10.03.22

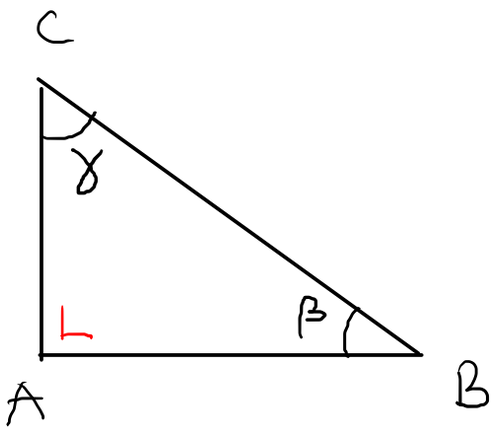
4.2.1 Un triangle rectangle ABC est rectangle en A. Résoudre ce triangle connaissant :

a) $\gamma = 32°$ et $BC = 10$ b) $\beta = 32°$ et $BC = 5$ c) $\gamma = 27°$ et $AB = 10$

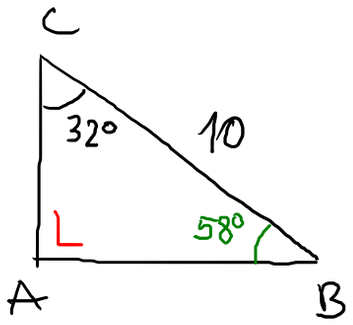
d) $AC = 6$ et $AB = 10$ e) $\gamma = 64°$ et $AC = 12$ f) $\beta = 45°$ et $BC = 12$

γ : gamma

$\frac{6}{3} = 2$



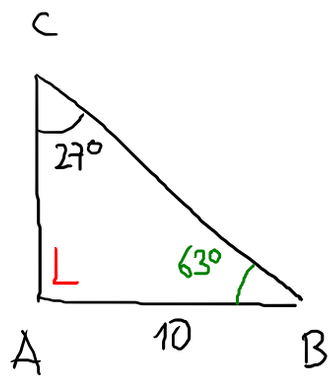
2)



$\cos(32°) = \frac{AC}{10} \Rightarrow AC = 10 \cdot \cos(32°)$

$\sin(32°) = \frac{AB}{10} \Rightarrow AB = 10 \cdot \sin 32°$

c)

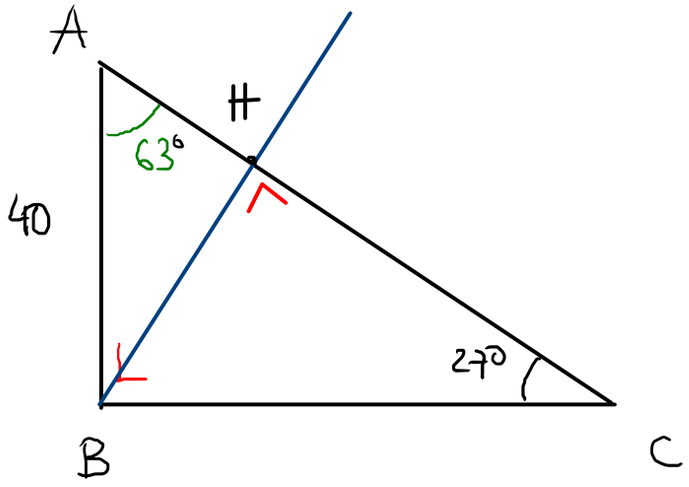


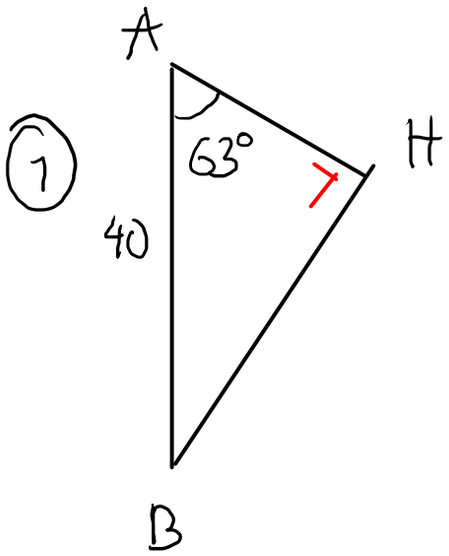
$\tan(27°) = \frac{10}{AC} \Rightarrow AC = \frac{10}{\tan(27°)}$

$\sin(27°) = \frac{10}{BC} \Rightarrow BC = \frac{10}{\sin(27°)}$

4.2.2 Dans un triangle ABC rectangle en B, on donne $\gamma = 27^\circ$ et $AB = 40$ cm. Calculer les longueurs BC, CH et HA où H est le pied de la hauteur sur AC issue de B.

$2 = \frac{6}{3}$

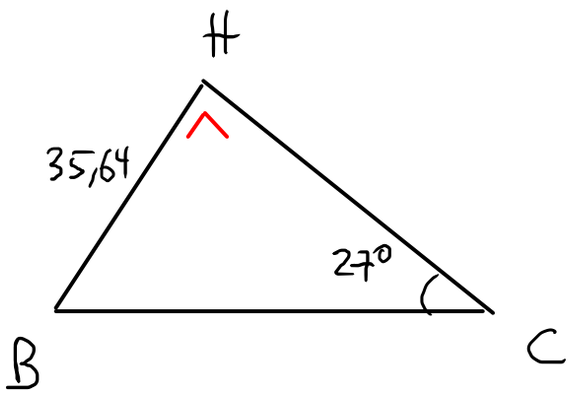




(1)

$$\cos(63°) = \frac{AH}{40} \Rightarrow AH = 40 \cdot \cos(63°) \simeq 18,16$$

$$\sin(63°) = \frac{BH}{40} \Rightarrow BH = 40 \cdot \sin(63°) \simeq 35,64$$



$$\sin(27°) = \frac{35,64}{BC} \Rightarrow BC = \frac{35,64}{\sin(27°)}$$

$$\tan(27°) = \frac{35,64}{HC} \Rightarrow HC = \frac{35,64}{\tan(27°)}$$