LESSON 9-1

Practice and Problem Solving: A/B

1. $x = -5$ or $x = 5$
2. no solution
3. $x = -1$ or $x = 1$
4. $x = -3$ or $x = 3$
5. no solution
6. $x = 0$
7. $x = 11$ or $x = -11$
8. $x = 7$ or $x = -7$
9. $x = 6$ or $x = -6$
10. $x = -12$ or $x = 2$
11. $x = 11$ or $x = -9$
12. $x = 15$ or $x = 13$
13. $x = -3$ or $x = 9$
14. no solution
15. $x = -6$ or $x = 4$
16. $x = -1 \pm \sqrt{5}$
17. $x = 3 \pm \sqrt{6}$
18. $x = 7 \pm \sqrt{3}$
19. length $= 200$ ft and width $= 100$ ft
20. 2 s
21. 40 ft

LESSON 9-2   Practice and Problem Solving: A/B

1. $x = -5$ or $x = 1$
2. $x = -2$ or $x = 4$
3. $x = 5$
4. $x = -5$ or $x = 3$
5. $x = 12$ or $x = -2$
6. $x = -8$ or $x = 4$
7. $x = 1 + \sqrt{2}$ or $x = 1 - \sqrt{2}$
8. $x = 3 + \sqrt{3}$ or $x = 3 - \sqrt{3}$
9. $x = 2 + \sqrt{3}$ or $x = 2 - \sqrt{3}$
10. $x = 1 + \sqrt{5}$ or $x = 1 - \sqrt{5}$
11. $x = -2 + \sqrt{3}$ or $x = -2 - \sqrt{3}$
12. $x = 2 + \sqrt{5}$ or $x = 2 - \sqrt{5}$
13. $x = 1 + 2\sqrt{2}$ or $x = 1 - 2\sqrt{2}$
14. $x = 2 + 3\sqrt{3}$ or $x = 2 - 3\sqrt{3}$
15. $x = 5 + 2\sqrt{2}$ or $x = 5 - 2\sqrt{2}$
16. The width is 16 feet and the length is 20 feet.

LESSON 9-3

Practice and Problem Solving: A/B

1. 3 and -4
2. 5 and $-\dfrac{3}{4}$
3. 3 and $-\dfrac{1}{2}$
4. $\dfrac{-11 + \sqrt{61}}{6}$ and $\dfrac{-11 - \sqrt{61}}{6}$
5. 7 and 4
6. 7 and -7
7. $\dfrac{1}{3}$ and $-\dfrac{1}{2}$
8. 2 and -10
9. $0^2 - 4(1)(25) < 0$, no real solution

10. $\left(\sqrt{7}\right)^2 - 4(3)(-3) > 0$, two real solutions

11. $(8)^2 - 4(1)(16) = 0$, one real solution

12. No; the discriminant is negative. There are no real solutions so the ball will not hit the roof.

LESSON 9-4   Practice and Problem Solving: A/B

1. $x = 4$ or $x = -4$; taking square roots because $b = 0$

2. $x = \dfrac{11}{2}$ or $x = \dfrac{1}{2}$; taking square roots because equation is expressed as a squared binomial

3. $x = 7$ or $x = -4$; factoring because not too many factors to check

4. $x = 3$ or $x = -2$; factoring because not too many factors to check.

5. $x = \dfrac{2 \pm \sqrt{10}}{2}$, $x = 2.58$ or $x = -0.58$; complete the square or use quadratic formula because trinomial doesn't factor

6. $x = -5 \pm 2\sqrt{7}$, $x = 0.29$ or $x = -10.29$; complete the square because $a = 1$ and b is an even number

7. $x = \dfrac{4.3 \pm \sqrt{11.29}}{3}$, $x = 2.55$ or 0.31; quadratic formula because trinomial doesn't factor and the coefficients are not integers

8. $x = \dfrac{1}{2}$ or $-\dfrac{1}{2}$; factor or taking square roots because $b = 0$; difference of two square factors

9. 1.55 s and 2.83 s; quadratic formula because the trinomial doesn't factor

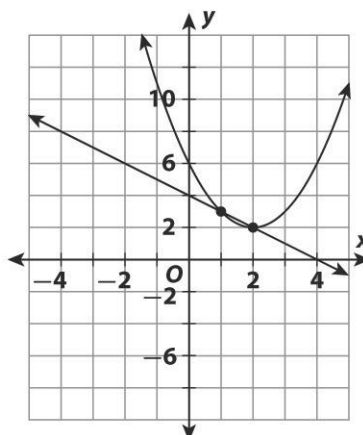10. 4 s; taking square roots because $b = 0$

LESSON 9-5

Practice and Problem Solving: A/B

1. (2, 2); (3, 7)
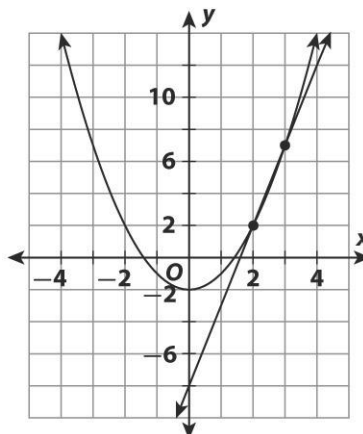
2. (1, 3); (2, 2)

3. (−3, 6), (2, 1)

4. no real solutions

5. (−1, −2), (2, 7)

6. (−5, 0); (6, 11)

7. (−1, 0); (3, 8)

8. (−2, −1), (−1, 0)

9. 1.875 seconds