

Solving Multi-Step Equations With Fractions ^{11/9}

Steps:

1. ALWAYS Distribute First

2. Multiply EVERYTHING by the LCD

3. Solve the Equation.

↳ If you have a mixed # → Make it an improper Fraction

Nov 5-9:23 AM

$$\frac{1}{8} \text{ and } \frac{3}{10}$$

$$8: 8, 16, 24, 32, 40$$

$$10: 10, 20, 30, 40$$

$$\frac{5}{6} \text{ and } \frac{3}{4}$$

$$6: 6, 12, 18$$

$$4: 4, 8, 12$$

$$10 \quad 9$$

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Examples

$$1. \frac{1}{2}(2x+10) = 3x+7$$

$$1x + 5 = 3x + 7$$

$$\begin{array}{r} -3x \\ \hline -2x + 5 = 7 \\ -5 \quad -5 \\ \hline -2x = 2 \end{array}$$

$$\begin{array}{r} -2x = 2 \\ -2 \quad -2 \\ \hline x = -1 \end{array}$$

$$2. \frac{2}{3}(9+x) = -5(4-x)$$

$$3. 6 + \frac{2}{3}x = -20 + 5x$$

$$6 = -20 + 4\frac{1}{3}x$$

$$+20 \quad +20$$

$$26 = 4\frac{1}{3}x$$

$$\frac{4\frac{1}{3}}{4\frac{1}{3}} \quad \frac{4\frac{1}{3}}{4\frac{1}{3}}$$

$$x = 6$$

$$18 + 2x = -60 + 15x$$

$$\begin{array}{r} -2x \\ \hline 18 = -60 + 13x \\ +60 \quad +60 \\ \hline 78 = 13x \end{array}$$

$$\begin{array}{r} 78 = 13x \\ \frac{78}{13} = \frac{13x}{13} \\ \hline x = 6 \end{array}$$

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$$3. 2\left(-\frac{9}{2} + x\right) = 4(x-3) + \frac{11}{2}$$

$$-9 + 2x = 4x - 12 + 5.5$$

$$-9 + 2x = 4x - 6.5$$

$$\begin{array}{r} -2x \quad -2x \\ \hline -9 = 2x - 6.5 \\ +6.5 \quad +6.5 \\ \hline -2.5 = 2x \end{array}$$

$$\frac{-2.5}{2} = \frac{2x}{2}$$

$$x = -1.25$$

if the fraction is NOT a repeating decimal - use the decimal.

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4. $-\frac{3}{8}(-6-2y) = \frac{1}{2}(2y-3) - 1$

$\frac{9}{4} + \frac{3}{4}y = 1y - \frac{3}{2} - 1$

$2.25 + 0.75y = 1y - 1.5 - 1$

$2.25 + 0.75y = 1y - 2.5$

$\begin{array}{r} -0.75y \quad -0.75y \\ \hline 2.25 = 0.25y - 2.5 \\ +2.5 \quad \quad +2.5 \\ \hline 4.75 = 0.25y \\ \hline 0.25 \quad 0.25 \\ \hline y = 19 \end{array}$

* Make Mixed #s Improper fractions

Nov 5-9:46 AM