

**Math 8: Unit 10**  
10.2 and 10.3 Two Step Equations

\* To solve an equation, isolate the variable on one side of the equal sign. (get the letter by itself)

But How?

$$y = \underline{\hspace{2cm}}$$

When undoing the operation performed on the variable, follow the reverse order of operations:

Add and/or subtract **THEN** Multiply &/or divide

\*backwards from BEDMAS -

SAMDEB

Is  $x = -2$  the solution to the equation?

$$3 - 7x = -24$$

$$3 - 7(-2) = -24$$

$$3 - (-14) = -24$$

$$17 \neq -24$$

NO,  $x = -2$  is not the solution

Cali borrowed \$19 from her brother. The next day, she paid back \$3. To pay off the rest of the debt, she will give him \$4/week. How many weeks will it take her to pay off the debt?

Let  $w$  represent the number of weeks.

$$19 = 3 + 4w \quad \text{SAMDEB}$$

$$\begin{array}{r} 19 \\ -3 \\ \hline 16 \end{array} = \begin{array}{r} 4w \\ -4 \\ \hline 4 \end{array}$$

$$4 = w$$

I + takes  
Cali 4 weeks  
to pay back  
her brother.

Let's Try!  $g =$

$$a) 4 + 26g = -48$$

$$\begin{array}{r} 4 + 26g = -48 \\ -4 \quad -4 \\ \hline 26g = -52 \\ \hline 26 \quad 26 \\ \hline g = -2 \end{array}$$

$$b) -3x + 7 = 19$$

$$\begin{array}{r} -3x + 7 = 19 \\ -7 \quad -7 \\ \hline -3x = 12 \\ \hline -8 \quad -3 \\ \hline x = -4 \end{array}$$

You Try!

$$a) 2g + 4 = -6$$

$$2g + 4 - 4 = -6 - 4$$

$$\begin{array}{r} 2g = -10 \\ \hline 2 \quad 2 \\ \hline g = -5 \end{array}$$

$$b) -2r - 7 = -11$$

$$-2r - 7 + 7 = -11 + 7$$

$$\begin{array}{r} -2r = -4 \\ \hline -2 \quad -2 \\ \hline r = 2 \end{array}$$

$$c) 6n + 6 = 12$$

$$6n + 6 - 6 = 12 - 6$$

$$\begin{array}{r} 6n = 6 \\ \hline 6 \quad 6 \\ \hline n = 1 \end{array}$$

$$d) 13 = 9 + 2p$$

$$13 - 9 = 9 - 9 + 2p$$

$$\begin{array}{r} 4 = 2p \\ \hline 2 \quad 2 \\ \hline 2 = p \end{array}$$

Solve and Check:

$$X = \underline{\hspace{2cm}}$$

$$2x - 4 = 8$$

$$\begin{array}{r} 2x - 4 = 8 \\ +4 \quad +4 \\ \hline 2x = 12 \\ \hline 2 \quad 2 \\ \hline x = 6 \end{array}$$

$$LS = RS$$

$$2x - 4 = 8$$

$$2(6) - 4 = 8$$

$$12 - 4 = 8$$

$$8 = 8$$

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