

B2 Solving Equations: Two Steps

Note Title

15/05/2015

Follow the same rules as last day:

* use SAMDERS to Solve * use BEDMAS to Check *

Solve:

$$\begin{aligned} \textcircled{1} \quad 2x + 1 &= 7 \\ -1 & \quad -1 \\ \hline 2x &= 6 \\ \div 2 & \quad \div 2 \\ \hline x &= 3 \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad 3m - 6 &= -21 \\ +6 & \quad +6 \\ \hline 3m &= -15 \\ \div 3 & \quad \div 3 \\ \hline m &= -5 \end{aligned}$$

$$\begin{aligned} \textcircled{3} \quad -5h + 4 &= -6 \\ -4 & \quad -4 \\ \hline -5h &= -10 \\ \div -5 & \quad \div -5 \\ \hline h &= 2 \end{aligned}$$

$$\begin{aligned} \textcircled{4} \quad -18 &= 6 - 3x \\ -6 & \quad -6 \\ \hline -24 &= -3x \\ \div -3 & \quad \div -3 \\ \hline 8 &= x \end{aligned}$$

$$\begin{aligned} \textcircled{5} \quad \frac{x}{3} + 16 &= 23 \\ -16 & \quad -16 \\ \hline \frac{x}{3} &= 7 \\ \times 3 & \quad \times 3 \\ \hline x &= 21 \end{aligned}$$

$$\begin{aligned} \textcircled{6} \quad 6 &= 9 + \frac{r}{5} \\ -9 & \quad -9 \\ \hline -3 &= \frac{r}{5} \\ \times 5 & \quad \times 5 \\ \hline -15 &= r \end{aligned}$$

Solve and Check:
 → start w/eqn
 → sub. in ans
 → BEDMAS

Nothing to change
 Work down until matches other side

$$\begin{aligned} \textcircled{1} \quad 31 &= 7 - 3x \\ -7 & \quad -7 \\ \hline 24 &= -3x \\ \div -3 & \quad \div -3 \\ \hline -8 &= x \end{aligned}$$

$$\begin{aligned} 31 &= 7 - 3x \\ &= 7 - 3(-8) \\ &= 7 + 24 \\ 31 &= 31 \quad \checkmark \end{aligned}$$

②
$$\frac{y}{-4} - 11 = -18$$

$$\frac{y}{-4} + 11 = -18$$

$$\frac{y}{-4} = -7$$

$$y = 28$$

$$\frac{y}{-4} - 11 = -18$$

$$\frac{28}{-4} - 11 = -18$$

$$-7 - 11 = -18$$

$$-18 = -18 \checkmark$$

status same

Word Problems:

- ① Half of Jake's age increased by four is the same as Wyatt's age. If Wyatt is 13, how old is Jake? Use an equation to solve.

Variable Required

$$\frac{1}{2}J + 4 = W$$

$$\frac{J}{2} + 4 = 13 \quad (\text{great eqn})$$

$$\frac{J}{2} = 9$$

$$J = 18 \text{ yrs}$$

- ② A cat sleeps 14 hours per day. This is 1 hour less than twice the amount a dog sleeps. How long does the dog sleep? Use an equation.

$$\text{cat} = \text{dog}$$

$$14 = -1 + 2d$$

$$14 = -1 + 2d \quad (\text{eqn})$$

$$15 = 2d$$

$$7.5 = d$$

Dog Sleeps 7.5hrs