

What is the opposite operation ?

Operation	Inverse
+	-
-	+
X	÷
÷	X

Inverse operations "undo" or reverse each other's results.

Addition and Subtraction are inverse operations

Multiplication and Division are inverse operations

One Step Equations (Add/Subtract): Solve, then verify

Solve	Verify
$\begin{array}{r} x + 2 = 10 \\ -2 \quad -2 \\ \hline x = 8 \end{array}$	$\begin{array}{l} x + 2 = 10 \\ (8) + 2 = 10 \\ 10 = 10 \checkmark \end{array}$
$\begin{array}{r} x - 5 = -1 \\ +5 \quad +5 \\ \hline x = 4 \end{array}$	$\begin{array}{l} x - 5 = -1 \\ (4) - 5 = -1 \\ -1 = -1 \checkmark \end{array}$
$\begin{array}{r} -4 + x = -2 \\ +4 \quad +4 \\ \hline x = 2 \end{array}$	$\begin{array}{l} -4 + x = -2 \\ -4 + (2) = -2 \\ -2 = -2 \checkmark \end{array}$

Solving One and Two Step Equations

One Step Equations (Multiply/Divide): Solve, then verify

Solve	Verify
$\frac{4x}{4} = \frac{16}{4}$ $x = 4$	$4x = 16$ $4(4) = 16$ $16 = 16 \checkmark$
$\frac{-3x}{-3} = \frac{-15}{-3}$ $x = 5$	$-3x = -15$ $-3(5) = -15$ $-15 = -15 \checkmark$
$\frac{x}{3} \times 3 = -2 \times 3$ $x = -6$	$\frac{x}{3} = -2$ $\frac{-6}{3} = -2$ $-2 = -2 \checkmark$

Two Step Equations: Solve, then verify

Solve	Verify
$4d + 3 = 27$ $\frac{4d}{4} = \frac{24}{4}$ $d = 6$	$4d + 3 = 27$ $4(6) + 3 = 27$ $24 + 3 = 27$ $27 = 27 \checkmark$
$9d - 1 = 35$ $\frac{9d}{9} = \frac{36}{9}$ $d = 4$	$9d - 1 = 35$ $9(4) - 1 = 35$ $36 - 1 = 35$ $35 = 35 \checkmark$
$5 - 2x = 6$ $\frac{-2x}{-2} = \frac{1}{-2}$ $x = -\frac{1}{2} \text{ or } -0.5$	$5 - 2x = 6$ $5 - 2(-0.5) = 6$ $5 - (-1) = 6$ $6 = 6 \checkmark$

Solving One and Two Step Equations

Two Step Equations: Solve, then verify

Solve	Verify
$\frac{x}{3} + 2 = 10$ $\frac{x}{3} \times 3 = 8 \times 3$ $x = 24$	$\frac{x}{3} + 2 = 10$ $\frac{24}{3} + 2 = 10$ $8 + 2 = 10$ $10 = 10 \checkmark$

$$-2 + \frac{x}{4} = 7$$

$$+2 \quad +2$$

$$\frac{x}{4} \times 4 = 9 \times 4$$

$$x = 36$$

$$-2 + \frac{x}{4} = 7$$

$$-2 + \frac{36}{4} = 7$$

$$-2 + 9 = 7$$

$$7 = 7 \checkmark$$

Two Step Equations: Solve, then verify

Solve	Verify
$\frac{4x}{5} = 4$ $4x = 20$ $\frac{4x}{4} = \frac{20}{4}$ $x = 5$	$\frac{4x}{5} = 4$ $\frac{4(5)}{5} = 4$ $\frac{20}{5} = 4$ $4 = 4 \checkmark$
$\frac{1}{4}x + 2 = 10$ $\frac{1}{4}x = 8$ $x = 8 \times 4 = 32$	$\frac{1}{4}x + 2 = 10$ $\frac{1}{4}(32) + 2 = 10$ $\frac{32}{4} + 2 = 10$

$$8 + 2 = 10$$

$$10 = 10 \checkmark$$

