

## LESSON

## 8

## Introduction to Algebra

## Reading Strategies: Follow a Sequence

Knowing that multiplication and division are **inverse operations** can help you solve division equations.

$$51 \div 3 = 17 \text{ and } 17 \cdot 3 = 51$$

$$65 \div 5 = 13 \text{ and } 13 \cdot 5 = 65$$

From these examples, you could say that multiplication “**undoes**” division. This makes sense, since multiplication and division are **opposite operations**.

Example:  $s \div 18 = 5 \rightarrow$  Read: “s divided by 18 equals 5.”

Follow these steps to solve:

**Step 1:** Get the variable by itself. Use multiplication to “undo” division. Since s is divided by 18, you will multiply by 18.

$$s \div 18 = 5$$

**Step 2:** To keep the equation balanced, multiply the right side of the equation by 18 also.

$$s \div 18 \cdot 18 = 5 \cdot 18$$

**Step 3:** Check to verify that  $s = 90$  is the solution.

$$s = 90$$

$$s \div 18 = 5$$

$$90 \div 18 \stackrel{?}{=} 5$$

$$5 \stackrel{?}{=} 5 \checkmark \quad 90 \text{ is the solution.}$$

**Use  $w \div 7 = 98$  for Exercises 1–4.**

- Write the equation in words.
- What operation is used in the equation?
- What operation will you perform on both sides of the equation to solve it?
- Write about how you would solve this problem step by step:  
 $7 = z \div 20$ .