};\ \left(0,\ -\frac{3}{4}\right)$

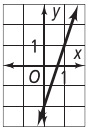
25. $y = -\frac{4}{3}x + \frac{5}{6};\ -\frac{4}{3};\ \left(0,\ \frac{5}{6}\right)$

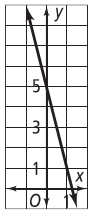
26. $y = \frac{9}{2}x - 5;\ \frac{9}{2};\ (0,\ -5)$

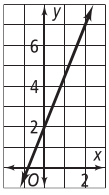
27. $y = 7;\ 0;\ (0,\ 7)$

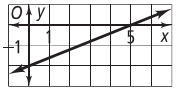
28. 

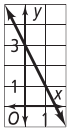
29. 

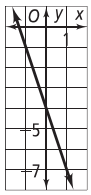
30. 

31. 

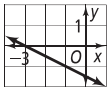
32. 

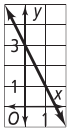
33. 

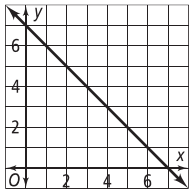
34. 

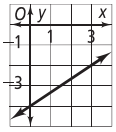
35. 

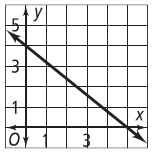
36. 

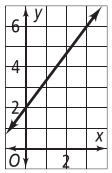
37. 

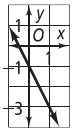
38. 

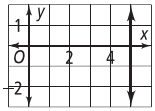
39. 

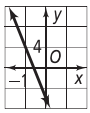
40. 

41. 

42. 

43. 

44. 

45. 

46. The slope represents the amount of money you make each week.

47. $0; \left(0,\ 3\right)$

48. $\frac{2}{3}; \left(0,\ 2\right)$

49. $-\frac{1}{4}; \left(0,\ 3\right)$

50. $-0.8; \left(0,\ 0.4\right)$

51. Undefined; no y-intercept

52. $0; \left(0,\ 0\right)$

53. $-\frac{1}{2}; \left(0,\ \frac{5}{2}\right)$

54. $\frac{A}{B}; \left(0,\ -\frac{C}{B}\right)$

55. $-\frac{A}{B}; \left(0,\ \frac{C}{B}\right)$

56a. the rate at which you walk; the slope is the same as the change in the distance divided by the change in time, which is the rate at which you walk.

56b. towards your home; the slope is negative and the distance (y-value) decreases as the time (x-value) increases.

57a. 1

57b. 1

57c. 1

57d. 1

57e. Any two points on a line can be used to find the slope of the line.

58. He did not isolate y first and then find the coefficient of x.
The slope is $\frac{2}{3}$.

59. $-\frac{5}{13}$

60. $\frac{7}{5}$

61. $\frac{15}{2}$

62a. $y = \frac{1}{2}x + 4$

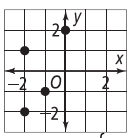
62b. $y = -3x + 4$

62c. $y = -4x + 9$

63. B

64. G

65. C

66. 

domain; $\{-2, -1, 0\}$, range: $\{-2, -1, 1, 2\}$

67. domain: $\{-2, 1, 2, 3, 4\}$; range: $\{-2, -1, 2, 3\}$; no

68. domain: all real numbers; range: $y \geq -2$; no

69. domain: $\{-5, 0, 2, 9\}$; range: $\{-3, -1, 5, 15\}$; no

70. 2

71. 8

72. 13

Algebra 2
Lesson 2-4 - Practice and Problem-Solving Exercises Answers

10. $y-5=3(x-1)$

11. $y-12=\frac{5}{6}(x-22)$

12. $y=-\frac{3}{5}(x+4)$

13. $y+2=0$

14. $y-5=-(x+3)$

15. $y-2=5x$

16. Answers may vary. Sample:
$y-3=-(x+10)$
or $y+5=-(x+2)$

17. Answers may vary. Sample:
$y=\frac{5}{4}(x-1)$
or $y-5=\frac{5}{4}(x-5)$

18. Answers may vary. Sample:
$y-10=-\frac{5}{2}(x+4)$
or $y-15=-\frac{5}{2}(x+6)$

19. Answers may vary. Sample:
$y+1=-\frac{4}{3}x$
or $y+5=-\frac{4}{3}(x-3)$

20. Answers may vary. Sample:
$y-11=x-7$
or $y-17=x-13$

21. Answers may vary. Sample:
$y-9=-\frac{7}{5}(x-1)$
or $y-2=-\frac{7}{5}(x-6)$

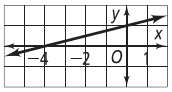
22. $-x+2y=-4$

23. $7x+y=-9$

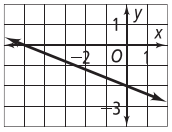
24. $3x+5y=15$

25. $-42x+10y=79$

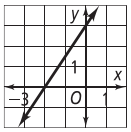
26. $(0,\ 1),\ (-4,\ 0)$



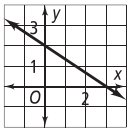
27. $(0,\ -2),\ (-5,\ 0)$



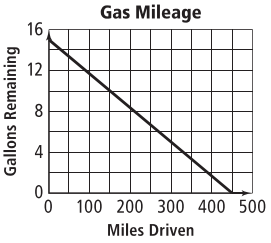
28. $(0,\ 3),\ (-2,\ 0)$



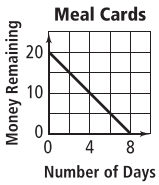
29. $(0,\ 2),\ \left(\frac{14}{5},\ 0\right)$



30. $y=-\frac{1}{30}x+15$



31. $y = -2.5x + 20$

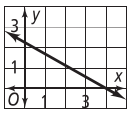


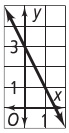
32. $y = \frac{2}{5}x - \frac{7}{5}$

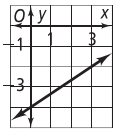
33. $y = \frac{5}{2}x + \frac{17}{2}$

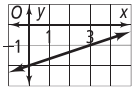
34. $y = \frac{2}{3}x + \frac{44}{3}$

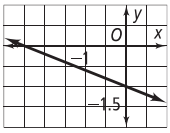
35. $y = \frac{1}{3}x + \frac{5}{3}$

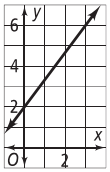
36. 

37. 

38. 

39. 

40. 

41. 

42. $y - \frac{1}{3} = -\frac{5}{13}\left(x + \frac{2}{3}\right)$
or $y + \frac{1}{2} = -\frac{5}{13}\left(x - \frac{3}{2}\right)$

43. $y + 4 = \frac{7}{5}\left(x + 3\right)$
or $y + \frac{1}{2} = \frac{7}{5}\left(x + \frac{1}{2}\right)$

44. $y - \frac{1}{2} = -\frac{7}{10}x$
or $y = -\frac{7}{10}\left(x - \frac{5}{7}\right)$

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

46. $y = 3x + 2$

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

48. $\frac{2}{3}$, $\left(0, 4\right)$, $\left(-6, 0\right)$

49. -1, $\left(0, 1000\right)$, $\left(1000, 0\right)$

50. -0.8, $\left(0, 0.4\right)$, $\left(0.5, 0\right)$

51. 54, $\left(0, -1\right)$, $\left(\frac{1}{54}, 0\right)$

52. Undefined, no y-intercept, $\left(-3, 0\right)$

53. 0, $\left(0, 0\right)$, all points on the x-axis

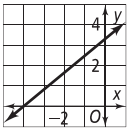
54a. $y - 12 = -\frac{4}{3}\left(x + 3\right)$

54b. $y + 4 = -\frac{4}{3}\left(x - 9\right)$

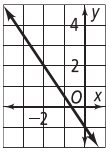
54c. $4x + 3y = 24$
Both equations look the same in standard form.

55. $y = -1$

56. $y = \frac{5}{6}x + \frac{10}{3}$



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



58a. The right triangles have the same length legs $(x \text{ and } y)$ and the congruent right angle, so by SAS congruence, the triangles are congruent.

58b. $a = b;\ c = b;\ a + c = 90^\circ;\ b + d = 90^\circ$

58c. $a + c = 90^\circ$, and $c = b$, therefore $a + b = 90^\circ$

58d. ℓ_1 and ℓ_2 must be perpendicular because they intersect at a right angle.

59. yes

60. no

61. The equation of the line connecting $(1, 3)$ to $(-2, 6)$ is $y = -x + 4$. The equation of the line connecting $(1, 3)$ to $(3, 5)$ is $y = x + 2$. The slopes are negative reciprocals so the lines are perpendicular. Therefore, by definition of a right triangle, it is a right triangle.

62. The slope of the line connecting $(2,\ 5)$ to $(4,\ 8)$ is $\frac{3}{2}$, $(2,\ 5)$ to $(5,\ 3)$ is $-\frac{2}{3}$, $(4,\ 8)$ to $(7,\ 6)$ is $-\frac{2}{3}$, and $(5,\ 3)$ to $(7, 6)$ is $\frac{3}{2}$. Since the adjacent sides' slopes are neg. reciprocals, they are perpendicular. By the definition of a rectangle, it is a rectangle.

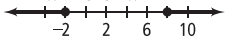
63. B

64. H

65. $|x - 3| \geq 5$

$x - 3 \geq 5$ or $x - 3 \leq -5$

$x \geq 8$ or $x \leq -2$



66. domain: $\{-3,\ -1,\ 0,\ 1,\ 2\}$; range: $\{-2,\ 0,\ 2,\ 4\}$; yes

67. domain: all real numbers; range: $\{-2\}$; yes

68. domain: $\{-18,\ -2,\ 0,\ 3,\ 39\}$; range: $\{-1,\ 3,\ 17,\ 28,\ 32\}$; yes

69. Mult. Inv.

70. Distr. Prop.

71. Add. Inv., Add. Ident.

72. $y = 3x - 5$

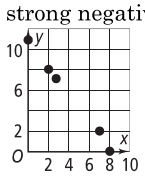
73. $y = \frac{1}{2}x$

74. $y = \frac{4}{5}x + 7$

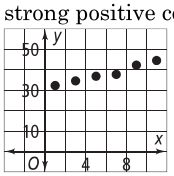
75. $y = -\frac{3}{8}x + 12$

Algebra 2
Lesson 2-5 - Practice and Problem-Solving Exercises Answers

7. strong negative correlation



8. strong positive correlation



9. Answers may vary. Sample:
$y = -0.7x - 4$

10. Not possible

11. Answers may vary. Sample:
$y = 4.47x + 33.31$

12a. Answers may vary. Sample:
$y = 2053.17x + 39{,}758.67$

12b. 91,087.92 tons

12c. In the year 2030

13. 6,332,000 tonnes

14a. Answers may vary. Sample:
$y = 0.0714x - 9.2682$

14b. 14.3 g

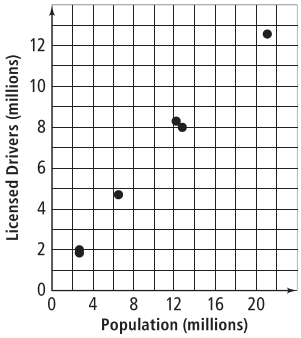
14c. 200-Cal; a 200-Cal hamburger has about 5 g of fat.

15. positive correlation, no

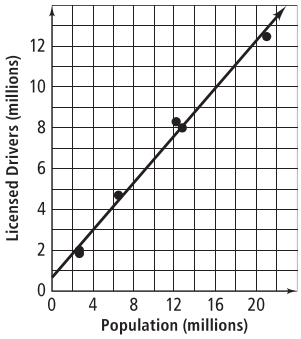
16. positive correlation, yes

17. positive correlation, yes

18a.



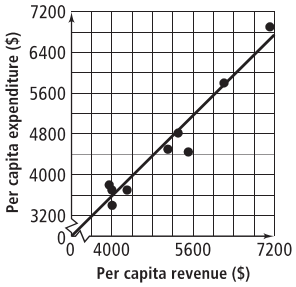
18b.



18c. About 6.5 million

18d. Strong, the pts. fall close to a straight line.

19a.



19b. About $2510

19c. About $5601

19d. Answers may vary. Sample:
Yes, expenditure would be predicted to be between $5300 and $5400.

20. C

21. G

22. B

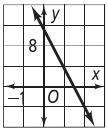
23. $(y-1)=\frac{2}{3}(x+1)$

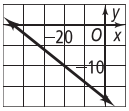
$(-3-1)=\frac{2}{3}(a+1)$

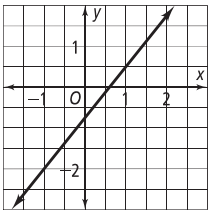
$-4=\frac{2}{3}a+\frac{2}{3}$

$\frac{-14}{3}=\frac{2}{3}a$

$-7=a$

24. 

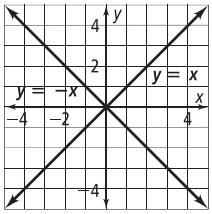
25. 

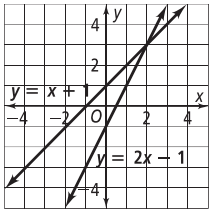
26. 

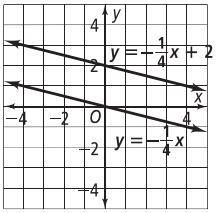
27. $-2x+y=2$

28. $x+y=0$

29. $y=2$

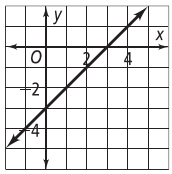
30. 

31. 

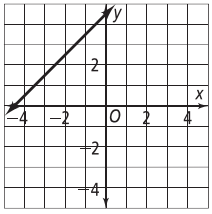
32. 

Algebra 2
Lesson 2-6 - Practice and Problem-Solving Exercises Answers

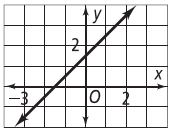
10. The function is $y = x$ translated 3 units down.



11. The function is $y = x$ translated 4.5 units up.



12. The function is $y = x$ translated 1.5 units up.



13.

x	$f(x) + 3$
−2	6
0	4
1	1
3	2

14.

x	$f(x) - 1$
−1	0
0	−1
2	−5
3	1

15.

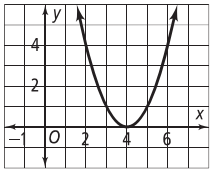
x	$f(x) + 4$
−3	5
−1	2
1	4
4	7

16. $y = f\left(x\right) - \frac{2}{3}$

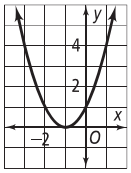
17. $y = f\left(x\right) + 4$

18. $y = f\left(x\right) + 2$

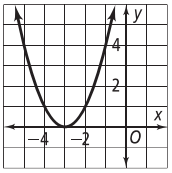
19. translated right 4 units



20. translated left 1 unit



21. translated left 3 units

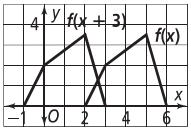


22a.

x	$f(x)$
2	0
3	2
5	3.5
6	0

x	$f(x + 3)$
−1	0
0	2
2	3.5
3	0

22b.



23. $g\left(x\right) = -x - 1$

24. $g\left(x\right) = -3x$

25. $g\left(x\right) = -2x + 4$

26. $y = 4x$

27. $y = 2x$

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

29. $y = \frac{1}{4}x$

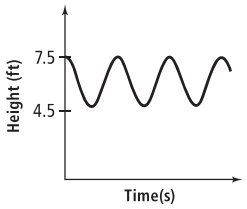
30. $g(x) = -4x - 5$

31. $g(x) = -0.5x$

32. vertically stretched by a factor of 4, reflected over the x-axis, and translated up 4 units

33. vertically compressed by a factor of $\frac{1}{4}$ and translated down 2 units

34.



35. translate to the right 10 s

36. $f(x) = -2x + 1;\ g(x) = 2x - 1;\ g(x) = -f(x)$

37. $f(x) = -\frac{1}{3}x - 1;\ g(x) = \frac{1}{3}x + 1;\ g(x) = -f(x)$

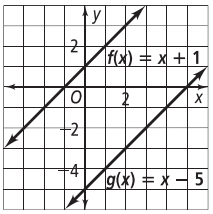
38. $f(x) = -2x + 2;\ g(x) = 2x + 2;\ g(x) = f(-x)$

39. Check students' work.

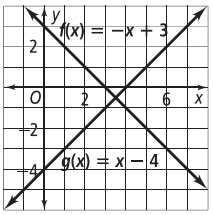
40a. The function $g(x)$, $h(x)$, and $k(x)$ have the same domain as the function $f(x)$, but different ranges, and the function $m(x)$ has the same range as $f(x)$, but a different domain.

40b. Yes; the transformations in (i), (ii), and (iii) affect only the vertical position of a function, which determines the range. The transformation in (iv) affects only the horizontal position, which determines the domain.

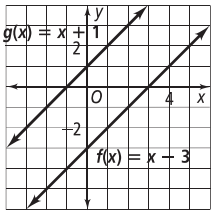
41. translated 6 units down



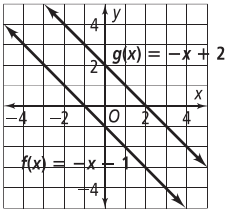
42. reflected over the x-axis, then translated 1 unit down, or translated 7 units down, then reflected over the y-axis



43. translated 4 units up

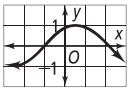


44. translated 3 units up

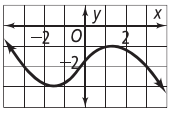


45. The first two steps are incorrect; the transformations should be: shift 1 unit left, vertically stretch by a factor of 2, and shift 3 units down.

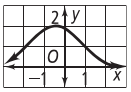
46.

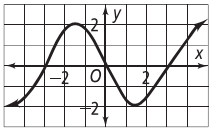


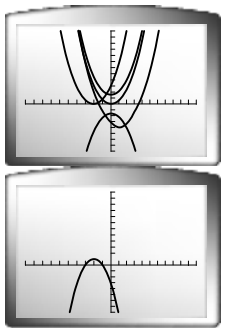
47.



48.



49. 

50. 

51. D

52. F

53. A

54. $y = kx$

$772 = k(40)$

$19.3 = k$

$y = (19.3)(100)$

$y = 1930$ g

55. $y = -15.82x + 914.59$

56. $x = -2$ or $x = 8$

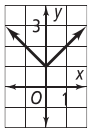
57. $x = -12$ or $x = 11$

58. $x = -3$ or $x = \frac{21}{5}$

Algebra 2
Lesson 2-7 - Practice and Problem-Solving Exercises Answers

8.

x	y
−2	3
−1	2
0	1
1	2
2	3

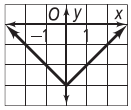


9.

x	y
−2	1
−1	0
0	−1
1	0
2	1

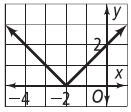
10.

x	y
−2	−1
−1	−2
0	−3
1	−2
2	−1



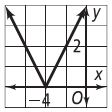
11.

x	y
−4	2
−3	1
−2	0
−1	1
0	2



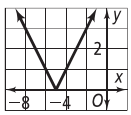
12.

x	y
−6	2
−5	1
−4	0
−3	1
−2	2



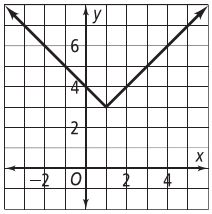
13.

x	y
−7	2
−6	1
−5	0
−4	1
−3	2



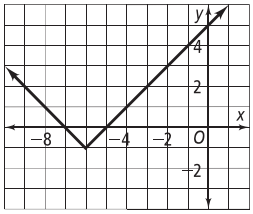
14.

x	y
−1	5
0	4
1	3
2	4
3	5



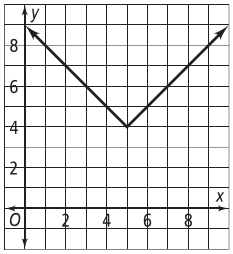
15.

x	y
−8	1
−7	0
−6	−1
−5	0
−4	1

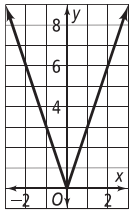


16.

x	y
3	6
4	5
5	4
6	5
7	6

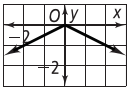


17.



$f(x) = |x|$ is vertically stretched by a factor of 3.

18.

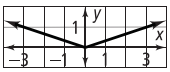


$f(x) = |x|$ is vertically compressed by a factor of $\frac{1}{2}$ and reflected across the x-axis.

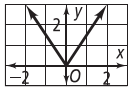
19.

$f(x) = |x|$ is vertically stretched by a factor of 2 and reflected across the x-axis.

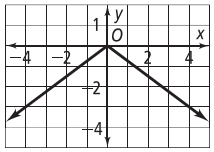
20.



$f(x) = |x|$ is vertically compressed by a factor of $\frac{1}{3}$.

21. 

$f(x) = |x|$ is vertically stretched by a factor of $\frac{3}{2}$.

22. 

$f(x) = |x|$ is vertically compressed by a factor of $\frac{3}{4}$ and reflected across the x-axis.

23. $(-2, -4)$; $x = -2$; translate 2 units to the left and 4 units down

24. $(0, 0)$; $x = 0$; vertically stretch by a factor of $\frac{3}{2}$

25. $(-6, 0)$; $x = -6$; translate 6 units to the left and vertically stretch by a factor of 3

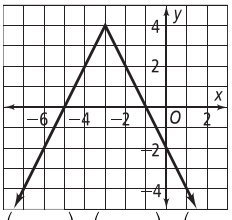
26. $(-2, 4)$; $x = -2$; translate 2 units to the left and 4 units down, then reflect across the x-axis, translate 2 units to the left a

27. $(5, 0)$; $x = 5$; translate 5 units to the right and reflect across the x-axis

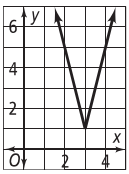
28. $(2, -6)$; $x = 2$; translate 2 units to the right and 6 units down

29. $y = -2|x - 5| + 1$

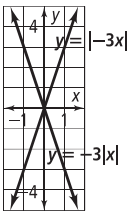
30. $y = 0.5|x + 2| - 6$

31. 

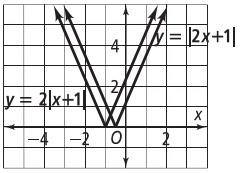
$(-5, 0)$, $(-1, 0)$, $(0, -2)$

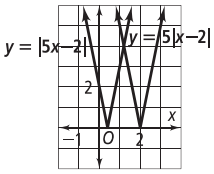
32. 

$(3, 1)$, no x-intercepts, $(0, 13)$

33. 

The graphs are not identical; one is the reflection across the x-axis of the other.

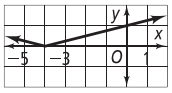
34a. 

34b. 

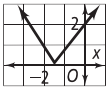
34c. The absolute value bars act as grouping symbols, like parentheses.

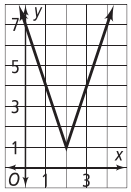
35a. Answers may vary. Sample: reflection across the x-axis, vertical compression by a factor of $\frac{1}{2}$, translation down $\frac{1}{2}$ unit, translation right 6 units

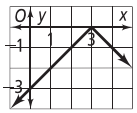
35b. Yes; changing the order of the transformations may or may not change the result.

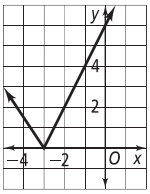
36. 

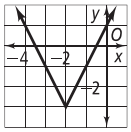
37. 

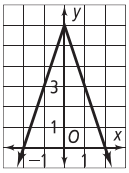
38. 

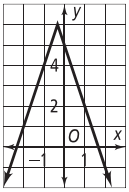
39. 

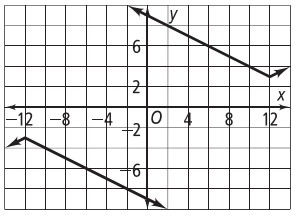
40. 

41. 

42. 

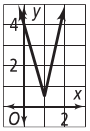
43. 

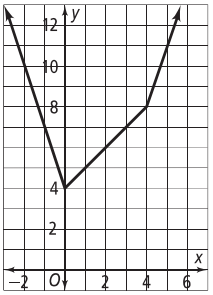
44. 

45a. 

45b. Answers may vary. Sample:
The graphs have the same shape and size They have different vertices. One opens down and one opens up.

46. 

47. 

48. 

49. B

50a. Answers may vary. Sample:
$y = |x|$, $y = -|x|$

50b. Answers may vary. Sample:
$y = |x|$, $y = |x - 1| + 1$

51. C

52. G

53. A

54. No; both $(1, -1)$ and $(1, 1)$ are pts. on the graph of $|y| = x$. Since there is more than one y-value $(-1$ and $1)$ for a given x-value (1), $|y| = x$ is not a function.

55. $y = x + 1$

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

57. $g(x) = -x - 7$

58. $g(x) = -2x - 6$

59. $g(x) = -4 - x$

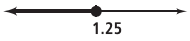
60. Answers may vary. Sample:

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

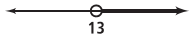
61. Answers may vary. Sample:

$y = -\frac{4}{5}x + 8$

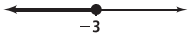
62. $p \leq 1.25$



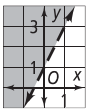
63. $t > 13$

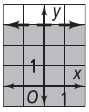


64. $t \leq -3$

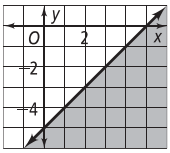


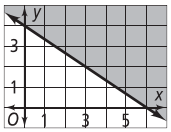
Algebra 2
Lesson 2-8 - Practice and Problem-Solving Exercises Answers

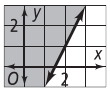
8. 

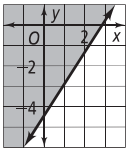
9. 

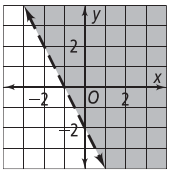
10. 

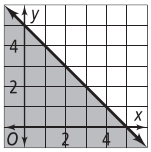
11. 

12. 

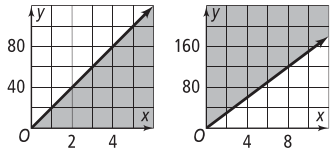
13. 

14. 

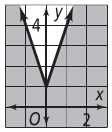
15. 

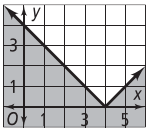
16. 

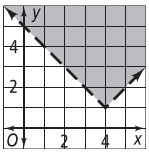
17a. $y \geq 20x$ if $x \leq 6$, $y \geq 15x$ if $x > 6$

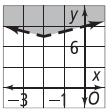
17b. 

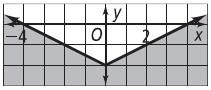
18. 

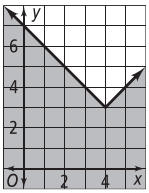
19. 

20. 

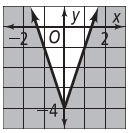
21. 

22. 

23. 

24. 

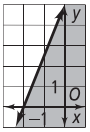
25. 

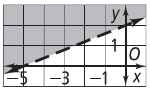
26. 

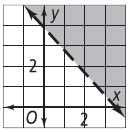
27. $y < -x - 2$

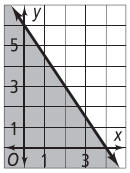
28. $5x + 3y \leq 9$

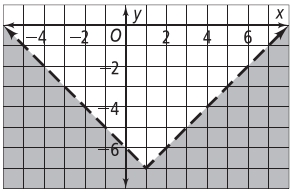
29. $2y \geq |2x + 6|$

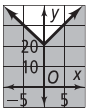
30. 

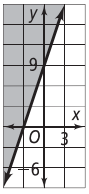
31. 

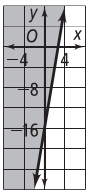
32. 

33. 

34. 

35. 

36. 

37. 

38. domain: $0 \leq x \leq 28$, $y \leq -x + 28$

39. $y > |x + 1| - 1$

40. C
For the inequality ≥, shade above the boundary line. The inequality ≥ also indicates a solid boundary line. The answer is C.

41. domain: $0 < x < 16$

42. There is a limit to the number of gallons in your car's gas tank.

43. $y < -|x - 4|$

44. $y > |x + 1| - 1$

45. C

46a. domain: $0 < x < 16$

46b. There is a limit to the number of gallons in your car's gas tank.

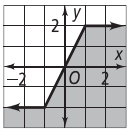
46c. You can't have a negative number of gallons of gas in your tank, nor can you drive a negative number of miles.

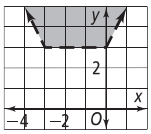
46d. Yes; you can use a fraction of a gallon, and you can drive a fraction of a mile.

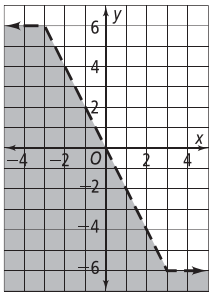
46e. $y \leq 25x$

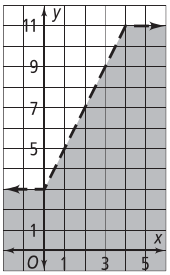
46f. The coefficient x represents the number of miles you can drive per gallon.

47. when the origin lies on the boundary line

48. 

49. 

50. 

51. 

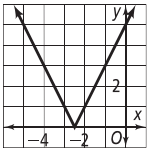
52. B

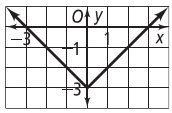
53. I

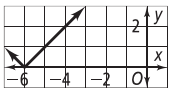
54. D

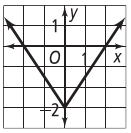
55. let c = amt. of a commission, let s = amt. of sale

$$c = ks$$
$$\left(\$48{,}000\right) = k\left(\$800{,}000\right)$$
$$0.6 = k$$
$$c = 0.6\left(\$650{,}000\right) = \$39{,}000$$

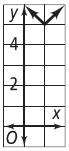
56. 

57. 

58. 

59. 

60. 

61. 

62. no

63. Yes; 100

64. yes, -5

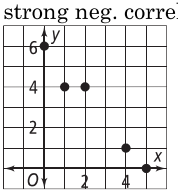
65. no

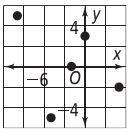
66. Yes, 3

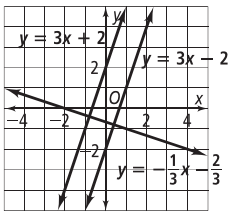
67. no

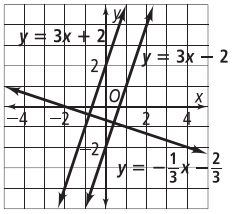
68. yes, -10

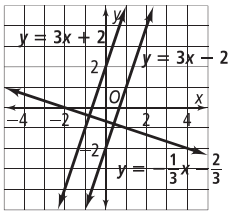
69. no

70. strong neg. correlation


71. no correlation


72. 
y
y = 3x + 2
y = 3x − 2
2
O
x
−4
−2
2
4
−2
y = −1/3x − 2/3

73. 
y
y = 3x + 2
y = 3x − 2
2
O
x
−4
−2
2
4
−2
y = −1/3x − 2/3

74. 
y
y = 3x + 2
y = 3x − 2
2
O
x
−4
−2
2
4
−2
y = −1/3x − 2/3