

# Solve Equations Using Multiplication and Division

To solve multiplication and division equations, multiply or divide each side of the equation by the same number.

$$4w = 24 \quad \text{means} \quad \text{"4 times a number equals 24"}$$

$$\frac{n}{3} = 7 \quad \text{means} \quad \text{"a number divided by 3 equals 7"}$$



Solve:  $4w = 24$

Solve:  $\frac{n}{3} = 7$

Divide both sides by 4 to "undo" the multiplication.

$$4w \div 4 = 24 \div 4$$

Check:

$$w = 6$$

$$4 \times 6 = 24$$

Multiply both sides by 3 to "undo" the division.

$$\frac{n}{3} \times 3 = 7 \times 3$$

Check:

$$n = 21$$

$$21 \div 3 = 7$$

► Solve and check.

1.  $5n = 15$  \_\_\_\_\_

2.  $\frac{n}{3} = 9$  \_\_\_\_\_

3.  $6r = 42$  \_\_\_\_\_

4.  $\frac{n}{8} = 12$  \_\_\_\_\_

5.  $12y = 72$  \_\_\_\_\_

6.  $\frac{x}{9} = 20$  \_\_\_\_\_

7.  $7z = 0$  \_\_\_\_\_

8.  $\frac{n}{10} = 31$  \_\_\_\_\_

9.  $9y = 108$  \_\_\_\_\_

Write the equations. Then solve.

10. The product of a number and 8 is 56. What is the number?

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11. A number divided by 12 is 4. What is the number?

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12. The quotient of a number divided by 6 is 30. What is the number?

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