6-1 Standardized Test Prep
Roots and Radical Expressions

Multiple Choice

For Exercises 1–6, choose the correct letter.

1. What is the real square root of 0.0064?

   Ⓐ 0.4   Ⓒ 0.04

   Ⓑ 0.08   Ⓓ no real square root

2. What is the real cube root of -64?

   Ⓕ 4   Ⓗ -8

   Ⓖ -4 Ⓘ no real cube root

3. What is the real fourth root of $-\frac{16}{81}$?

   Ⓐ $\frac{2}{3}$ Ⓒ $-\frac{4}{9}$

   Ⓑ $-\frac{2}{3}$ Ⓓ no real fourth root

4. What is the value of $\sqrt[3]{-0.027}$?

   Ⓕ -0.3 Ⓖ 0.3   Ⓗ -0.03 Ⓘ 0.03

5. What is the simplified form of the expression $\sqrt{4x^2y^4}$?

   Ⓐ $2xy^2$ Ⓑ $2|x|y^2$ Ⓒ $4xy^2$ Ⓓ $2|xy|$

6. What are the real solutions of the equation $x^4 = 81$?

   Ⓕ $-9, 9$ Ⓖ 3   Ⓗ $-3, 3$ Ⓘ -3

Short Response

7. The volume V of a cube with side length s is $V = s^3$. A cubical storage bin has volume 5832 cubic inches. What is the length of the side of the cube? Show your work.