

Solving Equations with Variables on Both Sides

$$\begin{aligned} 5x + 1 &= 4x + 7 \\ -4x \quad & -4x \\ x + 1 &= 7 \\ x &= 6 \end{aligned}$$

Variables = Values

$$\begin{aligned} 5x + 1 &= 4x + 7 \\ x + 1 &= 7 \\ x &= 6 \end{aligned}$$

$$\begin{aligned} 21y &= -205 + 75 + 47y \\ -21y \quad & -21y \\ 0 &= -130 + 26y \\ 130 &= 26y \\ \frac{130}{26} &= \frac{26y}{26} \\ y &= 5 \end{aligned}$$

$$\begin{aligned} 3n &= 10.1 + 9.9 - 2n \\ +2n \quad & +2n \\ 5n &= 20 \\ \frac{5n}{5} &= \frac{20}{5} \\ n &= 4 \end{aligned}$$

Solving Equations with Brackets

$$2(x - 3) - 5 = 13 - 4x$$

BEDMAS

$$2x - 6 - 5 = 13 - 4x$$

$$\begin{array}{r} 2x - 11 = 13 - 4x \\ +4x \end{array}$$

$$\begin{array}{r} 6x - 11 = 13 \\ +11 \quad +11 \end{array}$$

$$\begin{array}{r} 6x = 24 \\ \underline{6} \quad \underline{6} \end{array}$$

$$x = 4$$

$$3(2x - 5) - (x - 3) = 2(x + 1) + 4$$

$$(6x) - 15 - (x) + 3 = 2x + 2 + 4$$

$$\begin{array}{r} 5x - 12 = 2x + 6 \\ -2x \end{array}$$

$$\begin{array}{r} 3x - 12 = 6 + 12 \\ +12 \end{array}$$

$$\begin{array}{r} 3x = 18 \\ \underline{3} \quad \underline{3} \end{array}$$

$$x = 6$$

$$12(2s - 1) - 4(-2s - 1) = 2(s + 11)$$

$$24s - 12 + 8s + 4 = 2s + 22$$

$$\begin{array}{r} 32s - 8 = 2s + 22 \\ -2s \quad \quad -2s \end{array}$$

$$30s - 8 = 22$$

$$\begin{array}{r} 30s = 30 \\ \hline 30 \end{array} \quad \begin{array}{r} 30 \\ \hline 30 \end{array}$$

$$(s = 1)$$

Solving Equations with Fractions

$$\frac{x}{3} - \frac{3x}{2} = \frac{1}{6} - x \quad * \text{ Remove the fractions.}$$

$$\frac{6x}{3} - \frac{18x}{2} = \frac{6}{6} - 6x$$

$$2x - 9x = 1 - 6x$$

$$-7x = 1 - 6x$$

$$\frac{-1x}{-1} = \frac{1}{-1} \quad (x = -1)$$

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

$$\frac{6(x-2)}{3} + \frac{6(x+1)}{2} = 24$$

$$2(x-2) + 3(x+1) = 24$$

$$2x - 4 + 3x + 3 = 24$$

$$5x - 1 = 24 + 1$$

$$\frac{5x}{5} = \frac{25}{5}$$

$$\therefore x = 5$$