Lesson 4
Solve and Write Multiplication Equations

The number by which a variable is multiplied is called the _______________.
For example, in the expression 5x, the coefficient of x is ________.
Because multiplication and division are inverse operations, use ___________ to solve a multiplication equation.

Example 1
Solve 2x = 6.

1. Draw a wall under the = sign
2. Move the coefficient to get variable alone.
3. Do the opposite operation on BOTH SIDES

CHECK:

Example 2
A category 5 hurricane can have a storm surge of 20 feet. This is about 5 times greater than the storm surge of a category 1 hurricane. What is the storm surge of a category 1 hurricane?
Exercises
Solve each equation. Check your solution.

1. \( \frac{5}{6}k = \frac{1}{6} \)  
2. \( 7c = 49 \)

3. \( 3u = 27 \)  
4. \( 24 = 6d \)

5. \( 18 = 3z \)  
6. \( 56 = 7v \)

7. Write and solve an equation to show the average number of calendars her 3rd period class sold per week during the four-week challenge.

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<th>Mrs. Hawkins’ Fundraising Challenge</th>
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Lesson 4 Homework Practice

Solve and Write Multiplication Equations

Solve each equation. Check your solution.

1. \(7a = 63\) 
2. \(14k = 0\)

3. \(13w = 39\) 
4. \(55 = 11x\)

5. \(3v = 42\) 
6. \(96 = 12f\)

7. **TIME** An ice breaker Joe can move through ice at a speed of 5.5 kilometers per hour. Write and solve a multiplication equation to find the number of hours it will take to travel 82.5 kilometers through the ice. (**Hint**: Use hours \(h\) as your variable)

Lesson 4

Solve and Write Multiplication Equations

The number by which a variable is multiplied is called the **coefficient**. For example, in the expression \(5x\), the coefficient of \(x\) is 5. Because multiplication and division undo each other, use division to solve a multiplication equation.

**Example 1**
Solve \(2x = 6\).

Method 1: Use models.

```
2x = 6
```

Method 2: Use symbols.

```
2x = 6
```
Write the equation.
Divide each side by 2 to undo the multiplication on the left.
Model the equation.

\[ \frac{2x}{2} = \frac{6}{2} \]

\[ x = 3 \]

Simplify.

**Check**

2x = 6

Write the original equation.

2(3) \(=\) 6

Replace x with 3.

\[ 6 = 6 \]

The sentence is true. \(\checkmark\)

The solution is 3.

**Example 2**

A category 5 hurricane can have a storm surge of 20 feet. This is about 5 times greater than the storm surge of a category 1 hurricane. What is the storm surge of a category 1 hurricane?

**Words**

5 times category 1 surge is category 5 surge.

**Variable**

Let \( c \) = category 1 storm surge.

**Equation**

\[ 5c = 20 \]

\[ \frac{5c}{5} = \frac{20}{5} \]

Divide both sides by 5.

\[ c = 4 \]

Simplify.

The storm surge of a category 1 hurricane is about 4 feet.