

10.2 Modelling & Solving Two-Step Equations:

$$ax+b=c$$

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To solve an equation, isolate the variable on one side of the equal sign

↳ follow the reverse order of operations

- add or subtract
- multiply or divide

Ex #1

$$\begin{aligned} \text{a) } 2x - 4 &= 8 \\ +4 & \quad +4 \\ \hline 2x &= 12 \\ \frac{2x}{2} &= \frac{12}{2} \\ \boxed{x=6} \end{aligned}$$

$$\begin{aligned} \text{b) } 2e - 1 &= 7 \\ +1 & \quad +1 \\ \hline 2e &= 8 \\ \frac{2e}{2} &= \frac{8}{2} \\ \boxed{e=4} \end{aligned}$$

substitute your answer into the original question to check your solution

$$\begin{aligned} 2(6) - 4 &= 8 \\ 12 - 4 &= 8 \\ 8 &= 8 \quad \checkmark \end{aligned}$$

$$\begin{aligned} 2(4) - 1 &= 7 \\ 8 - 1 &= 7 \\ 7 &= 7 \quad \checkmark \end{aligned}$$

Ex #2

$$\begin{aligned} \text{a) } 4w + 3 &= 19 \\ -3 & \quad -3 \\ \hline 4w &= 16 \\ \frac{4w}{4} &= \frac{16}{4} \\ \boxed{w=4} \end{aligned}$$

$$\begin{aligned} \text{b) } -5x - 12 &= -42 \\ +12 & \quad +12 \\ \hline -5x &= -30 \\ \frac{-5x}{-5} &= \frac{-30}{-5} \\ \boxed{x=6} \end{aligned}$$

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