Lesson 9.1.3

9-24. See below:

a. $(3x - 2)(2x + 5) = 0$, $x = \frac{2}{3}$ or $-\frac{5}{2}$

b. $a = 6$, $b = 11$, $c = -10$, $x = \frac{2}{3}$ or $-\frac{5}{2}$

c. Yes, although some students may get a decimal answer for one and not the other, and not initially recognize them as equal.

9-25. See below:

a. $x = 5.5$ or -5.5

b. $x = 2$ or $-\frac{1}{2}$

c. no real solutions

d. $x = \frac{5}{6}$

9-26. See below:

a. ≈ 315 and –315 feet; The base of the arch is 315 feet from the center in both directions.

b. ≈ 630 feet

c. 630 feet; y-intercept

9-27. See below:

a. $x = 5$

b. $x = -6$ or $\frac{1}{3}$

c. $x = -1$ or $\frac{5}{3}$

d. $x = \pm\frac{3}{4}$

9-28. $x = \frac{1}{3}$ or $x = -6$; yes

9-29. See below:

a. $y = (x + 3)(x - 1) = x^2 + 2x - 3$

b. $y = (x - 2)(x + 2) = x^2 - 4$

9-30. If x = the width, then $x(2x + 5) = 403$; the width is 13 cm.

9-31. Both (b) and (c) are solutions.

9-32. See below:

a. 3 feet per second

b. He travels a net distance of 18 feet in the direction that the conveyor belt is moving.

9-33. See below:

a. $3x^2(x - 1)$

b. $2(x - 2)(x - 3)$

c. $8(x - 2)(x + 2)$

d. $2x(2x - 3)(x + 4)$