

LESSON

7

Introduction to Algebra

Reading Strategies: Follow a Procedure

Multiplication and division are **inverse operations**. You can think of them as **opposite operations**.

$$4 \cdot 12 = 48 \text{ and } 48 \div 12 = 4$$

$$6 \cdot 13 = 78 \text{ and } 78 \div 13 = 6$$

From these examples, you could say that division “**undoes**” the multiplication.

Follow these steps to “undo” the multiplication and solve.

$$7n = 84 \rightarrow \text{Read: “7 times } n \text{ equals 84.”}$$

Step 1: Get n by itself. Use division to “undo” multiplication. Since 7 is multiplied by n , divide by 7.

$$7n = 84$$

Step 2: To keep the equation balanced, divide the right side of the equation by 7 also.

$$7n \div 7 = 84 \div 7$$

Step 3: Check to verify that $n = 12$ is the solution.

$$n = 12$$

$$7n = 84$$

$$7 \cdot 12 \stackrel{?}{=} 84$$

$$84 \stackrel{?}{=} 84 \checkmark 12 \text{ is the solution.}$$

Answer each question.

1. What is another name for the “opposite operation”?
2. What is the inverse operation for multiplication?

Use $8z = 96$ for Exercises 3–6.

3. Write the equation in words.
4. What operation is used in the equation?
5. What operation will you perform on both sides of the equation to solve it?
6. Solve the equation.