Review: Equation Solving

To solve an equation we must isolate the unknown variable by using __inverse__ operations. One easy trick is to use the mnemonic __BEDMAS__ backwards.

Solve the following equations

a) $2x - 5 = 7$ $+5$ $+5$

$$\frac{2x}{2} = \frac{12}{2}$$

$$\boxed{x = 6}$$

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

$3x - 12 = 5x + 2$ $+12$
$-5x$

$$\frac{-2x}{-2} = \frac{14}{-2} \qquad \boxed{x = -7}$$

c) $4 - 5(x + 3) = 2(x-6)$

$4 - 5x - 15 = 2x - 12$ $5x$
12

$4 - 15 + 12 = 7x$

$$\frac{1}{7} = \frac{7x}{7}$$

$$\boxed{x = \frac{1}{7}}$$

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

$(x^2 - 2x + x - 2) - (x^2 - 4x + 3x - 12) = 2x$

$(x^2 - x - 2) - 1(x^2 - x - 12) = 2x$

$x^2 - x - 2 - x^2 + x + 12 = 2x$

$$\frac{10}{2} = \frac{2x}{2}$$

$$\boxed{5 = x}$$ ü

e) $\dfrac{2}{3}(x-5) = x+4$

f) $\dfrac{3}{4}(x-5) = \dfrac{1}{3}(x+4)$

g) $\dfrac{2x-6}{5} = \dfrac{3x+5}{4}$

h) $\dfrac{1}{5}x - \dfrac{2}{3} = \dfrac{3}{5}x + \dfrac{5}{3}$