

EXTRA, EXTRA, LEARN ALL ABOUT IT!
Solving Two-Step Equations

Solving two-step equations is not much more complicated than solving one-step equations; it just involves an extra step.

The general rule of thumb when getting the variable alone is to undo the order of operations (PEMDAS). Undo any addition or subtraction first, then undo any multiplication or division.

Let's look at an example:

$$\begin{array}{r}
 2x - 6 = 12 \\
 +6 \quad +6 \\
 \hline
 2x = 18 \\
 \frac{2x}{2} = \frac{18}{2} \\
 \hline
 x = 9
 \end{array}$$

Check:

$$\begin{array}{l}
 2(9) - 6 \stackrel{?}{=} 12 \\
 18 - 6 \stackrel{?}{=} 12 \\
 12 = 12 \checkmark
 \end{array}$$

Here's another example:

$$\begin{array}{r}
 15 = \frac{m}{3} + 3 \\
 -3 \quad -3 \\
 \hline
 3 \cdot 12 = \frac{m}{3} \cdot 3 \\
 \hline
 36 = m
 \end{array}$$

Check:

$$\begin{array}{l}
 15 \stackrel{?}{=} \frac{36}{3} + 3 \\
 15 \stackrel{?}{=} 12 + 3 \\
 15 = 15 \checkmark
 \end{array}$$

Give it a Try!

Solve the equations algebraically. SHOW ALL YOUR WORK!

1.) $28 = \frac{y}{6} + 4$

2.) $18 + 2x = 38$

3.) $4x - 22 = 122$

Check your work:

Check your work:

Check your work:

4.) $\frac{p}{4} + 8 = 7$

5.) $-5x + 13 = -17$

6.) $4x - 12 = 12$

Check your work:

Check your work:

Check your work:

7.) $\frac{r}{6} + 21 = 81$

8.) $-5x + 13 = -17$

9.) $\frac{p}{4} - 3 = 1$

Check your work:

Check your work:

Check your work:

CHALLENGE QUESTIONS.

Using distributive property, and solving algebraically, solve the equations. **SHOW ALL YOUR WORK!**

10.) $4(x + 4) = 36$

11.) $2(-3x - 9) = 36$

Check your work:

Check your work: