

Aug 28

Solve Linear Equations

What is a linear equation?

- Highest variable is X

(Ex1) Solve: $-9x + 1 = -80$

$$\begin{array}{r|l} -9x + 1 & = -80 \\ \hline -9x & = -81 \\ \hline \frac{-9x}{-9} & = \frac{-81}{-9} \\ \hline \boxed{x = 9} & \end{array}$$

(Ex2) Solve: $6(2x + 3) = -18$

$$\begin{array}{r|l} 12x + 18 & = -18 \\ \hline 12x & = -36 \\ \hline \frac{12x}{12} & = \frac{-36}{12} \\ \hline \boxed{x = -3} & \end{array}$$

(Ex3) Solve: $5(x - 3) + 4x = 6$

$$5x - 15 + 4x = 6$$

$$\begin{array}{r|l} 9x - 15 & = 6 \\ \hline 9x & = 21 \\ \hline \frac{9x}{9} & = \frac{21}{9} \\ \hline \boxed{x = 2.33} & \text{ or } \boxed{x = \frac{7}{3}} \end{array}$$

Ex4 Solve: $x+2 = 3(2x-3)$

$$\begin{array}{r} x+2 = 6x-9 \\ -6x \quad -6x \\ \hline \end{array}$$

$$\begin{array}{r} -5x+2 = -9 \\ -2 \quad -2 \\ \hline \end{array}$$

$$\begin{array}{r} -5x = -11 \\ -5 \quad -5 \\ \hline \end{array}$$

$$\boxed{x = 2.2} \text{ or } \boxed{x = \frac{11}{5}}$$