Correction des exercices sur le théorème de Thalès.

Exercices sur le théorème de Thalès : chapitre 8.

n°20 ① $\frac{AS}{KT} = \frac{RS}{RT} = \frac{AR}{RK}$ / $\frac{RS}{RA} = \frac{RT}{RK} = \frac{ST}{AR}$ / $\frac{RA}{RS} = \frac{RK}{RT} = \frac{AR}{ST}$

② $\frac{IU}{EV} = \frac{IM}{IO} = \frac{MU}{OV}$ / $\frac{IU}{EM} = \frac{IV}{IO} = \frac{UV}{MO}$ / $\frac{IM}{IU} = \frac{IO}{IV} = \frac{MO}{UV}$

n°21 – $\frac{IA}{EC} = \frac{IB}{ID}$

n°23 ① $\frac{5}{x} = \frac{6}{8} \Rightarrow 40 = 6x \Rightarrow x = \frac{20}{3}$

② $\frac{2}{7} = \frac{3}{x} \Rightarrow 2x = 21 \Rightarrow x = \frac{21}{2}$

③ $\frac{x}{8} = \frac{4}{3} \Rightarrow 3x = 32 \Rightarrow x = \frac{32}{3}$

④ $\frac{6}{x} = \frac{3}{?} = \frac{??}{7}$ impossible à calculer.

n°24 $\frac{4}{OD} = \frac{3}{5} = \frac{AB}{4}$: $20 = 3OD \Rightarrow OD = \frac{20}{3}$

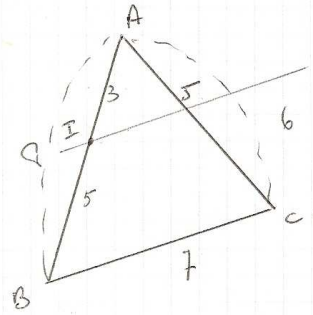
$12 = 5AB \Rightarrow AB = \frac{12}{5}$

n°26. ① : $\frac{x}{4} = \frac{8}{7} \Rightarrow 7x = 32 \Rightarrow x = \frac{32}{7}$

② $\frac{x}{8} = \frac{7}{4} \Rightarrow 4x = 56 \Rightarrow x = \frac{56}{4}$

③ $\frac{x}{8} = \frac{4}{7} \Rightarrow 7x = 32 \Rightarrow x = \frac{32}{7}$

n°35



$\frac{3}{AJ} = \frac{8}{6} \Rightarrow 18 = 8AJ \Rightarrow AJ = \frac{18}{8} = \frac{9}{4} = 2,25$

$\frac{3}{8} = \frac{IJ}{7} \Rightarrow 21 = 8IJ \Rightarrow IJ = \frac{21}{8}$

Périm AIJ $= 3 + \frac{21}{8} + \frac{9}{4} = \frac{63}{8}$

Périm IJCB $= 5 + 7 + \left(6 - \frac{21}{8}\right) + \frac{9}{4} = \frac{141}{8}$

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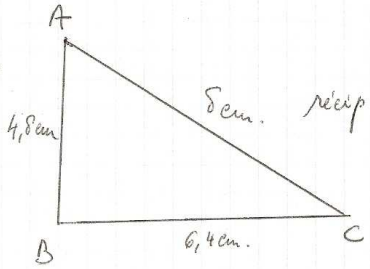
Exercices sur le théorème de Thalès : chapitre 8 (5)

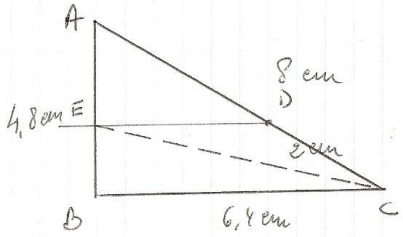
Ex 36 $\frac{AM}{MF} = \frac{15}{42} = \frac{MB}{ME} \Rightarrow \frac{55}{MF} = \frac{15}{42}\left(=\frac{5}{14}\right) \Rightarrow MF = 154\,m.$

$AD = 154 - 55 - 6 = \underline{93\,m}$

Ex 37



réc. Pyth : $8^2 = 4{,}8^2 + 6{,}4^2 = 64.$



$\frac{8}{4{,}8} = \frac{2}{EB} \Rightarrow EB = 1{,}2\,cm$

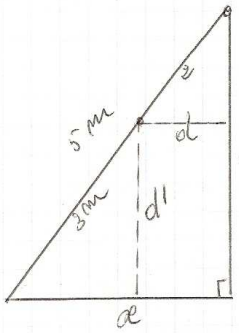
$EC^2 = 1{,}2^2 + 6{,}4^2 \Rightarrow EC = 6{,}51\,cm.$

Ex 38 $\frac{OM}{OD} = \frac{OA}{OC} = \frac{AM}{DC}$ $\frac{ON}{OA} = \frac{OB}{OM} = \frac{BN}{AM}$ $\frac{BN}{CD} = \frac{OB}{OD} = \frac{ON}{OC}$

$AM = 2$ $OD = \frac{9}{2}$ $MD = 3$ $OB = \frac{15}{4}$ $BN = \frac{15}{6}$

Ex 39 $\frac{1}{4} = \frac{IK}{6} = \frac{DK}{8} \Rightarrow IK = 1{,}5\,,\ DK = 2.$

Ex 42



2 heures $\times$ 1,5 m/h $= 3\,m.$

Pyth : $5^2 = 4^2 + x^2 \Rightarrow x = 3\,m.$

$\frac{2}{5} = \frac{dl}{x} = \frac{dl}{3} \Rightarrow 6 = 5dl \Rightarrow dl = \frac{6}{5} = 1{,}2\,m.$

La tête de la chenille est à 1,2 m

$\frac{3}{5} = \frac{d'}{4} \Rightarrow 12 = 5d' \Rightarrow d' = \frac{12}{5} = 2{,}4$

La tête de la chenille est à 2,4 m du sol.

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