

### 3 CI - MATH - 14

$$2^* \quad \frac{x}{8} = \frac{x+1}{13}$$

$$\Leftrightarrow 13x = 8x + 8$$

$$13x - 8x = 8$$

$$5x = 8$$

$$x = \frac{8}{5}$$

$$S = \left\{ \frac{8}{5} \right\}$$

$$\frac{x+2}{4} = \frac{x-1}{3}$$

$$\Leftrightarrow 3x + 6 = 4x - 4$$

$$3x - 4x = -4 - 6$$

$$-x = -10$$

$$x = 10$$

$$S = \{ 10 \}$$

$$\frac{5x-2}{3} = \frac{x+1}{2}$$

$$\Leftrightarrow 10x - 4 = 3x + 3$$

$$10x - 3x = 3 + 4$$

$$7x = 7$$

$$x = 1$$

$$S = \{ 1 \}$$

4\*

$$\frac{|BC|}{|EF|} = \frac{|AB|}{|DE|}$$

$$\frac{|BC|}{60} = \frac{30}{24}$$

$$|BC| = \frac{30}{24} \cdot 60$$

$$|BC| = 75$$

$$\frac{|AC|}{|BC|} = \frac{|CE|}{|CD|}$$

$$\frac{|AC|}{12} = \frac{35}{30}$$

$$|AC| = \frac{35}{30} \cdot 12 = 14$$

$$\frac{4x}{x-2} = 1 \quad \text{CE: } x \neq 2$$

$$\Leftrightarrow 4x = x - 2$$

$$4x - x = -2$$

$$3x = -2$$

$$x = \frac{-2}{3} \quad S = \left\{ \frac{-2}{3} \right\}$$

$$\frac{x+2}{x-1} = \frac{x-1}{x+2} \quad \text{CE: } x \neq 1 \text{ et } x \neq -2$$

$$\Leftrightarrow (x+2)^2 = (x-1)^2$$

$$x^2 + 4x + 4 = x^2 - 2x + 1$$

$$4x + 2x = 1 - 4$$

$$6x = -3$$

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

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

$$\frac{|EB|}{|EA|} = \frac{|DB|}{|AC|}$$

$$\frac{|EB|}{34} = \frac{14}{10}$$

$$|EB| = \frac{14}{10} \cdot 34 = 47,6$$

$$5^* \quad \frac{x}{4} = \frac{7}{9}$$

$$x = \frac{7}{9} \cdot 4 = (3,1)$$

$$\frac{x}{14} = \frac{4}{6}$$

$$x = \frac{4}{6} \cdot 14 = (9,3)$$

$$6^* \text{ a) } \frac{|EC|}{1} = \frac{15}{5}$$

$$|EC| = \frac{15}{5} \cdot 1 = (3)$$

$$\text{c) } \frac{|AD|}{14} = \frac{10}{4}$$

$$|AD| = \frac{10}{4} \cdot 14 = (35)$$

$$\text{b) } \frac{|AE|}{8} = \frac{12}{4}$$

$$|AE| = \frac{12}{4} \cdot 8 = (24)$$

$$\text{d) } \frac{|DB|}{63} = \frac{20}{35}$$

$$|DB| = \frac{20}{35} \cdot 63 = (36)$$

$$7^* \quad |EC| = 42 - 24 = 18 \text{ m.}$$

$$\frac{|CH|}{24} = \frac{60}{18} \Leftrightarrow |CH| = \frac{60}{18} \cdot 24 = 80 \text{ m.}$$

$$|EF| = 42 \text{ m et } |GH| = 60 + 80 = 140 \text{ m.}$$

↳ le plus court

$$8^* \quad \frac{|AC|}{8} = \frac{1,8}{2,4} \Leftrightarrow |AC| = \frac{1,8}{2,4} \cdot 8 = 6$$

la hauteur de l'arbre : (6 m)

$$\frac{|GI|}{30} = \frac{120}{80} \Leftrightarrow |GI| = 30 \cdot \frac{120}{80} = (45 \text{ cm})$$