

Solving Equations Practice

Solve the following equations using properties of equality. Show all of your work and check your solution. Leave all answers as fractions in lowest terms.

1.) $4x - 18 = 3x$

$$\begin{array}{r} -4x \quad -4x \\ \hline -18 = \frac{-x}{-1} \end{array}$$

$$18 = x$$

2.) $7n = -35n - 6$

$$\begin{array}{r} +35n \quad +35n \\ \hline 42n = \frac{-6}{42} \end{array}$$

$$n = -\frac{1}{7}$$

3.) $5x + 6 = -14x - 13$

$$\begin{array}{r} +14x \quad +14x \\ \hline 19x + 6 = \frac{-13}{-6} \\ \hline 19x = \frac{-19}{19} \end{array}$$

$$x = -1$$

4.) $-2m = 6m - 9 + 10m$

$$\begin{array}{r} -2m = 16m - 9 \\ -16m \quad -16m \\ \hline -18m = \frac{-9}{-18} \end{array}$$

$$m = \frac{1}{2}$$

5.) $13 - 4h = 11(4h - 3)$

$$\begin{array}{r} 13 - 4h = 44h - 33 \\ +4h \quad +4h \\ \hline 13 = 48h - 33 \\ +33 \quad +33 \\ \hline 46 = \frac{48h}{48} \end{array}$$

$$\frac{23}{24} = h$$

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

$$\begin{array}{r} -5 \quad -5 \\ \hline 3 \left(\frac{x}{3} \right) = (-7) \cdot 3 \end{array}$$

$$x = -21$$

$$7.) 9 - \frac{2}{3}x = -1$$

$$\frac{-9 \quad -9}{\frac{3}{1} \left(-\frac{2}{3}x \right) = (-10)3}$$

$$\frac{-2x = -30}{-2 \quad -2}$$

$$x = 15$$

$$8.) 4 \left(\frac{3x-5}{4} \right) = (10)4$$

$$\frac{3x-5 = 40}{+5 \quad +5}$$

$$\frac{3x = 45}{3 \quad 3}$$

$$x = 15$$

$$9.) \frac{8-x}{3} - 18 = -20$$

$$\frac{+18 \quad +18}{\frac{3}{1} \left(\frac{8-x}{3} \right) = (-2)3}$$

$$\frac{8-x = -6}{-8 \quad -8}$$

$$\frac{-x = -14}{-1 \quad -1}$$

$$x = 14$$

$$10.) \frac{2}{5}h - \frac{6}{5} = 2 + \frac{3}{5}h$$

$$\frac{-\frac{2}{5}h \quad -\frac{2}{5}h}{-\frac{6}{5} = 2 + \frac{1}{5}h}$$

$$\frac{-2 \quad -2}{5 \left(-\frac{16}{5} \right) = \left(\frac{1}{5}h \right) 5}$$

$$-16 = h$$

$$-16 = h$$