Name: _____   **Date:** _____

(1) Determine whether $x = 1$ is a solution to the equation $x + 2 = 3$:

$$\begin{aligned} \text{LHS} &= x + 2 & \text{RHS} &= 3 \\ &= 1 + 2 \\ &= 3 \end{aligned}$$

$\therefore$ Since LHS = RHS, $x = 1$ is a solution to the equation.

(2) Determine whether $x = 6$ is a solution to the equation $x - 5 = 1$:

$$\begin{aligned} \text{LHS} &= x - 5 & \text{RHS} &= 1 \\ &= 6 - 5 \\ &= 1 \end{aligned}$$

$\therefore$ Since LHS = RHS, $x = 6$ is a solution to the equation.

(3) Determine whether $x = -6$ is a solution to the equation $x + 7 = 1$:

$$\begin{aligned} \text{LHS} &= x + 7 & \text{RHS} &= 1 \\ &= -6 + 7 \\ &= 1 \end{aligned}$$

$\therefore$ Since LHS = RHS, $x = -6$ is a solution to the equation.

(4) Determine whether $x = -3$ is a solution to the equation $x + 6 = 5$:

$$\begin{aligned} \text{LHS} &= x + 6 & \text{RHS} &= 5 \\ &= -3 + 6 \\ &= 3 \end{aligned}$$

$\therefore$ Since LHS $\neq$ RHS, $x = -3$ is not a solution to the equation.

(5) Determine whether $x = 5$ is a solution to the equation $6x = 42$:

$$\begin{aligned} \text{LHS} &= 6x & \text{RHS} &= 42 \\ &= 6 \times 5 \\ &= 30 \end{aligned}$$

$\therefore$ Since LHS $\neq$ RHS, $x = 5$ is not a solution to the equation.

(6) Determine whether $x = 17$ is a solution to the equation $x - 9 = 8$:

$$\begin{aligned} \text{LHS} &= x - 9 & \text{RHS} &= 8 \\ &= 17 - 9 \\ &= 8 \end{aligned}$$

$\therefore$ Since LHS = RHS, $x = 17$ is a solution to the equation.

(7) Determine whether $x = 18$ is a solution to the equation $\frac{x}{6} = 3$:

$$\begin{aligned} \text{LHS} &= \frac{x}{6} & \text{RHS} &= 3 \\ &= \frac{18}{6} \\ &= 3 \end{aligned}$$

$\therefore$ Since LHS = RHS, $x = 18$ is a solution to the equation.

(8) Determine whether $x = 4$ is a solution to the equation $x - 3 = 3$:

$$\begin{aligned} \text{LHS} &= x - 3 & \text{RHS} &= 3 \\ &= 4 - 3 \\ &= 1 \end{aligned}$$

$\therefore$ Since LHS $\neq$ RHS, $x = 4$ is not a solution to the equation.

(9) Determine whether $x = 2$ is a solution to the equation $x + 8 = 8$:

$$\begin{aligned} \text{LHS} &= x + 8 & \text{RHS} &= 8 \\ &= 2 + 8 \\ &= 10 \end{aligned}$$

$\therefore$ Since LHS $\neq$ RHS, $x = 2$ is not a solution to the equation.

(10) Determine whether $x = -6$ is a solution to the equation $x + 7 = 4$:

$$\begin{aligned} \text{LHS} &= x + 7 & \text{RHS} &= 4 \\ &= -6 + 7 \\ &= 1 \end{aligned}$$

$\therefore$ Since LHS $\neq$ RHS, $x = -6$ is not a solution to the equation.

(11) Determine whether $x = 7$ is a solution to the equation $4x = 32$:

$$\text{LHS} = 4x \qquad\qquad \text{RHS} = 32$$
$$= 4 \times 7$$
$$= 28$$

$\therefore$ Since LHS $\neq$ RHS, $x = 7$ is not a solution to the equation.

(12) Determine whether $x = -4$ is a solution to the equation $x + 7 = 3$:

$$\text{LHS} = x + 7 \qquad\qquad \text{RHS} = 3$$
$$= -4 + 7$$
$$= 3$$

$\therefore$ Since LHS $=$ RHS, $x = -4$ is a solution to the equation.

(13) Determine whether $x = 10$ is a solution to the equation $5x = 50$:

$$\text{LHS} = 5x \qquad\qquad \text{RHS} = 50$$
$$= 5 \times 10$$
$$= 50$$

$\therefore$ Since LHS $=$ RHS, $x = 10$ is a solution to the equation.

(14) Determine whether $x = 9$ is a solution to the equation $9x = 81$:

$$\text{LHS} = 9x \qquad\qquad \text{RHS} = 81$$
$$= 9 \times 9$$
$$= 81$$

$\therefore$ Since LHS $=$ RHS, $x = 9$ is a solution to the equation.

(15) Determine whether $x = 5$ is a solution to the equation $2x = 14$:

$$\text{LHS} = 2x \qquad\qquad \text{RHS} = 14$$
$$= 2 \times 5$$
$$= 10$$

$\therefore$ Since LHS $\neq$ RHS, $x = 5$ is not a solution to the equation.

(16) Determine whether $x = 8$ is a solution to the equation $x - 3 = 5$:

$$\text{LHS} = x - 3 \qquad\qquad \text{RHS} = 5$$
$$= 8 - 3$$
$$= 5$$

$\therefore$ Since LHS $=$ RHS, $x = 8$ is a solution to the equation.

(17) Determine whether $x = 5$ is a solution to the equation $x - 1 = 4$:

$$\text{LHS} = x - 1 \qquad\qquad \text{RHS} = 4$$
$$= 5 - 1$$
$$= 4$$

$\therefore$ Since LHS $=$ RHS, $x = 5$ is a solution to the equation.

(18) Determine whether $x = 0$ is a solution to the equation $\frac{x}{8} = 2$:

$$\text{LHS} = \frac{x}{8} \qquad\qquad \text{RHS} = 2$$
$$= \frac{0}{8}$$
$$= 0$$

$\therefore$ Since LHS $\neq$ RHS, $x = 0$ is not a solution to the equation.

(19) Determine whether $x = -2$ is a solution to the equation $x + 7 = 5$:

$$\text{LHS} = x + 7 \qquad\qquad \text{RHS} = 5$$
$$= -2 + 7$$
$$= 5$$

$\therefore$ Since LHS $=$ RHS, $x = -2$ is a solution to the equation.

(20) Determine whether $x = 0$ is a solution to the equation $x + 7 = 10$:

$$\text{LHS} = x + 7 \qquad\qquad \text{RHS} = 10$$
$$= 0 + 7$$
$$= 7$$

$\therefore$ Since LHS $\neq$ RHS, $x = 0$ is not a solution to the equation.