

7th Grade
3.4 Solving 2-Step Equations

Use the reverse order of operations
PEMDAS

Do/Undo Method - Foldable

Solve for x: $\frac{x}{4} - 3 = 2$

Front of flap		Inside of flap	
Do		Undo	
Start with x	x	End with x	x = 20
Divide by 4	$\frac{x}{4}$	Multiply by 4	$5 \cdot 4 = 20$
Subtract 3	$\frac{x}{4} - 3$	Add 3	$2 + 3 = 5$
End with 2	$\frac{x}{4} - 3 = 2$	Start with 2	2

DO/UNDO Method for Solving Equations

2) $24 = 5x - 4$

$\downarrow +4$ | $\div 5$ \uparrow
 -4
 24

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

$4 = x$

$$3) \quad -2y - 1 = 3$$

$$\begin{array}{l} \cdot -2 \quad | \quad \div \cdot -2 \uparrow \\ -7 \quad | \quad +7 \end{array}$$

$$\frac{-2y}{-2} = \frac{10}{-2}$$

$$y = -5$$

$$4) \quad 4 + 5r = -11$$

$$\begin{array}{l} \cdot 5 \quad \div 5 \uparrow \\ +4 \quad -4 \end{array}$$

$$\frac{5r}{5} = \frac{-15}{5}$$

$$r = -3$$

$$\begin{array}{l} 4 + 5 \cdot -3 = \\ 4 + -15 = -11 \checkmark \end{array}$$

$$5) \quad -3c + 9 = 3$$

$$\frac{-3c}{-3} = \frac{-6}{-3}$$

$$c = 2$$

$$\begin{array}{l} -3 \cdot 2 + 9 \checkmark \\ -6 + 9 = 3 \end{array}$$

$$6) \quad 6 + 3t = 0$$

$$\frac{3t}{3} = \frac{-6}{3}$$

$$t = -2$$

$$\begin{array}{l} 6 + 3 \cdot -2 \checkmark \\ 6 + -6 = 0 \end{array}$$

Try this:

$$a) \quad 4x + 5 = 13$$

-5 -5

$$\frac{4x}{4} = \frac{8}{4}$$

$$x = 2$$

$$b) \quad -3n - 8 = 7$$

+8 +8

$$\frac{-3n}{-3} = \frac{15}{-3}$$

$$n = -5$$

$$c) \quad 1 + 2y = -3$$

-1 -1

$$\frac{2y}{2} = \frac{-4}{2}$$

$$y = -2$$

Homework

pg 476; 4-11, 13-24