



Chapter 11, pages 659–662 1. $<$ 3. $<$

5. $\frac{2}{3}, \frac{12}{17}, \frac{5}{7}, \frac{11}{15}$ 7. $\frac{1135}{1517}$ 9. $\frac{111}{56}$

11. increases 13. decreases 15. $0.\bar{4}$ 17. 3.55

19. $0.7\bar{45}$ 21. $\frac{2}{3}$ 23. $\frac{235}{99}$ 25. 0.6275

27. $0.6\bar{32}$ 29. $\frac{4}{9}, \frac{2}{3}, \frac{8}{27}$ 31. 21 33. 52

35. 104 37. 0.8 39. 0.12 41. $\frac{3}{5}$ 43. $\frac{9}{22}$

45. $\frac{8}{9}$ 47. $4\sqrt{11}$ 49. $12\sqrt{11}$ 51. $90\sqrt{2}$

53. $4\sqrt{42}$ 55. $21\sqrt{6}$ 57. -28.3 59. 91.7

61. $13|m|$ 63. $5x^2\sqrt{5}$ 65. $-6|t^3|$

67. $-12|xy|\sqrt{2x}$ 69. $-2.2w^2$ 71. $\frac{a^2|b^3|\sqrt{3}}{6|c|}$

73. $\frac{3k^4}{4}$ 75. $\frac{15x^{20}}{4}$ 77. $|a - 2|$ 79. $\{-7, 7\}$

81. $\left\{-\frac{4}{5}, \frac{4}{5}\right\}$ 83. $\{-3, 3\}$ 85. $\{-11.5, 11.5\}$

87. $\{-6.6, 6.6\}$ 89. 9.43 91. 11.18

93. 22.36 95. 18.03 97. no 99. no

101. no 103. 30 105. 14 107. $72\sqrt{2}$

109. $\frac{3\sqrt{2}}{2}$ 111. $\frac{\sqrt{2}}{4}$ 113. $\frac{11\sqrt{3}}{7}$

115. $n^2 + 3\sqrt{n}$ 117. $4\sqrt{3}$ 119. $7\sqrt{6}$

121. $-50\sqrt{2}$ 123. $2\sqrt{2} - \frac{\sqrt{30}}{6}$

125. $\frac{20\sqrt{7}}{7} + \frac{3\sqrt{2}}{4}$ 127. $10\sqrt{3} - \sqrt{30}$

129. $3\sqrt{15}$ 131. -29 133. $18 + 8\sqrt{2}$

135. $34 - 24\sqrt{2}$ 137. $20\sqrt{3} - 24\sqrt{2}$

139. $252 + 133\sqrt{2}$

141. $\frac{-2 + \sqrt{3} + 2\sqrt{5} + \sqrt{15}}{4}$ 143. $\left\{\frac{3}{8}\right\}$

145. $\left\{\frac{16}{25}\right\}$ 147. $\{83\}$ 149. $\{3\}$ 151. $\left\{\frac{2}{5}\right\}$

153. $\{45\}$

Chapter 12, pages 662–664 1. $\left\{-\frac{5}{7}, \frac{5}{7}\right\}$

3. no solution 5. $\{-4, 4\}$ 7. $\{-\sqrt{3}, \sqrt{3}\}$

9. $\{-9, -1\}$ 11. $\{-4 + 3\sqrt{3}, -4 - 3\sqrt{3}\}$

13. $\{-7 + \sqrt{21}, -7 - \sqrt{21}\}$

15. $\left\{\frac{1 + 2\sqrt{6}}{3}, \frac{1 - 2\sqrt{6}}{3}\right\}$ 17. $\{-1, 13\}$

19. $\{-15, -1\}$ 21. $\{6 + \sqrt{246}, 6 - \sqrt{246}\}$;

$\{21.7, -9.7\}$ 23. $\left\{\frac{3 + \sqrt{29}}{2}, \frac{3 - \sqrt{29}}{2}\right\}$;

$\{4.2, -1.2\}$ 25. $\{3, 7\}$ 27. $\left\{2, -\frac{7}{2}\right\}$

29. $\left\{2, -\frac{5}{2}\right\}$ 31. $\left\{\frac{-7 + \sqrt{37}}{2}, \frac{-7 - \sqrt{37}}{2}\right\}$;

$\{-0.5, -6.5\}$ 33. $\left\{\frac{5 + \sqrt{37}}{2}, \frac{5 - \sqrt{37}}{2}\right\}$;

$\{5.5, -0.5\}$ 35. $\left\{1, \frac{2}{3}\right\}$

37. $\left\{\frac{-3 + \sqrt{89}}{20}, \frac{-3 - \sqrt{89}}{20}\right\}$; $\{0.3, -0.6\}$

39. $\left\{\frac{7 + \sqrt{57}}{2}, \frac{7 - \sqrt{57}}{2}\right\}$; $\{7.3, -0.3\}$

41. -131 ; none 43. -11.76 ; none 45. 5; two

47. a. zero b. below 49. $\{-3, -4\}$

51. $\left\{0, \frac{9}{5}\right\}$ 53. $\{-4 + \sqrt{13}, -4 - \sqrt{13}\}$

55. $\left\{\frac{-2 + \sqrt{10}}{6}, \frac{-2 - \sqrt{10}}{6}\right\}$

57. $\left\{\frac{4 + 2\sqrt{31}}{9}, \frac{4 - 2\sqrt{31}}{9}\right\}$

59. $\left\{\frac{1 + \sqrt{7}}{6}, \frac{1 - \sqrt{7}}{6}\right\}$

61. $\left\{\frac{-5 + \sqrt{13}}{2}, \frac{-5 - \sqrt{13}}{2}\right\}$ 63. length,

22.2 cm; width, 3.7 cm 65. 14 m 67. $hr^2 = k$

69. $L = krh$ 71. $\frac{rt}{d} = k$

EXTRA PRACTICE: Problem-Solving

Chapter 1, page 665 (1-7) 1. 225 km

3. 8 games 5. 19

Chapter 2, page 665 (2-3) 1. 38 yd 3. \$205

5. 10:00 A.M. (2-4) 1. 2.52°C 3. 28 blocks

5. 397 m below sea level

Chapter 3, page 666 (3-1) 1. -18 3. 58

5. \$747 (3-2) 1. -34 3. 56¢ 5. 12 cm

(3-4) 1. 12 3. \$124 5. 8 quarters, 12 dimes,

16 nickels (3-5) 1. -9 and -8 3. 12 5. 7,

9, 11 (3-6) 1. Kevin, 18 h; Karen, 6 h 3. 60

5. Becky, 6; Ryan, 4; Amy, 2 dimes

(3-7) 1. 13 quarters, 35 dimes 3. 7.5 h 5. 36

quarters

Chapter 4, page 668 (4-8) 1. 2.5 h

3. 2400 km 5. 7:00 P.M. (4-9) 1. 7 m by

11 m 3. 5 m by 9 m 5. 60 cm by 70 cm

(4-10) 1. no solution 3. no solution 5. $-5,$

$-4, -3$