

## Lesson 3-2

## Example 1

**Multiply.**

a.  $9 \cdot 5$

b.  $-10 \cdot (-6)$

c.  $-7 \cdot 9$

d.  $8 \cdot (-3)$

**Solution**

a.  $9 \cdot 5 = 45$

The product is positive because the signs of the factors are the same.

b.  $-10 \cdot (-6) = 60$

The product is positive because the signs of the factors are the same.

c.  $-7 \cdot 9 = -63$

The product is negative because the signs of the factors are different.

d.  $8 \cdot (-3) = -24$

The product is negative because the signs of the factors are different.

## Example 2

**Find each quotient. Then check by multiplying.**

a.  $90 \div 10$

b.  $-56 \div (-8)$

c.  $\frac{-64}{8}$

d.  $\frac{54}{-9}$

**Solution**

a.  $90 \div 10 = 9$

The quotient is positive because the signs of the dividend and divisor are the same.

Check:  $9 \cdot 10 = 90$

b.  $-56 \div (-8) = 7$

The quotient is positive because the signs of the dividend and divisor are the same.

Check:  $7 \cdot (-8) = -56$

c.  $\frac{-64}{8} = -8$

The quotient is negative because the signs of the dividend and divisor are different.

Check:  $-8 \cdot 8 = -64$

d.  $\frac{54}{-9} = -6$

The quotient is negative because the signs of the dividend and divisor are different.

Check:  $-6 \cdot (-9) = 54$

**Example 3**

**BUSINESS** Gina receives a raise of \$2 per hour each year she stays on her job. Describe her hourly wage 3 years ago.

**Solution**

The rate at which Gina's hourly wage increases is represented by a positive number, 2. The 3 years that have passed are represented by a negative number, -3.

Find the product.

$$2 \cdot (-3) = -6$$

Three years ago, Gina made \$6 an hour less than she does now.

**Example 4**

**HOBBIES** Kevin is playing a game of cards with two of his friends. In this game, a player's score on each turn may be a positive number, a negative number, or zero. At the end of the game, the player with the lowest score wins. Here are Kevin's scores for the rounds of this game. What was Kevin's average score per round in this game?

7	5	8	0	11	8
-26	3	0	9	13	10

**Solution**

Find the sum of Kevin's scores on all the rounds.

$$7 + 5 + 8 + 0 + 11 + 8 + (-26) + 3 + 0 + 9 + 13 + 10 = 48$$

Divide the sum by the number of rounds.

$$48 \div 12 = 4$$

Kevin's average score was 4 points (or +4 points) per round.