Solving Equations with Variables on Both Sides

$5x + 1 = 4x + 7$

$-4x \quad -4x$

$x + 1 = 7$ $\quad -1 \quad -1$

$x = 6$

Variables = Values

$5x + 1 = 4x + 7$

$x + 1 = 7$

$x = 6$

$21y = -205 + 75 + 47y$

$-21y \quad -21y$

$0 = -130 + 26y$

$\frac{130}{26} = \frac{26y}{26}$

$y = 5$

$3n = 10.1 + 9.9 - 2n$

$+2n \quad +2n$

$\frac{5n}{5} = \frac{20}{5}$

$n = 4$

Solving Equations with Brackets

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

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

$2x - 11 = 13 - 4x$

$+4x \quad +4x$

$6x - 11 = 13$

$+11 \quad +11$

$\frac{6x}{6} = \frac{24}{6}$

$x = 4$

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

$6x - 15 - 1x + 3 = 2x + 2 + 4$

$5x - 12 = 2x + 6$

$-2x \quad -2x$

$3x - 12 = 6$

$+12 \quad +12$

$\frac{3x}{3} = \frac{18}{3}$

$x = 6$

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

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

$32s - 8 = 2s + 22$

$-2s \qquad -2s$

$30s - 8 = 22$

$\frac{30s}{30} = \frac{30}{30}$

$s = 1$

Solving Equations with Fractions

$$\frac{x}{3}-\frac{3x}{2}=\frac{1}{6}-x$$

$\times 6$ $\times 6$ $\times 6$ $\times 6$

* Remove the fractions.

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

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

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

$+6x$ $+6x$

$$-1x=1$$

$\div -1$ $\div -1$

$x=-1$

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

$\times 6$ $\times 6$ $\times 6$

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

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

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

$$5x-1=24$$

$+1$ $+1$

$$5x=25$$

$\div 5$ $\div 5$

$x=5$