

(1) Solve the following equations:

(a) $4m - 2 = 6$

$$4m = 6 + 2$$

$$4m = 8$$

$$m = \frac{8}{4}$$

$$\therefore m = 2$$

(b) $\frac{1-k}{2} = 4$

$$1 - k = 4 \times 2$$

$$1 - k = 8$$

$$1 - 8 = k$$

$$\therefore -7 = k$$

(c) $-(x - 3) + (2x + 1) = 7$

$$-x + 3 + 2x + 1 = 7$$

$$1x + 4 = 7$$

$$x = 7 - 4$$

$$\therefore x = 3$$

(d) $m - 8m - 2m = -2 - 8 + 1$

$$-9m = -9$$

$$m = \frac{-9}{-9}$$

$$\therefore m = 1$$

(e) $6y - y - 1 = 26 - 4y$

$$6y - 1y + 4y = 26 + 1$$

$$9y = 27$$

$$y = \frac{27}{9}$$

$$\therefore y = 3$$

(f) $\frac{x}{3} - \frac{x}{2} = 1$ KGV = 6

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

$$2x - 3x = 6$$

$$-1x = 6$$

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

$$\therefore x = -6$$

$$(g) \quad 18p - (8p + 3) = 57$$

$$18p - 8p - 3 = 57$$

$$10p = 57 + 3$$

$$10p = 60$$

$$\frac{10p}{10} = \frac{60}{10}$$

$$\therefore p = 6$$

$$(h) \quad (x - 1) + (x + 1) = 4$$

$$x - 1 + x + 1 = 4$$

$$2x = 4$$

$$\frac{2x}{2} = \frac{4}{2}$$

$$\therefore x = 2$$

$$(i) \quad 3t - \frac{t}{3} = 8$$

$$\frac{3t}{1} \times \frac{3}{1} - \frac{t}{\cancel{3}} \times \frac{\cancel{3}}{1} = \frac{8}{1} \times \frac{3}{1}$$

$$3t \times 3 - t = 8 \times 3$$

$$9t - 1t = 24$$

$$8t = 24$$

$$\frac{8t}{8} = \frac{24}{8}$$

$$\therefore t = 3$$

$$(j) \quad 4n - 9n - 2 + 6 = 4 + 2n$$

$$-5n + 4 = 4 + 2n$$

$$-5n - 2n = 4 - 4$$

$$-7n = 0$$

$$\frac{-7n}{-7} = \frac{0}{-7}$$

$$\therefore n = 0$$

(2) Solve y and check your answer:

$$5(3y - 1) + 2 = 12y - 6$$

$$15y - 5 + 2 = 12y - 6$$

$$15y - 12y = -6 + 5 - 2$$

$$3y = -3$$

$$y = -1$$

Check:

$$\begin{aligned} \text{LHS} &= 5(3y - 1) + 2 \\ &= 5[3(-1) - 1] + 2 \\ &= 5[-3 - 1] + 2 \\ &= 5[-4] + 2 \\ &= -20 + 2 \\ &= -18 = \text{RHS} \end{aligned}$$

$$\begin{aligned} \text{RHS} &= 12y - 6 \\ &= 12(-1) - 6 \\ &= -12 - 6 \\ &= -18 \end{aligned}$$

$$\therefore y = -1$$

(3) Solve for x if $3x - 4y = 7$ and $y = 2$

Substitute $y = 2$ **in** $\rightarrow 3x - 4(2) = 7$

$$3x - 8 = 7$$

$$3x = 7 + 8$$

$$3x = 15$$

$$\therefore x = 5$$