

Solving for x with Fractions

$$\textcircled{1} \quad \frac{2}{3}x - 15 = 65$$

$$\begin{array}{r} \\ +15 \quad +16 \\ \hline 3 \left[\frac{2}{3}x = 80 \right] \\ \frac{2x}{2} = \frac{240}{2} \\ x = 120 \end{array}$$

$$\textcircled{2} \quad 5 \left[2x = \frac{49}{5} \right]$$

$$\begin{array}{r} \frac{10x}{10} = \frac{49}{10} \\ x = \frac{49}{10} \end{array}$$

$$\textcircled{3} \quad 10 \left[\frac{9}{10}x = -\frac{11}{10} \right]$$

$$\begin{array}{r} \frac{9x}{9} = \frac{-11}{9} \\ x = -\frac{11}{9} \end{array}$$

$$\textcircled{4} \quad 5 \left[\frac{12}{5} = \frac{1}{3} + x \right]$$

$$\begin{array}{r} 3 \left[12 = \frac{5}{3} + 5x \right] \\ 36 = 5 + 15x \\ -5 \quad -5 \\ \hline 31 = 15x \\ \frac{31}{15} = x \end{array}$$

$$\textcircled{5} \quad 7 \left[x - \frac{4}{7} = 14 \right]$$

$$\begin{array}{r} 7x - 4 = 98 \\ +4 \quad +4 \\ \hline 7x = 102 \\ \frac{7x}{7} = \frac{102}{7} \\ x = \frac{102}{7} \end{array}$$

or $x - \frac{4}{7} = 14$

$$\begin{array}{r} +\frac{4}{7} \quad +\frac{4}{7} \\ \hline x = 14\frac{4}{7} \end{array}$$

$$\textcircled{6} \quad 2 \left[x - \frac{x-1}{2} = 0 \right]$$

$$\begin{array}{r} 2x - x + 1 = 0 \\ x + 1 = 0 \\ -1 \quad -1 \\ \hline x = -1 \end{array}$$

$$\textcircled{7} \quad \frac{1}{3} = x + \frac{4}{3}$$

$$\begin{array}{r} -\frac{4}{3} \quad -\frac{4}{3} \\ \hline -1 = x \end{array}$$

$$\textcircled{8} \quad 6 \left[\frac{1}{2} + \frac{x}{3} = \frac{x}{2} \right]$$

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

$$\textcircled{9} \quad x - \frac{3}{9} = 15$$

$$\begin{array}{r} 3 \left[x - \frac{1}{3} = 15 \right] \\ 3x - 1 = 45 \\ +1 \quad +1 \\ \hline 3x = 46 \\ \frac{3x}{3} = \frac{46}{3} \\ x = \frac{46}{3} \end{array}$$

$$\textcircled{10} \quad 3 \left[\frac{2x-1}{3} + 3 = x \right]$$

$$\begin{array}{r} 2x - 1 + 9 = 3x \\ 2x + 8 = 3x \\ -2x \quad -2x \\ \hline 8 = x \end{array}$$