

**2-6****Study Guide and Intervention*****Multiplying Integers***

The product of two integers with different signs is negative.

The product of two integers with the same sign is positive.

**Example 1** Multiply  $5(-2)$ .

$$5(-2) = -10 \quad \text{The integers have different signs. The product is negative.}$$

**Example 2** Multiply  $-3(7)$ .

$$-3(7) = -21 \quad \text{The integers have different signs. The product is negative.}$$

**Example 3** Multiply  $-6(-9)$ .

$$-6(-9) = 54 \quad \text{The integers have the same sign. The product is positive.}$$

**Example 4** Multiply  $(-7)^2$ .

$$\begin{aligned} (-7)^2 &= (-7)(-7) && \text{There are 2 factors of } -7. \\ &= 49 && \text{The product is positive.} \end{aligned}$$

**Example 5** Simplify  $-2(6c)$ .

$$\begin{aligned} -2(6c) &= (-2 \cdot 6)c && \text{Associative Property of Multiplication.} \\ &= -12c && \text{Simplify.} \end{aligned}$$

**Example 6** Simplify  $2(5x)$ .

$$\begin{aligned} 2(5x) &= (2 \cdot 5)x && \text{Associative Property of Multiplication.} \\ &= 10x && \text{Simplify.} \end{aligned}$$

**Exercises****Multiply.**

1.  $-5(8)$  **-40**

2.  $-3(-7)$  **21**

3.  $10(-8)$  **-80**

4.  $-8(3)$  **-24**

5.  $-12(-12)$  **144**

6.  $(-8)^2$  **64**

**ALGEBRA Simplify each expression.**

7.  $-5(7a)$  **-35a**

8.  $3(-2x)$  **-6x**

9.  $4(6f)$  **24f**

10.  $7(6b)$  **42b**

11.  $-6(-3y)$  **18y**

12.  $7(-8g)$  **-56g**

**ALGEBRA Evaluate each expression if  $a = -3$ ,  $b = -4$ , and  $c = 5$ .**

13.  $-2a$  **6**

14.  $9b$  **-36**

15.  $ab$  **12**

16.  $-3ac$  **45**

17.  $-2c^2$  **-50**

18.  $abc$  **60**