NAME _____ DATE _____ PERIOD ____

# 11-1 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 [x²] [ENTER] **256**

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

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

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

[2nd] [√] 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] [√] 144 [ENTER] **12** Find the square root of 144.

So, the tile measures 12 inches by 12 inches.

Lesson 11-1

### EXERCISES

**Find the square of each number.**

1. 2 4
2. 9 81
3. 14 196
4. 15 225
5. 21 441
6. 45 2025

**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

NAME _____ DATE _____ PERIOD ____

# 11-1 Practice: Skills

## *Squares and Square Roots*

**Find the square of each number.**

**1.** 3

**2.** 22

**3.** 25

**4.** 24

**5.** 35

**6.** 26

**7.** 37

**8.** 50

**Find each square root.**

**9.** $\sqrt{25}$

**10.** $\sqrt{100}$

**11.** $\sqrt{441}$

**12.** $\sqrt{900}$

**13.** $\sqrt{961}$

**14.** $\sqrt{784}$

**15.** $\sqrt{3{,}600}$

**16.** $\sqrt{1{,}936}$

**17.** What is the square of $-37$?

**18.** Find both square roots of 4,900.

**19.** Square 7.2.

**20.** Square 4.5.