

Exercice n°18

$$\bullet \frac{1}{3}(x-1) = -\frac{1}{6}x + 7 \Leftrightarrow \frac{1}{3}x - \frac{1}{3} = -\frac{1}{6}x + 7$$

$$\Leftrightarrow \frac{1 \times 2}{3 \times 2}x + \frac{1}{6}x - \frac{1}{3} = 7$$

$$\Leftrightarrow \frac{2}{6}x + \frac{1}{6}x = \frac{7 \times 3}{3} + \frac{1}{3}$$

$$\Leftrightarrow \frac{1}{2}x = \frac{21}{3} + \frac{1}{3}$$

$$\Leftrightarrow \frac{1}{2}x = \frac{22}{3}$$

$$\Leftrightarrow x = \frac{44}{3} \quad \text{Donc } \mathcal{S} = \left\{ \frac{44}{3} \right\}$$

$$\bullet \frac{8}{2} \left(0,875x - \frac{3}{2} \right) = \frac{20}{5} \left(\frac{7}{8}x + 1,5 \right)$$

$$\Leftrightarrow 4 \left(\frac{7}{8}x - \frac{3}{2} \right) = 4 \left(\frac{7}{8}x + 1,5 \right)$$

$$\Leftrightarrow \frac{7}{2}x - 6 = \frac{7}{2}x + 6$$

$$\Leftrightarrow -6 = 6$$

$$\mathcal{S} = \emptyset$$

$$\bullet -4 \left(\frac{x}{3} + 1 \right) = \frac{1}{2} (3x + (-6))$$

$$\Leftrightarrow -\frac{4}{3}x - 4 = \frac{3}{2}x - 3$$

$$\Leftrightarrow -\frac{4 \times 2}{3 \times 2}x - 4 = -\frac{3 \times 3}{2 \times 3}x = -3$$

$$\Leftrightarrow -\frac{17}{6}x - 4 = -3$$

$$\Leftrightarrow -\frac{17}{6}x = 1$$

$$\Leftrightarrow x = -\frac{6}{17}$$

$$S = \left\{ -\frac{6}{17} \right\}$$

$$\bullet \frac{9}{5} \left(-x + \frac{1}{3} \right) = \frac{5}{7}x + \frac{3}{5} \Leftrightarrow -\frac{9}{5}x + \frac{3}{5} = \frac{5}{7}x + \frac{3}{5}$$

$$\Leftrightarrow -\frac{9}{5}x = \frac{5}{7}x$$

$$S = \{0\}$$