

Solve the following equation and check the answer. Identify whether the following equation is an identity or a conditional equation.

$$4t - 8 = 6t + 12$$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

$$\begin{array}{r}
 4t - 8 = 6t + 12 \\
 \underline{-4t \quad -4t} \\
 -8 = 2t + 12 \\
 \underline{-12 \quad -12} \\
 -20 = 2t
 \end{array}$$

$$\begin{array}{r}
 -20 = 2t \\
 \underline{\quad \quad 2} \\
 t = -10 \\
 -10 = t
 \end{array}$$

$$\begin{array}{r} 2t + 1 = 2t - 5 \\ -2t \quad -2t \\ \hline \end{array}$$

$$1 \neq -5$$

\emptyset

$$\left\{ \begin{array}{r} 3t - 1 = 3t - 1 \\ -3t \quad -3t \\ \hline -1 = -1 \\ \text{all Real \#} \end{array} \right.$$

$$\frac{3}{1} \left(\frac{X-3}{4} \right) + \frac{12}{1} \left(\frac{1}{2} \right) = \frac{12}{1} \left(\frac{X+2}{6} \right) \quad \text{Solve}$$

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

$$3x - 9 + 6 = 2x + 4$$

$$\begin{array}{r} 3x - 3 = 2x + 4 \\ -2x \quad \quad -2x \\ \hline \end{array}$$

$$\begin{array}{r} x - 3 = 4 \\ +3 \quad \quad +3 \\ \hline \end{array}$$

$$x = 7$$

conditional equation.

$$2(x+1) - 9x = -(x-10) + (2x+2)$$

$$\frac{-5}{4}, \frac{-10}{7}$$

Select the correct choice below and, if necessary, fill in

$$2x+2-9x = -x+10+2x+2$$

$$-7x+2 = x+12$$

$$\begin{array}{r} -7x+2 \\ \hline -8x+2 = 12 \\ \hline -8x = 10 \end{array}$$

$$-8x = 10$$

$$\begin{array}{r} -8x = 10 \\ \hline -8 \quad \hline -8 \end{array}$$

$$x = -\frac{5}{4}$$

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

$3 = 3$ ✓
all real #'s

$$\begin{array}{r} 3x - 1 = 3x + 2 \\ -3x \quad -3x \\ \hline \end{array}$$

$$-1 \neq 2$$

\emptyset

Solve

$$\frac{4}{1} \left(\frac{3x+1}{2} \right) - \frac{6}{1} \left(\frac{3}{1} \right) = \frac{4}{1} \left(\frac{x-3}{6} \right)$$

$$2(3x+1) - 18 = x-3$$

$$9x+3-18 = x-3$$

$$9x-15 = x-3$$

$$\begin{array}{r} x+15 \\ -x+15 \\ \hline 8x = 12 \end{array}$$

$$\frac{8x}{8} = \frac{12}{8} = \frac{3}{2}$$

$$x = \frac{3}{2}$$