ANSWER KEY

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23. 3 inches by 3 inches

28. a. $V(x) = x^3$

b. ±1, ±5, ±25, ±125

c. 5 with multiplicity 1

d. 5 inches

e. 150 inches

36. a. $V(x) = \frac{1}{3}x^3 + \frac{2}{3}x^2$

b. $x^3 + 2x^2 - 441 = 0$

c. 7 cm by 7 cm by 9 cm

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10. $r = 6$

23. 9 feet

36. 7 by 5 by 3

37. a. $x^3 - 6x^2 - 243 = 0$

b. 9 m

c. They are complex. After $x - 9$ is factored out, the remaining quadratic equation has a negative discriminant.

WS 3.5B #9

9. a. $x^3 + x^2 - 2x - 8 = 0$

b. ±1, ±2, ±4, ±8

c. 2, $\frac{-3 \pm i\sqrt{7}}{2}$; no, 2 of the roots are irrational numbers.

d. 2 m wide, 4 m long, and 1 m deep

WS 3.5C #9

9. a. $2x^3 - 4x^2 - 64 = 0$

   b. $\pm 1, \pm 2, \pm 4, \pm 8, \pm 16, \pm 32, \pm 64$

   c. $4, -1 \pm i\sqrt{7}$; no, 2 of the roots are irrational numbers.

   d. 4 in. wide, 8 in. long, and 2 in. deep

WS 3.6B #9

9. $V(t) = t^3 - 10t^2 + 23t - 14$

WS 3.6C #9

9. 3 inches