Algebra 2
Lesson 8-1 - Practice and Problem-Solving Exercises Answers

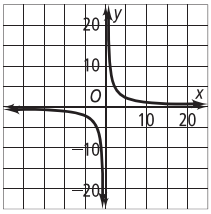
6. direct; $y = 5x$

7. neither

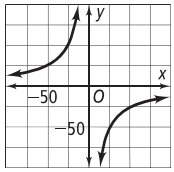
8. neither

9. inverse; $y = \frac{0.3}{x}$

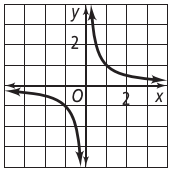
10. $y = \frac{11}{x}$; 1.1;



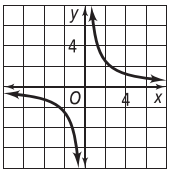
11. $y = -\frac{1300}{x}$; −130;



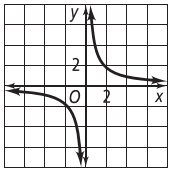
12. $y = \frac{1}{x}$; $\frac{1}{10}$;



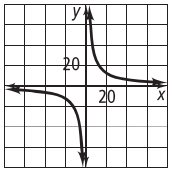
13. $y = \frac{5}{x}$; $\frac{1}{2}$;



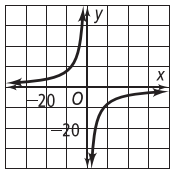
14. $y = \frac{3.6}{x}$; 0.36;



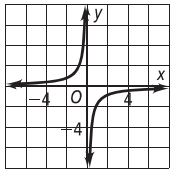
15. $y = \frac{250}{x}$; 25;



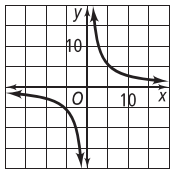
16. $y = -\frac{80}{x}$; −8;



17. $y = -\frac{5}{3x}$; $-\frac{1}{6}$;



18. $y = \frac{28}{x}$; 2,8;



19a. $s = 2.5m$

19b. 100 muffins

20. ≈ 4 buckets

21. $PE = 2gh$

22. about 15 years

23. $F = k\frac{m}{d^2}$

24. ≈ 226

25a. ≈ 76.58 L

25b. ≈ 20 moles

26. $z = \frac{5x}{y}$; $\frac{20}{9}$

27. $z = 10xy$; 360

28. $z = \frac{4}{xy}$; $\frac{1}{9}$

29. 10

30. 2

31. $18\frac{2}{3}$

32. 32

33. 18

34. 3.6

35. $\frac{1}{4}$

36. 6

37. 2.5

38. 8

39. 2.625

40. 0.5

41. Division by zero is undefined.

42. $x_1y_1 = k$ and $x_2y_2 = k$ by the definition of inverse variation.
$x_1y_1 = x_2y_2$ by transitivity.
$\frac{x_1y_1}{x_2y_1} = \frac{x_2y_2}{x_2y_1}$, or $\frac{x_1}{x_2} = \frac{y_2}{y_1}$ by dividing each side by x_2y_1.

43. Answers may vary. Sample:
Quadruple the volume and leave the radius constant, halve the radius and leave the volume constant, multiply the volume by 16 and double the radius, and multiply the volume and radius by $\frac{1}{4}$.

44. B

45. G

46. C

47. H

48. $x = 4y^2 + 5$
$x - 5 = 4y^2$
$\frac{x-5}{4} = y^2$
$\sqrt{\frac{x-5}{4}} = \sqrt{y^2}$
$\frac{\pm\sqrt{x-5}}{2} = y$
$\frac{\pm\sqrt{x-5}}{2} = f^{-1}(x);\ x \geq 5$
No, the inverse is a not function.

49. $\frac{e^5}{4} \approx 37.1$

50. $3e^4 \approx 163.79$

51. $\frac{e^2}{8} \approx 0.92$

52. $-90x^2$

53. $84x^2$

54. $10x^2y^3\sqrt{2y}$

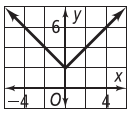
55. $|x^5|y^{50}$

56. $-4ab^2$

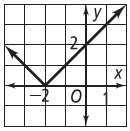
57. $2m^2|n|\sqrt[4]{4}$

58. If n is odd, then x; if n is even, then $|x|$.

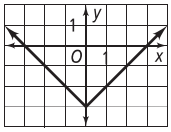
59. The graph of $y = |x|$ is translated 2 units up.



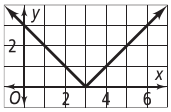
60. The graph of $y = |x|$ is translated 2 units to the left.



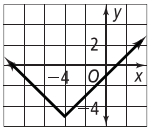
61. The graph of $y = |x|$ is translated 3 units down.



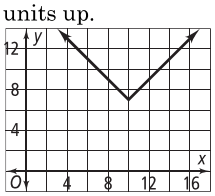
62. The graph of $y = |x|$ is translated 3 units to the right.



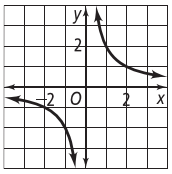
63. The graph of $y = |x|$ is translated 4 units to the left and 5 units down.



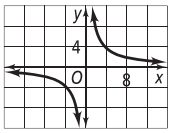
64. The graph of $y = |x|$ is translated 10 units to the right and 7 units up.



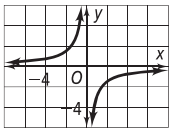
Algebra 2
Lesson 8-2 - Practice and Problem-Solving Exercises Answers

8. 

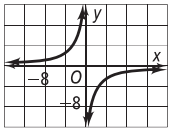
no y-intercept; no x-intercept; horizontal asymptote: $y = 0$;
vertical asymptote: $x = 0$; domain: all real numbers except $x = 0$;
range: all real numbers except $y = 0$.

9. 

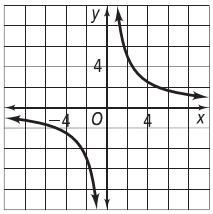
no y-intercept; no x-intercept; horizontal asymptote: $y = 0$;
vertical asymptote: $x = 0$; domain: all real numbers except $x = 0$;
range: all real numbers except $y = 0$

10. 

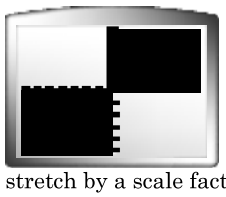
no y-intercept; no x-intercept; horizontal asymptote: $y = 0$;
vertical asymptote: $x = 0$; domain: all real numbers except $x = 0$;
range: all real numbers except $y = 0$

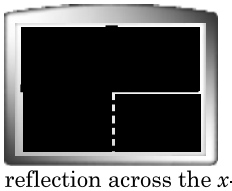
11. 

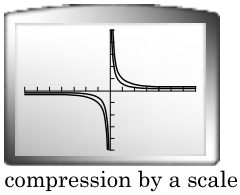
no y-intercept; no x-intercept; horizontal asymptote: $y = 0$;
vertical asymptote: $x = 0$; domain: all real numbers except $x = 0$;
range: all real numbers except $y = 0$

12. 

no y-intercept; no x-intercept; horizontal asymptote: $y = 0$;
vertical asymptote: $x = 0$; domain: all real numbers except $x = 0$;
range: all real numbers except $y = 0$

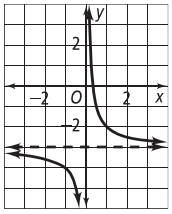
13. 
stretch by a scale factor of 2

14. 
reflection across the x-axis and a stretch by a scale factor of 4

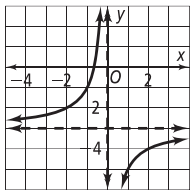
15. 
compression by a scale factor of 0.5

16. 
stretch by a scale factor of 12

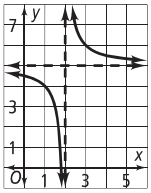
17. 
compression by a scale factor of 0.75

18. 

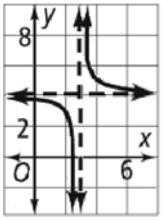
The domain is the set of all real numbers except $x = 0$.
The range is the set of all real numbers except $y = -3$.

19. 

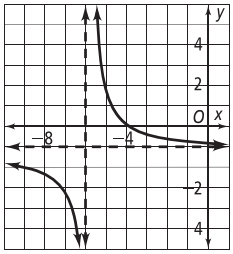
The domain is the set of all real numbers except $x = 0$.
The range is the set of all real numbers except $y = -3$.

20. 

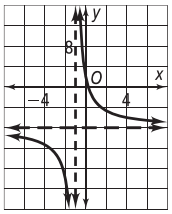
The domain is the set of all real numbers except $x = 2$.
The range is the set of all real numbers except $y = 5$.

21. 

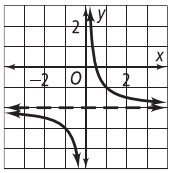
The domain is the set of all real numbers except $x = 3$.
The range is the set of all real numbers except $y = 4$.

22. 

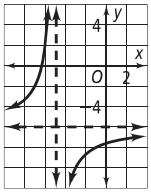
The domain is the set of all real numbers except $x = -6$.
The range is the set of all real numbers except $y = -1$.

23. 

The domain is the set of all real numbers except $x = -1$.
The range is the set of all real numbers except $y = -8$.

24. 

The domain is the set of all real numbers except $x = 0$.
The range is the set of all real numbers except $y = -2$.

25. 

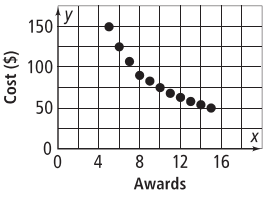
The domain is the set of all real numbers except $x = -5$.
The range is the set of all real numbers except $y = -6$.

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

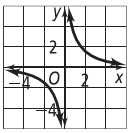
27. $y = \frac{2}{x+2} + 3$

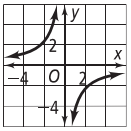
28. $y = \frac{2}{x-4} - 8$

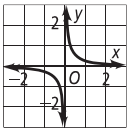
29. 7.67 feet

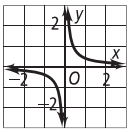
30. $c \le \frac{750}{a}$; domain: all whole numbers from 5 to 15; range: $50 \le c \le 150$.


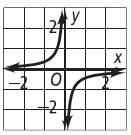
31. Check students' work.

32. 

33. 

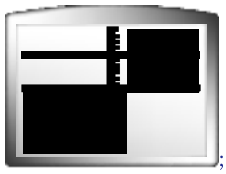
34. 

35. 

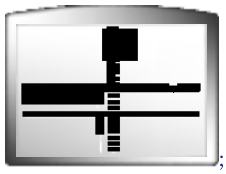
36. 

37. Answers may vary. Sample:
The graph of the translation looks similar to the graph of $y = \frac{1}{x}$, so knowing the asymptotes helps to position the translation; check students' work.

38. B

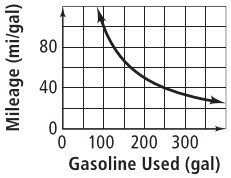
39.  ; $(3, 6)$

40.  ; $(2.92, 6.2)$

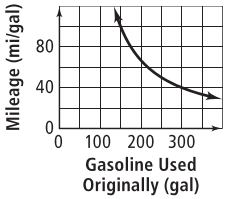
41.  ; $(-1.75, -4)$

42. The translated function is $y = \frac{1}{x+5} + 3$; domain: all real numbers except $x = -5$; range: all real numbers except $y = 3$.

43a. $m = \frac{10{,}000}{g}$



43b. $m = \frac{10{,}000}{g - 50}$



43c. 25 mi/gal; 28.57 mi/gal

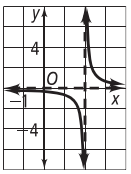
44. The branches of $y = \frac{1}{x}$ are in Quadrants I and III. The branches of $y = \left|\frac{1}{x}\right|$ are in Quadrants I and II. The graphs intersect at all points on $y = \frac{1}{x}$ in Quadrant I.

45. The branches of $y = \frac{1}{x^2}$ are in Quadrants I and II. The branches of $y = \frac{1}{x}$ are in Quadrants I and III. The graphs intersect at $(1, 1)$. The graph of $y = \frac{1}{x^2}$ is closer to the x-axis for $x > 1$, and the graph of $y = \frac{1}{x}$ is closer to the y-axis for $0 < x < 1$.

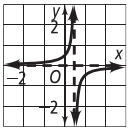
46. The branches of both graphs are in Quadrants I and II. They intersect at $(1, 1)$ and $(-1, 1)$. The graph of $y = \frac{1}{x^2}$ is closer to the x-axis for $x > 1$ and $x < -1$. The graph of $y = \left|\frac{1}{x}\right|$ is closer to the y-axis for $-1 < x < 0$ and $0 < x < 1$.

47. $y = \frac{16}{x}$, $y = -\frac{16}{x}$

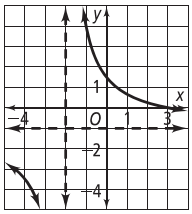
48a. $y = \frac{0.6\overline{6}}{x - 2}$



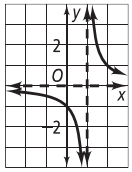
48b. $y = -\frac{0.25}{x - 0.5}$



48c. $y = \frac{5}{x + 2} - 1$



48d. $y = \dfrac{1}{x-1}$



49. A

50. F

51. A

52. F

53. $(81) = 27b^{(-1)}$

$81 = \dfrac{27}{b}$

$b = \dfrac{27}{81}$

$b = \dfrac{1}{3}$

54. $y = \dfrac{24}{x}; -\dfrac{24}{5}$

55. $y = \dfrac{50}{x}; -10$

56. $y = \dfrac{48}{x}; -\dfrac{48}{5}$

57. exponential growth, 3

58. exponential growth, 0.1

59. exponential decay, 5

60. exponential decay, 3

61. $79 - 20\sqrt{3}$

62. 6

63. -2

64. $(x-4)(x-2)$

65. $(x+9)(x-3)$

66. $(2x-7)(x+4)$

67. $(2x-3)(x-8)$

Algebra 2
Lesson 8-3 - Practice and Problem-Solving Exercises Answers

13. domain: all real numbers except $x = 0$ and $x = 2$; non-removable points of discontinuity at $x = 0$ and $x = 2$; no x-intercept; no y-intercept

14. domain: set of all real numbers; no points of discontinuity; x-intercepts at $(0, 0)$ and $(-2, 0)$; y-intercept at $(0, 0)$

15. domain: all real numbers except $x = \pm 1$; removable point of discontinuity at $x = 1$; non-removable point of discontinuity at $x = -1$; no x-intercept; y-intercept at $(0, 3)$

16. domain: all real numbers except $x = 3$ and $x = 2$; removable point of discontinuity at $x = 2$; non-removable point of discontinuity at $x = 3$; no x-intercept; y-intercept at $(0, 1)$

17. vertical asymptote at $x = -2$

18. hole at $x = -5$

19. vertical asymptotes at $x = -\frac{3}{2}$ and $x = 1$

20. hole at $x = 2$; vertical asymptote at $x = -1$

21. or hole at $x = -2$

22. no vertical asymptotes or holes

23. $y = 0$

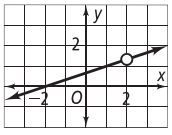
24. $y = 0$

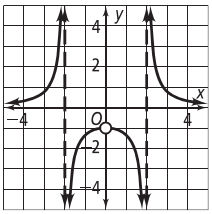
25. $y = 1$

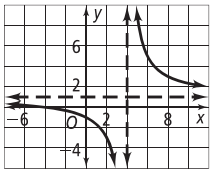
26. $y = \frac{1}{2}$

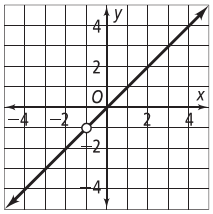
27. $y = 0$

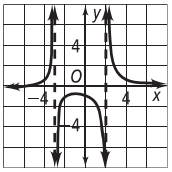
28. $y = \frac{3}{4}$

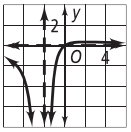
29. 

30. 

31. 

32. 

33. 

34. 

35. 900 milliliters

36. vertical asymptotes at $x = -3$ and $x = 3$
horizontal asymptote at $y = 0$

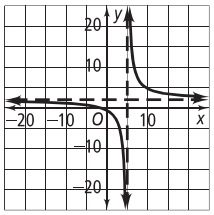
37. vertical asymptote at $x = -2$

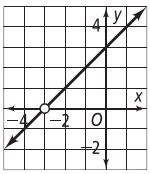
38. horizontal asymptote at $y = 0$

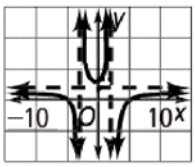
39. 6 free throws

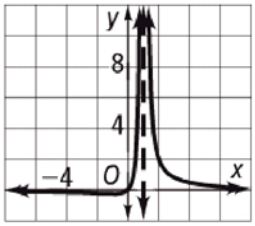
40. 3 test scores

41. correct vertical asymptotes: $x = -5$ and $x = -1$; correct horizontal asymptote: $y = 1$

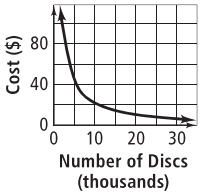
42. 

43. 

44. 

45. 

46a. $y = \dfrac{0.19x + 210{,}000}{x - 500}$



46b. $46.88, $14.68

46c. at least 21,917 discs

46d. $x = 500$, $y = 0.19$

47. Answers may vary. Sample:
There is no value for x for which the denominator equals 0.

48a. $Y(n) = 4(n-1)+1$

48b. $G(n) = 4(n-1)^2$

48c. $\dfrac{Y(n)}{G(n)} = \dfrac{4(n-1)+1}{4(n-1)^2}$; $\dfrac{13}{36}$

49a. Answers may vary. Sample:
$y = \dfrac{x^2 - 7x + 12}{x^2 + 2x - 3}$

49b. Answers may vary. Sample:
$y = \dfrac{x + 4}{x^2 - 3x}$

49c. Answers may vary. Sample:
$y = \dfrac{3(x+1)^2}{x^2 - 4}$

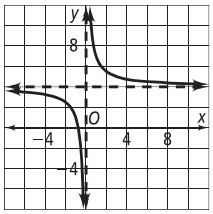
50. 3

51. 8

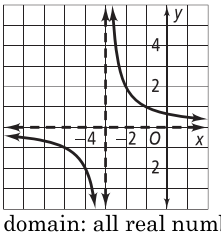
52. 5

53. $\dfrac{2}{3}$

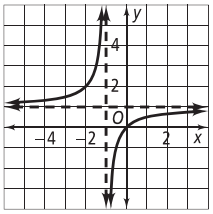
54. 1.39

55. 

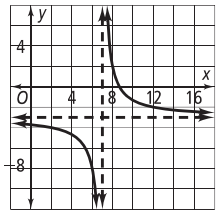
domain: all real numbers except $x = 0$; range: all real numbers except $y = 4$; no y-intercept; x-intercept at $\left(-\dfrac{3}{4}, 0\right)$

56. 

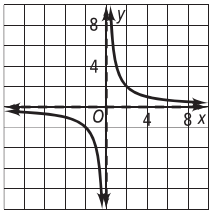
domain: all real numbers except $x = -3$; range: all real numbers except $y = 0$; y-intercept at $\left(0, \dfrac{2}{3}\right)$; no x-intercept

57. 

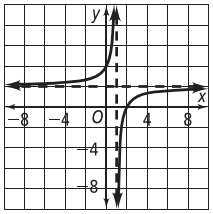
domain: all real numbers except $x = -1$; range: all real numbers except $y = 1$; x- and y-intercepts at $(0, 0)$

58. 

domain: all real numbers except $x = 7$; range: all real numbers except $y = -3$; y-intercept at $\left(0, -\frac{26}{7}\right)$; x-intercept at $\left(\frac{26}{3}, 0\right)$

59. 

domain: all real numbers except $x = 0$; range: all real numbers except $y = 0$; no x-intercept; no y-intercept

60. 

domain: all real numbers except $x = 1$; range: all real numbers except $y = 2$; x-intercept at $(2, 0)$; y-intercept at $(0, 4)$

61. $y = \frac{x+3}{2}$, yes

62. $y = 6 - x$, yes

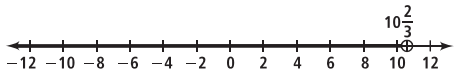
63. $y = \pm\sqrt{\frac{x}{2}}$, no

64. $y = \pm\sqrt{5x}$, no

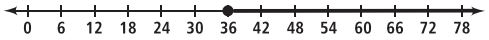
65. $y = \frac{1}{x} - 2$, yes

66. $y = (x-1)^2 + 2$, yes

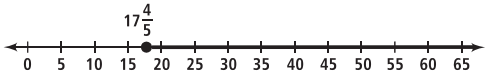
67. $a < 10\frac{2}{3}$



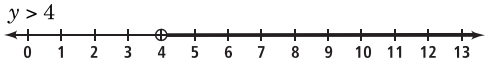
68. $x \geq 36$



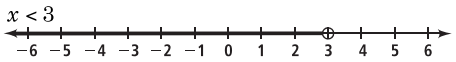
69. $x \geq 17\frac{4}{5}$



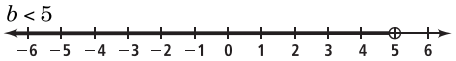
70. $y > 4$



71. $x < 3$



72. $b < 5$



73. $(2x-1)(x-1)$

74. $(2x-3)(2x+3)$

75. $(5x+1)(x+1)$

76. $10(x-1)(x+1)$

Algebra 2
Lesson 8-4 - Practice and Problem-Solving Exercises Answers

8. $-\frac{x^2}{3y^2}$; $x \neq 0$ and $y \neq 0$

9. $\frac{1}{2x-1}$; $x \neq 0$ or $\frac{1}{2}$

10. $2c+3$; $c \neq 0$

11. $7-z$; $z \neq -7$

12. $\frac{x+4}{x-6}$; $x \neq -4$ or 6

13. $-\frac{(x+4)}{x-5}$; $x \neq 3$ or 5

14. $\frac{7}{15x^2}$; $x \neq 0$ and $y \neq 0$

15. $\frac{xy^5}{4}$; $x \neq 0$ and $y \neq 0$

16. $\frac{4}{3}$; $y \neq \frac{1}{2}$ or 3

17. $-\frac{4(x+6)}{3(3x+8)}$; $x \neq -\frac{8}{3}$ or 3

18. $\frac{x-2}{x(x-1)}$; $x \neq -2, -1, 0$, or 1

19. 1; $x \neq -2, -1, 2$, or 3

20. $\frac{2}{3x^2y^2}$; $x \neq 0$ and $y \neq 0$

21. $\frac{y}{2x^2}$; $x \neq 0$ and $y \neq 0$

22. $\frac{-5(x+y)}{3}$; $x \neq y$

23. 1; $y \neq -2$ or 4

24. $\frac{x(x-1)}{3(x+1)}$; $x \neq -1, 0$, or 1

25. $\frac{4(y-3)}{y(y+5)}$; $y \neq -5, 2$, or 0

26a. $\frac{\frac{2}{3}\pi r^3}{2\pi r^2 + \pi r^2} = \frac{2r}{9}$

26b. $\frac{\pi r^2 \cdot r}{2\pi r^2 + 2\pi r \cdot r} = \frac{r}{4}$

26c. The ratio for the cylindrical tank is always larger.

26d. For a given value of r, the cylindrical tank will have a larger volume.

27. $\frac{x-8}{x-10}$; $x \neq -3$ or 10

28. $\frac{y+6}{y-2}$; $y \neq 2$

29. $\frac{y(y+3)}{12(y+4)}$; $x \neq 0$ and $y \neq -4$ or 3

30. Check students' work.

31. $R_{cylinder} = \frac{V_{cylinder}}{SA_{cylinder}} = \frac{rh}{2(r+h)}$; $R_{cube} = \frac{V_{cube}}{SA_{cube}} = \frac{s}{6}$; if $r = h = s$, then $R_{cylinder} = \frac{rh}{2(r+h)} = \frac{r}{4}$; $R_{cube} = \frac{s}{6} = \frac{r}{6}$; $R_{cylinder} > R_{cube}$; The cylindrical shaped box is more efficient.
If $s = h = 2r$, then $R_{cylinder} = R_{cube}$; both boxes are equally efficient.

32. $\frac{4}{x}$; $x \neq -5, 0, 1$, or 4

33. $\frac{18x}{(x+9)(x+3)}$; $x \neq -9, -3$, or 3

34. $\frac{x+1}{x-4}$; $x \neq -3, \frac{1}{2}$, 2, or 4

35. $\frac{x+1}{x-1}$; $x \neq -2, -\frac{1}{2}, \frac{1}{2}$, or 1

36. $\frac{6(a+1)}{a-3}$; $a < -1$ or $a > 3$ and $a \neq -3$.

37. Both shapes of containers are equally efficient.

38. sometimes

39. never

40. always

41. never

42. $\frac{x(x-1)^3}{x+4}$; $x \neq -4$, 0, or 1

43. 2; $x \neq -3$ or 1

44. $\frac{18x^5}{y^2}$; $y \neq 0$ and $x \neq 0$

45a. $2x^n + 1$

45b. 2 is a factor of $2x^n$, so $2x^n$ is even and $2x^n + 1$ is odd.

46. $\frac{4x}{3y}$; $x \neq -1$ or 0 and $y \neq 0$

47. $\frac{-3a^2b^2}{4}$; $a \neq 0$, $a \neq b$, and $b \neq 0$

48. $\frac{15}{4n^2}$; $m \neq 0$, $m \neq -\frac{2}{3}n$, $n \neq 0$

49. $\frac{(x+1)(x+5)}{(x-3)(x+4)}$; $x \neq -5, -4, -3, 1$, and 3

50. D

51. H

52. C

53. $-x \log 3 = \log \frac{1}{243}$

$-x \log 3 = \log \frac{1}{3^5}$

$-x \log 3 = \log 3^{-5}$

$-x = -5$

$x = 5$

54. hole at $x = 3$

55. vertical asymptotes at $x = -\frac{2}{3}$ and $x = -1$

56. hole at $x = 4$, vertical asymptote at $x = -3$

57. 3

58. -5

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

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

61. 49

62. 168

63. 2

64. $\frac{17}{38}$

65. $\frac{19}{75}$

66. $\frac{11}{72}$

67. $\frac{137}{180}$

Algebra 2
Lesson 8-5 - Practice and Problem-Solving Exercises Answers

7. $9(x+2)(2x-1)$

8. $(x-1)(x+1)^2$

9. $5(y+4)(y-4)$

10. $(x+5)(x^2-32x-10)$

11. $\frac{1}{x}$; $x \neq 0$

12. $\frac{2(d-2)}{2d+1}$; $d \neq -\frac{1}{2}$

13. $\frac{-3}{x}$; $x \neq 0$

14. $\frac{-3(2y+1)}{2y-1}$; $y \neq \frac{1}{2}$

15. $\frac{xy+8y+4}{2xy^2}$; $x \neq 0$ and $y \neq 0$

16. $\frac{7x^2+20x-18}{(x-3)(x+3)(x+4)}$; $x \neq \pm 3$ or -4

17. $\frac{y-6}{2(y+2)}$; $y \neq -2$

18. $\frac{x^2-24}{3x(x+3)}$; $x \neq 0$ or -3

19. $\frac{-x+6}{(x-3)(x+3)}$; $x \neq \pm 3$

20. $\frac{5x^2+14x-12}{(x-3)(x+2)^2}$; $x \neq -2$ or 3

21. $\frac{-2x(x+3)}{(x-2)(x-1)(x+1)}$; $x \neq \pm 1$ or 2

22. $\frac{y}{2x}$

23. $\frac{15}{28}$

24. $\frac{2}{3(x+y)}$

25. $\frac{b}{9}$

26. $\frac{y}{x+y}$

27. $\frac{3x}{2+xy}$

28. $\frac{2}{5}$

29. $\frac{3}{x-6}$

30a. $27.\overline{27}$ miles per gallon

30b. $27.\overline{7}$ miles per gallon.

31. $\frac{3x-8}{4x^2}$; $x \neq 0$

32. $\frac{x^2+4x-3}{(x+1)(x-1)}$; $x \neq \pm 1$

33. $\frac{7x-17}{(x-3)(x+3)}$; $x \neq \pm 3$

34. $\frac{5x^2+6x+12}{(x-3)(x+2)^2}$; $x \neq -2$ or 3

35. $\frac{x(3x^2+x-1)}{x^2-2}$; $x \neq \pm\sqrt{2}$

36. $\frac{3(4y-21)}{y(y-7)}$; $y \neq 0$ or 7

37. 3.84 inches

38. 4 inches

39. Check students' work.

40. Factoring is used to determine the least common multiple (LCM) of the denominators; check students' work.

41. $\dfrac{3x+2y}{7x-5y}$

42. $\dfrac{2(x+2)}{4x+3}$

43. x

44. $\dfrac{2(x+5)}{x+7}$

45a. $\dfrac{2}{3}$

45b. $\dfrac{3}{5}$

45c. $\dfrac{2}{3}$

45d. $\dfrac{1}{3}$

46a. ≈ 1.18 ohms

46b. 6 ohms, 6 ohms, 3 ohms

47. Let x, y, and z be any different positive integers.
Then $\dfrac{1}{x}+\dfrac{1}{y}+\dfrac{1}{z}=\dfrac{xy+yz+xz}{xyz}$. Also, 6 times the reciprocal of their product is $6\dfrac{1}{xyz}=\dfrac{6}{xyz}$. To show: $\dfrac{xy+yz+xz}{xyz}>\dfrac{6}{xyz}$,
i.e., $xy+yz+xz>6$, which is true for any three different positive integers since it is true for the three smallest positive integers, 1, 2, and 3.

48. C

49. G

50. A

51. F

52. First factor both denominators:
$x^2-5x-6=(x-6)(x+1)$
$x^2-12x+36=(x-6)^2$
The LCD would have to include the factors $(x-6)$, $(x+1)$, and $(x-6)^2$, so the LCD is $(x-6)^2(x+1)=x^3-11x^2+24x+36$.

53. $\dfrac{12x}{x+3}$; $x\neq 2$ or ± 3

54. $\dfrac{3(x+2)}{4(x-3)}$; $x\neq \pm 2$ or 3

55. $\dfrac{3(x+1)}{2(x+3)}$; $x\neq \pm 1$ or -3

56. $\log_3 yt^4$

57. $\log p^7q^2$

58. $\log_5 \dfrac{x}{\sqrt[5]{y}}$

59. 30

60. 82

61. $\dfrac{15}{4}$

62. 101

63. $-\dfrac{4}{5}$

64. 21

65. 18

Algebra 2
Lesson 8-6 - Practice and Problem-Solving Exercises Answers

8. $\frac{2}{9}$

9. 10

10. 4

11. 2

12. 2, –1

13. 12, –1

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

15. $\approx 1.65, \approx -1.45$

16. 1

17. –2, –3

18. –9

19. 1

20a. $\frac{35}{18}$ h

20b. 90 mi/h

21. 0.6

22. $-0.1\overline{6}$

23. 1.5

24. –2.2

25. 1.75

26. –3.75

27. ±2

28. $\approx \pm 3.6$

29. $x \approx 1.69, \ -0.44$

30. $E = \frac{mV^2}{2}$

31. $E = mc^2$

32. $F = ma$

33. $c = \pm\sqrt{a^2 - b^2}$

34. $T = \pm 2\pi\sqrt{\frac{\ell}{g}}$

35. $B = \pm\sqrt{\frac{2Vm}{r^2 q}}$

36. 2.4 days

37. $1\frac{5}{7}$ h

38. $r_{you} = 6.75$ h; $r_{\text{friend}} = 13.5$ h

39. 4 test scores

40. The first term, x, was not multiplied by the LCD $(x-2)(x+2)$. The solution should be:

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

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

$$x^3 - x^2 - 5x - 2 = 0$$

$x \approx -1.47283, \ -0.462598, \ 2.93543$

41a. $2250

41b. $\frac{15{,}000}{24+x}(3.60)$

41c. $2250-\frac{15{,}000}{24+x}(3.60)$

41d. $32.7\overline{27}$ mpg

42a. $L=\frac{24(R-r)}{T}$

42b. 32 in., about 28.24 in., about 25.26in.

43. 3

44. no solution

45. no solution

46. 30

47. no solution

48. –4

49. no solution

50. 6

51. $-\frac{2}{3}$, 1

52. –1

53. Check students' work.

54. 2037

55a. Check students' work.

55b. Check students' work.

55c. Check students' work.

56. 5 attendants

57. D

58. I

59. B

60. Write and solve the system of equations:
Let $n=$ the number of nonfiction books
Let $f=$ the number of fiction books
$\begin{cases} f+n=48 \\ 15f+20n=900 \end{cases}$
$n=36$

61. $\frac{-y-13}{4(y+1)}$

62. $\frac{5xy-12}{2y(y+2)}$

63. $\frac{x^2+3}{2(x-1)(x+3)}$

64. $x=-3$

65. $x=-1$

66. $x=-0.875$

67. $y=\frac{5-x}{2}$; yes

68. $y=\pm\sqrt{x-1}$; no

69. $y=\sqrt[3]{x+4}$; yes

70. add 2; 9, 11, 13

71. subtract 2; –10, –12, –14

72. multiply by 5; 625, 3125, 15,625

73. subtract 5; 30, 25, 20

74. multiply by 2; 128, 256, 512

75. subtract 4; –19, –23, –27