

M8 - 10.7 - LCD " $x + \frac{b}{c} = \frac{d}{e}$ " HW

Solve for x by multiplying each term by the LCD

$$\begin{aligned}
 x - 1 &= \frac{1}{2} \\
 2 \times (x - 1) &= \frac{1}{2} \times 2 \\
 2x - 2 &= 1 \\
 +2 & \quad +2 \\
 \frac{2x}{2} &= \frac{3}{2}
 \end{aligned}$$

$$x = \frac{3}{2}$$

$$\begin{aligned}
 x - 1 &= \frac{1}{2} \\
 \left(\frac{3}{2}\right) - 1 &= \frac{1}{2} \\
 \frac{3}{2} - \frac{2}{2} &= \frac{1}{2} \\
 \frac{1}{2} &= \frac{1}{2} \quad \checkmark
 \end{aligned}$$

$$x - 1 = \frac{1}{4}$$

$$\frac{1}{5} = x + 1$$

$$3 + x = \frac{1}{3}$$

$$\begin{aligned}
 x + \frac{1}{6} &= \frac{1}{3} \\
 6 \times \left(x + \frac{1}{6}\right) &= \frac{1}{3} \times 6 \\
 6x + \frac{6}{6} &= \frac{6}{3} \\
 6x + 1 &= 2 \\
 -1 & \quad -1 \\
 \frac{6x}{6} &= \frac{1}{6}
 \end{aligned}$$

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

$$\begin{aligned}
 x + \frac{1}{6} &= \frac{1}{3} \\
 \left(\frac{1}{6}\right) + \frac{1}{6} &= \frac{1}{3} \\
 \frac{2}{6} &= \frac{1}{3} \\
 \frac{1}{3} &= \frac{1}{3} \quad \checkmark
 \end{aligned}$$

$$\frac{1}{4} + x = \frac{1}{3}$$

$$\begin{aligned}
 x - \frac{1}{4} &= \frac{1}{2} \\
 x - \frac{1}{6} &= -\frac{1}{3}
 \end{aligned}$$

$$\begin{aligned}
 2 &= x - \frac{3}{4} \\
 5 &= \frac{1}{2} - \frac{x}{3}
 \end{aligned}$$

$$\begin{aligned}
 x + \frac{1}{4} &= \frac{2}{3} \\
 \frac{x}{2} + \frac{1}{4} &= \frac{1}{2}
 \end{aligned}$$

$$\begin{aligned}
 2 + x &= \frac{7}{2} \\
 \frac{3}{2} + \frac{x}{2} &= \frac{5}{4}
 \end{aligned}$$