NAME _____ DATE _____ PERIOD _____

# 1-3 Study Guide and Intervention

## *Squares and Square Roots*

The product of a number and itself is the **square** of the number. Numbers like 4, 25, and 2.25 are called **perfect squares** because they are squares of rational numbers. The factors multiplied to form perfect squares are called **square roots**. Both $5 \cdot 5$ and $(-5)(-5)$ equal 25. So, 25 has two square roots, 5 and $-5$. A **radical sign**, $\sqrt{\ }$, is the symbol used to indicate the *positive* square root of a number. So, $\sqrt{25} = 5$.

### Examples

**1** **Find the square of 5.**

$5 \cdot 5 = 25$

**2** **Find the square of 16.**

16 [$x^2$] [ENTER] **256**

**3** **Find $\sqrt{49}$.**

$7 \cdot 7 = 49$, so $\sqrt{49} = 7$.

**4** **Find $\sqrt{169}$.**

[2nd] [$\sqrt{\ }$] 169 [ENTER] **13**

So, $\sqrt{169} = 13$.

**Example 5** **A square tile has an area of 144 square inches. What are the dimensions of the tile?**

[2nd] [$\sqrt{\ }$] 144 [ENTER] **12** Find the square root of 144.

So, the tile measures 12 inches by 12 inches.

### Exercises

**Find the square of each number.**

**1.** 2 **4**

**2.** 9 **81**

**3.** 14 **196**

**4.** 15 **225**

**5.** 21 **441**

**6.** 45 **2,025**

**Find each square root.**

**7.** $\sqrt{16}$ **4**

**8.** $\sqrt{36}$ **6**

**9.** $\sqrt{256}$ **16**

**10.** $\sqrt{1{,}024}$ **32**

**11.** $\sqrt{361}$ **19**

**12.** $\sqrt{484}$ **22**

Lesson 1–3