Recall an expression is made up letters and numbers all seperated by ⊕ and ⊖ signs. Like terms can add/subtracted.

An equation will have an ⊜ sign and you will be able to solve the equation to find the value of the variable.

Eg1) solve the following to find the value of $X$.

① $4x + 2 = 14$

$$-2 \quad | \quad 4x = 12 \quad | \quad -2$$
$$\div 4 \quad | \quad x = 3 \quad | \quad \div 4$$

Method ① use stablizers to keep work in order.

② Bring $x$ parts togther bring constants together.

③ Always divide by the coefficient of the variable.

$$4x + 2 = 14$$
$$-2 \quad -2$$
$$\frac{4x}{4} = \frac{12}{4}$$
$$x = 3$$

Internal - do work inside stabilizers.

$$4x + 2 = 14 \quad -2$$

Move values across the equal sign to rearrange, when values move the sign changes.

$$\frac{4x}{4} = \frac{12}{4}$$
$$x = 3$$

Eg2) $6x - 2 = 4x + 10$

$$+2 \quad | \quad 6x = 4x + 12 \quad | \quad +2$$
$$-4x \quad | \quad 2x = 12 \quad | \quad -4x$$
$$\div 2 \quad | \quad x = 6 \quad | \quad \div 2$$

HW Pg 8 Q 4+5

Pg 8)

Q21) $4(3x+6) = 3(5x-2)$

$$12x + 24 = 15x - 6$$

$-12x$ | $+24 = 3x - 6$ | $-12x$
$+6$ | $30 = 3x$ | $+6$
$\div 3$ | $10 = x$ | $\div 3$

Q22) $5(2x-4)+1 = 3(2x-1)$

$$10x - 20 + 1 = 6x - 3$$
$$10x - 19 = 6x - 3$$

$-6x$ | $4x - 19 = -3$ | $-6x$
$+19$ | $4x = 16$ | $+19$
$\div 4$ | $x = 4$ | $\div 4$

Q23) $6(2x+1)+4 = 5(3x-1)$

$$12x + 6 + 4 = 15x - 5$$
$$12x + 10 = 15x - 5$$

$-12x$ | $10 = 3x - 5$ | $-12x$
$+5$ | $15 = 3x$ | $+5$
$\div 3$ | $5 = x$ | $\div 3$

24) $5(x-2)-3x = 3(x-5)$

$$5x - 10 - 3x = 3x - 15$$
$$2x - 10 = 3x - 15$$

$$\begin{vmatrix} -2x \\ +15 \end{vmatrix}$$
$$-10 = x - 15$$
$$5 = x$$
$$\begin{vmatrix} -2x \\ +15 \end{vmatrix}$$

$$\begin{array}{r} -15 \\ +15 \\ \hline 0 \end{array}$$

25) $5(2x + 3) = 4(2x+1) + 15$

$$10x + 15 = 8x + 4 + 15$$
$$10x + 15 = 8x + 19$$

$$\begin{vmatrix} -8x \\ -15 \\ \div 2 \end{vmatrix}$$
$$2x + 15 = 19$$
$$2x = 4$$
$$x = 2$$
$$\begin{vmatrix} -8x \\ -15 \\ \div 2 \end{vmatrix}$$

26) $5(x + 3) - 25 = 6(2 - x)$

$$5x + 15 - 25 = 12 - 6x$$
$$5x - 10 = 12 - 6x$$

$$\begin{vmatrix} +6x \\ +10 \\ \div 11 \end{vmatrix}$$
$$11x - 10 = 12$$
$$11x = 22$$
$$x = 2.$$
$$\begin{vmatrix} +6x \\ +10 \\ \div 11 \end{vmatrix}$$