

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

$$x \div 3 = 12$$

$$x \cdot 5 = 40$$

Solve the following equations for x

$$\frac{x}{5} = -8$$

$$-3x = 27$$

$$4x = -44$$

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

$$-5x = -10$$

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

Solve the following equations for x

$$7x = 35$$

$$\frac{x}{6} = -2$$

$$-x = -12$$

$$\frac{x}{2} = -13$$

$$-2x = -30$$

$$\frac{x}{-8} = 1$$

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Division Property of Equality

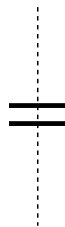
If $a = b$, then $a \div c = b \div c$

Multiplication and Division are Inverse Operations

Multiplication and Division “undo” each other.

Any operation done to the left side...

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Any operation done to the right side...