One-Step Equations

Find the variable (letter) in the equation.

Make sure every term has only ONE sign in front. **If not, make ONE sign**

Complete the inverse operation:

Addition ⟷ Subtraction

Multiplication ⟷ Division

GOAL for solving ALL equations: Isolate the variable on one side of the equal sign.

x = ____

Practice

1) $n + 12 = 4$ * Addition → Subtraction

$n + 12 \quad -12 \quad | \quad -12$

$n = -8$

2) $4x = 36$ * Multiplication → Division

$\frac{4x}{4} = \frac{36}{4}$ → $x = \frac{36}{4} = \boxed{9}$

One-Step Equations

3) $-32 = x + (-20)$

$-32 = x - 20$

$-32 + 20 = x - 20 + 20$

$-12 = x$

* Make one sign in front of every term.
* Subtraction → Addition

4) $x - (-16) = 44$

$x + 16 = 44$

$x + 16 - 16 = 44 - 16$

$x = 28$

* make one sign in front of every term.
* Addition → subtraction

5) $\frac{n}{10} = 13$

* Division → Multiplication

$10 \cdot \frac{n}{10} = 13 \cdot 10$

$n = 130$

6) $\frac{-1}{5} y = -20$

* Multiply by the reciprocal

$\frac{5}{1} \cdot \frac{-1}{5} y = -20 \cdot \frac{-5}{1}$

$y = \frac{-20}{1} \rightarrow \frac{-5}{1}$

$y = 100$