Name: _____ **Date:** _____

div- Check Solution: Answers

(1) Determine whether $x = 20$ is a solution to the equation $\frac{x}{10} - 1 = 1$:

$$\begin{aligned} \text{LHS} &= \frac{x}{10} - 1 \\ &= \frac{20}{10} - 1 \\ &= 1 \end{aligned} \qquad \text{RHS} = 1$$

$\therefore$ Since LHS = RHS, $x = 20$ is a solution to the equation.

(2) Determine whether $x = 95$ is a solution to the equation $\frac{x}{5} - 9 = 10$:

$$\begin{aligned} \text{LHS} &= \frac{x}{5} - 9 \\ &= \frac{95}{5} - 9 \\ &= 10 \end{aligned} \qquad \text{RHS} = 10$$

$\therefore$ Since LHS = RHS, $x = 95$ is a solution to the equation.

(3) Determine whether $x = 75$ is a solution to the equation $\frac{x}{5} - 7 = 8$:

$$\begin{aligned} \text{LHS} &= \frac{x}{5} - 7 \\ &= \frac{75}{5} - 7 \\ &= 8 \end{aligned} \qquad \text{RHS} = 8$$

$\therefore$ Since LHS = RHS, $x = 75$ is a solution to the equation.

(4) Determine whether $x = 112$ is a solution to the equation $\frac{x}{7} - 8 = 5$:

$$\begin{aligned} \text{LHS} &= \frac{x}{7} - 8 \\ &= \frac{112}{7} - 8 \\ &= 8 \end{aligned} \qquad \text{RHS} = 5$$

$\therefore$ Since LHS $\neq$ RHS, $x = 112$ is not a solution to the equation.

(5) Determine whether $x = 48$ is a solution to the equation $\frac{x}{8} - 3 = 3$:

$$\begin{aligned} \text{LHS} &= \frac{x}{8} - 3 \\ &= \frac{48}{8} - 3 \\ &= 3 \end{aligned} \qquad \text{RHS} = 3$$

$\therefore$ Since LHS = RHS, $x = 48$ is a solution to the equation.

(6) Determine whether $x = 24$ is a solution to the equation $\frac{x}{6} - 2 = 2$:

$$\begin{aligned} \text{LHS} &= \frac{x}{6} - 2 \\ &= \frac{24}{6} - 2 \\ &= 2 \end{aligned} \qquad \text{RHS} = 2$$

$\therefore$ Since LHS = RHS, $x = 24$ is a solution to the equation.

(7) Determine whether $x = 120$ is a solution to the equation $\frac{x}{8} - 10 = 4$:

$$\begin{aligned} \text{LHS} &= \frac{x}{8} - 10 \\ &= \frac{120}{8} - 10 \\ &= 5 \end{aligned} \qquad \text{RHS} = 4$$

$\therefore$ Since LHS $\neq$ RHS, $x = 120$ is not a solution to the equation.

(8) Determine whether $x = 70$ is a solution to the equation $\frac{x}{7} - 1 = 9$:

$$\begin{aligned} \text{LHS} &= \frac{x}{7} - 1 \\ &= \frac{70}{7} - 1 \\ &= 9 \end{aligned} \qquad \text{RHS} = 9$$

$\therefore$ Since LHS = RHS, $x = 70$ is a solution to the equation.

(9) Determine whether $x = 50$ is a solution to the equation $\frac{x}{5} - 1 = 7$:

$$\begin{aligned} \text{LHS} &= \frac{x}{5} - 1 \\ &= \frac{50}{5} - 1 \\ &= 9 \end{aligned} \qquad \text{RHS} = 7$$

$\therefore$ Since LHS $\neq$ RHS, $x = 50$ is not a solution to the equation.

(10) Determine whether $x = 52$ is a solution to the equation $\frac{x}{4} - 2 = 9$:

$$\begin{aligned} \text{LHS} &= \frac{x}{4} - 2 \\ &= \frac{52}{4} - 2 \\ &= 11 \end{aligned} \qquad \text{RHS} = 9$$

$\therefore$ Since LHS $\neq$ RHS, $x = 52$ is not a solution to the equation.

(11) Determine whether $x = 30$ is a solution to the equation $\frac{x}{2} - 9 = 4$:

$$\begin{aligned} \text{LHS} &= \frac{x}{2} - 9 \\ &= \frac{30}{2} - 9 \\ &= 6 \end{aligned} \qquad \text{RHS} = 4$$

$\therefore$ Since LHS $\neq$ RHS, $x = 30$ is not a solution to the equation.

(12) Determine whether $x = 80$ is a solution to the equation $\frac{x}{8} - 7 = 2$:

$$\begin{aligned} \text{LHS} &= \frac{x}{8} - 7 \\ &= \frac{80}{8} - 7 \\ &= 3 \end{aligned} \qquad \text{RHS} = 2$$

$\therefore$ Since LHS $\neq$ RHS, $x = 80$ is not a solution to the equation.

(13) Determine whether $x = 70$ is a solution to the equation $\frac{x}{7} - 9 = 1$:

$$\begin{aligned} \text{LHS} &= \frac{x}{7} - 9 \\ &= \frac{70}{7} - 9 \\ &= 1 \end{aligned} \qquad \text{RHS} = 1$$

$\therefore$ Since LHS = RHS, $x = 70$ is a solution to the equation.

(14) Determine whether $x = 120$ is a solution to the equation $\frac{x}{8} - 10 = 5$:

$$\begin{aligned} \text{LHS} &= \frac{x}{8} - 10 \\ &= \frac{120}{8} - 10 \\ &= 5 \end{aligned} \qquad \text{RHS} = 5$$

$\therefore$ Since LHS = RHS, $x = 120$ is a solution to the equation.

(15) Determine whether $x = 27$ is a solution to the equation $\frac{x}{3} - 8 = 1$:

$$\begin{aligned} \text{LHS} &= \frac{x}{3} - 8 \\ &= \frac{27}{3} - 8 \\ &= 1 \end{aligned} \qquad \text{RHS} = 1$$

$\therefore$ Since LHS = RHS, $x = 27$ is a solution to the equation.

(16) Determine whether $x = 12$ is a solution to the equation $\frac{x}{2} - 5 = 1$:

$$\begin{aligned} \text{LHS} &= \frac{x}{2} - 5 \\ &= \frac{12}{2} - 5 \\ &= 1 \end{aligned} \qquad \text{RHS} = 1$$

$\therefore$ Since LHS = RHS, $x = 12$ is a solution to the equation.

(17) Determine whether $x = 42$ is a solution to the equation $\frac{x}{6} - 3 = 2$:

$$\begin{aligned} \text{LHS} &= \frac{x}{6} - 3 \\ &= \frac{42}{6} - 3 \\ &= 4 \end{aligned} \qquad \text{RHS} = 2$$

$\therefore$ Since LHS $\neq$ RHS, $x = 42$ is not a solution to the equation.

(18) Determine whether $x = 150$ is a solution to the equation $\frac{x}{10} - 8 = 8$:

$$\begin{aligned} \text{LHS} &= \frac{x}{10} - 8 \\ &= \frac{150}{10} - 8 \\ &= 7 \end{aligned} \qquad \text{RHS} = 8$$

$\therefore$ Since LHS $\neq$ RHS, $x = 150$ is not a solution to the equation.

(19) Determine whether $x = 15$ is a solution to the equation $\frac{x}{5} - 1 = 2$:

$$\begin{aligned} \text{LHS} &= \frac{x}{5} - 1 \\ &= \frac{15}{5} - 1 \\ &= 2 \end{aligned} \qquad \text{RHS} = 2$$

$\therefore$ Since LHS = RHS, $x = 15$ is a solution to the equation.

(20) Determine whether $x = 30$ is a solution to the equation $\frac{x}{2} - 10 = 4$:

$$\begin{aligned} \text{LHS} &= \frac{x}{2} - 10 \\ &= \frac{30}{2} - 10 \\ &= 5 \end{aligned} \qquad \text{RHS} = 4$$

$\therefore$ Since LHS $\neq$ RHS, $x = 30$ is not a solution to the equation.