Solve Equations Using Multiplication and Division

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

$$4w = 24$$

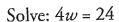
means

"4 times a number equals 24"

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

means

"a number divided by 3 equals 7"



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

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

Check:

$$w = 6$$

 $4 \times 6 = 24$

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

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

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

Check:

$$n = 21$$

21÷ 3 = 7

▶ Solve and check.

1.
$$5n = 15$$
 _____ 2. $\frac{n}{3} = 9$ _____

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

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

7.
$$7z = 0$$

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

Write the equations. Then solve.

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

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

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