



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.  $2.52^\circ\text{C}$  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.  $-5,$

$-4, -3$