

Solving Linear Equations

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Ex 4) $6(x+1) + 5 = 13 - 2 + 6x$

$$\begin{array}{rcl} \cancel{6x+6+5} & = & 13-2+6x \\ \cancel{6x+11} & = & 11 \\ -6x & & \cancel{-6x} \\ \hline 11 & = & 11 \end{array}$$

Infinite # of Solutions

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Ex 5) $\frac{3}{2}p - 2 = -\frac{7}{8}$ $\frac{3}{2}p = 2 - \frac{7}{8}$
Multiply each term by 8

$$\begin{aligned} \frac{3}{2}p - 2 &= -\frac{7}{8} + 2 \\ \frac{3}{2}p &= -\frac{7}{8} + \frac{16}{8} \\ \frac{3}{2}p &= \frac{9}{8} \\ p &= \frac{9}{8} \cdot \frac{2}{3} = \frac{18}{24} = \frac{3}{4} = 0.75 \end{aligned}$$

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$$\begin{aligned} \frac{3}{2}p - 2 &= -\frac{7}{8} \\ \text{multiply each term by 8} \\ (8)\frac{3}{2}p - 2(8) &= -\frac{7}{8}(8) \\ 12p - 16 &= -7 \\ 12p &= -7 + 16 \\ 12p &= 9 \\ p &= \frac{9}{12} = \frac{3}{4} = 0.75 \end{aligned}$$

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Ex 6) x
The sum of a number and 9 is multiplied by -2 and the answer is -8. Find the number.

$$\begin{aligned} -2(x+9) &= -8 \\ -2x - 18 &= -8 \\ +18 & \quad +18 \\ -2x &= 10 \\ \frac{-2x}{-2} &= \frac{10}{-2} \\ x &= -5 \end{aligned}$$

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Ex. 7) Solve $P = 2L + 2w$ for w

Steps:
① put w in one side

$$\begin{aligned} P &= 2L + 2w \\ -2L & \quad -2L \\ \frac{P-2L}{2} &= \frac{2w}{2} \\ \frac{P-2L}{2} &= w \end{aligned}$$

Aug 20-11:54 AM