

Exercice n°10

$$\frac{x}{3} = \frac{4}{5} \Leftrightarrow \frac{x}{3} \times 3 = \frac{4}{5} \times 3$$

$$\Leftrightarrow x = \frac{12}{5}$$

$$S = \left\{ \frac{12}{5} \right\}$$

$$\frac{2}{x} = \frac{4}{5} + \frac{7 \times 5}{5} \Leftrightarrow \frac{2}{x} = \frac{4 + 35}{5}$$

$$\Leftrightarrow \frac{2}{x} = \frac{39}{5}$$

$$\Leftrightarrow \frac{2}{x} \times \frac{1}{2} = \frac{39}{5} \times \frac{1}{2}$$

$$\Leftrightarrow \frac{1}{x} = \frac{39}{10}$$

$$\Leftrightarrow x = \frac{10}{39}$$

$$S = \left\{ \frac{10}{39} \right\}$$

$$3 = 4$$

$$S = \emptyset$$

$$-\frac{18}{3}x + 3 = -\frac{12}{2}x + \frac{9}{2}$$

$$\Leftrightarrow -6x + 3 = -6x + \frac{9}{2}$$

$$\Leftrightarrow -6x + 3 + 6x = -6x + \frac{9}{2} + 6x$$

$$\Leftrightarrow 3 = \frac{9}{2}$$

$$S = \emptyset$$

$$\frac{3}{x} = \frac{4}{5} \Leftrightarrow \frac{3}{x} \times \frac{1}{3} = \frac{4}{5} \times \frac{1}{3}$$

$$\Leftrightarrow \frac{1}{x} = \frac{4}{15}$$

$$\Leftrightarrow x = \frac{15}{4}$$

$$S = \left\{ \frac{15}{4} \right\}$$

$$\frac{12}{x-1} = \frac{4}{x} \Leftrightarrow \frac{12}{x-1} \times x = \frac{4}{x} \times x$$

$$\Leftrightarrow \frac{12x}{x-1} = 4$$

$$\Leftrightarrow \frac{12x}{x-1} \times (x-1) = 4 \times (x-1)$$

$$\Leftrightarrow 12x = 4(x-1)$$

$$\Leftrightarrow 12x = 4x - 4$$

$$\Leftrightarrow 12x - 4x = 4x - 4 - 4x$$

$$\Leftrightarrow 8x = -4$$

$$\Leftrightarrow \frac{8x}{8} = \frac{-4}{8}$$

$$\Leftrightarrow x = -\frac{1}{2}$$

$$S = \left\{ -\frac{1}{2} \right\}$$

$$x + 31 = x + 21 \Leftrightarrow x + 31 - x = x + 21 - x$$

$$\Leftrightarrow 31 = 21$$

$$Y = \emptyset$$

$$\frac{45}{5}x + 3 = \frac{18}{2}x + \frac{9}{3} \Leftrightarrow 5x + 3 = 9x + 3$$

$$\Leftrightarrow 5x + 3 - 5x = 9x + 3 - 5x$$

$$\Leftrightarrow 3 = 4x + 3$$

$$\Leftrightarrow 3 - 3 = 4x + 3 - 3$$

$$\Leftrightarrow 0 = 4x$$

$$\Leftrightarrow x = 0$$

$$Y = \{0\}$$