

Multiplication Property of Equality

If $a = b$, then $a \cdot c = b \cdot c$

We can **multiply** both sides of an equation by the same value and the equation is still a true statement.

Division Property of Equality

If $a = b$, then $a \div c = b \div c$

We can **divide** both sides of an equation by the same value and the equation is still a true statement.

Inverse Operations

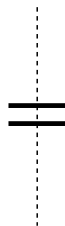
Pairs of operations that “undo” each other.

Multiplication and **Division** are **Inverse Operations**

Multiplication and **Division** “undo” each other.

Any operation done to the left side...

...must be done to the left side



...must be done to the right side

Any operation done to the right side...

Solve the following equations for x

$$\frac{3}{4}x = 12$$

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Dividing by a fraction is the same as multiplying by the reciprocal

Solve the following equations for x

$$\frac{4}{5}x = 20$$

$$\frac{1}{3}x = 13$$

Dividing by a fraction is the same as multiplying by the reciprocal

Solve the following equations for x

$$\frac{2}{7}x = -8$$

$$-\frac{3}{5}x = 12$$

Dividing by a fraction is the same as multiplying by the reciprocal

Solve the following equations for x

$$-\frac{1}{2}x = -9$$

$$\frac{3}{4}x = \frac{4}{7}$$

Dividing by a fraction is the same as multiplying by the reciprocal

Dividing by a fraction
is the same as
Multiplying by the reciprocal