

2-Step Equations 2/5

$2x + 3 = 15$
 $\frac{x}{2} - 3 = 5$

1st Move the constant
(Add/Subtract)

$$\begin{array}{r} 2x + 3 = 15 \\ -3 \quad -3 \\ \hline 2x = 12 \end{array}$$

$$\begin{array}{r} \frac{x}{2} - 3 = 5 \\ +3 \quad +3 \\ \hline \frac{x}{2} = 8 \end{array}$$

2nd Divide by the Coefficient

$$\frac{2x}{2} = \frac{12}{2}$$

$$\boxed{x = 6}$$

— OR —

Multiply by the denominator

$$2 \cdot \frac{x}{2} = 8 \cdot 2$$

$$\boxed{x = 16}$$

Why are those my answers?

Check:

$2x + 3 = 15$ ($x=6$)

$2(6) + 3 = 15$

$12 + 3 = 15$

$15 = 15 \checkmark$

$\frac{x}{2} - 3 = 5$ ($x=16$)

$\frac{16}{2} - 3 = 5$

$8 - 3 = 5$

$5 = 5 \checkmark$

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Practice

① $5x + 9 = 24$ ①

$$\begin{array}{r} 5x + 9 = 24 \\ -9 \quad -9 \quad ② \\ \hline 5x = 15 \quad ③ \\ \frac{5x}{5} = \frac{15}{5} \quad ④ \\ \boxed{x = 3} \quad ⑤ \end{array}$$

② $\frac{a}{3} + 4 = -2$

$$\begin{array}{r} \frac{a}{3} + 4 = -2 \\ -4 \quad -4 \\ \hline \frac{a}{3} = -6 \cdot 3 \\ \frac{a}{3} = -18 \\ \boxed{a = -18} \end{array}$$

$$\begin{aligned} \textcircled{3} \quad & \cancel{3} - 2x = 15 \\ & \underline{-3 \quad | \quad -3} \\ & -2x = 12 \\ & \underline{-2 \quad | \quad -2} \\ & \boxed{X = -6} \end{aligned}$$

$$\begin{aligned} \textcircled{4} \quad & -12 = 2x - \cancel{5} \\ & \underline{+5 \quad | \quad +5} \\ & -7 = 2x \\ & \underline{2 \quad | \quad 2} \\ & \boxed{X = -3.5} \end{aligned}$$

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on own

$$\begin{aligned} \textcircled{1} \quad & -2x - \cancel{3} = 13 \\ & \underline{+3 \quad | \quad +3} \\ & -2x = 16 \\ & \underline{-2 \quad | \quad -2} \\ & \boxed{X = -8} \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad & \frac{X}{4} + \cancel{9} = 7 \\ & \underline{-9 \quad | \quad -9} \\ & 4 \cdot \frac{X}{4} = -2 \cdot 4 \\ & \boxed{X = -8} \end{aligned}$$

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