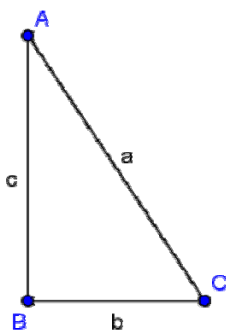


REVISION JUIN 2012 – TRIGONOMETRIE - SOLUTIONS

EXERCICES

A) Ecris les rapports qui permettent de calculer :



$$\text{Sin } \angle C = \frac{c}{a}$$

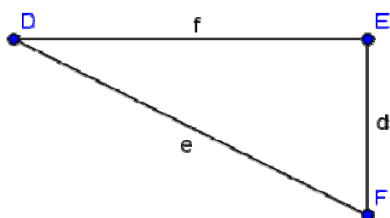
$$\text{Sin } \angle A = \frac{b}{a}$$

$$\text{Cos } \angle C = \frac{b}{a}$$

$$\text{Cos } \angle A = \frac{c}{a}$$

$$\text{Tan } \angle C = \frac{c}{b}$$

$$\text{Tan } \angle A = \frac{b}{c}$$



$$\text{Sin } \angle F = \frac{d}{e}$$

$$\text{Sin } \angle D = \frac{f}{e}$$

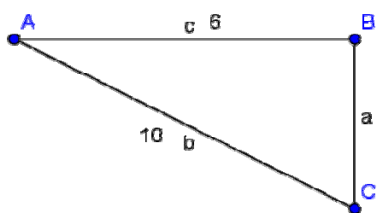
$$\text{Cos } \angle F = \frac{f}{e}$$

$$\text{Cos } \angle D = \frac{d}{e}$$

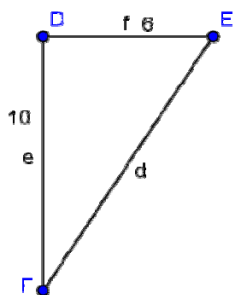
$$\text{Tan } \angle F = \frac{d}{f}$$

$$\text{Tan } \angle D = \frac{f}{d}$$

B) Calcule l'amplitude de l'angle demandé.

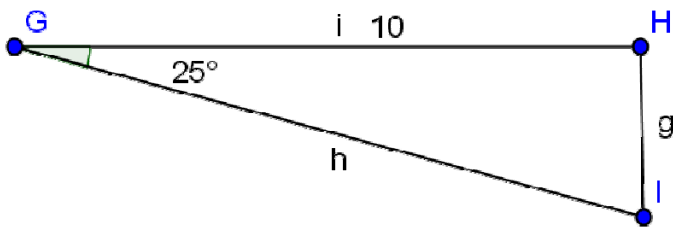


$$\angle C = \arcsin\left(\frac{a}{10}\right) = 53,13^\circ$$

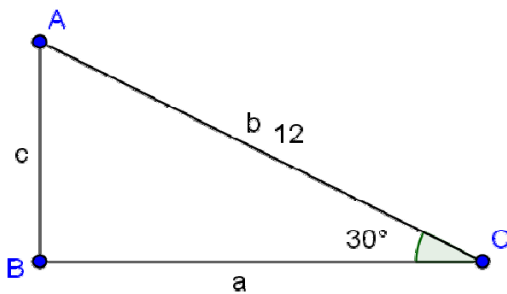


$$\angle F = \arcsin\left(\frac{6}{10}\right) = 59,04^\circ$$

C) Calcule la longueur demandée :

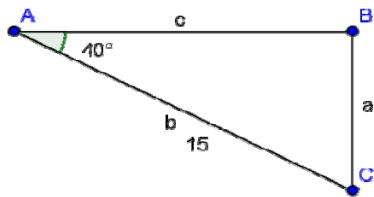


$$h = \frac{10}{\sin 25^\circ} = 11,03$$



$$c = 12 \cdot \sin 30^\circ = 6$$

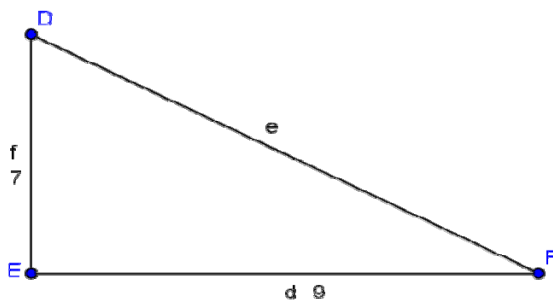
D) Résous les triangles suivants :



$$|\angle C| = 90^\circ - 40^\circ = 50^\circ$$

$$a = 15 \cdot \sin 40^\circ = 9,64$$

$$c = 15 \cdot \cos 40^\circ = 11,49$$

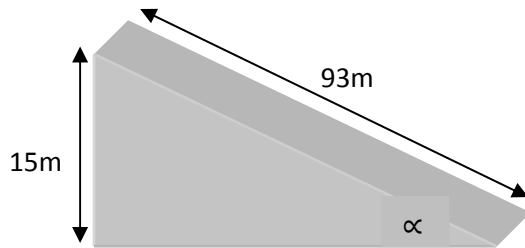


$$|\angle D| = 90^\circ - \theta = 37,87^\circ$$

$$|\angle E| = 90^\circ - 37,87^\circ = 52,13^\circ$$

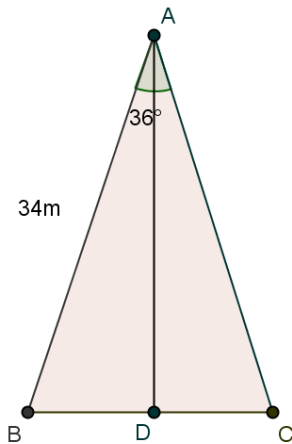
$$e = \frac{7}{\sin 37,87^\circ} = 11,40$$

- E) Une rampe a une longueur de 93 m. La différence de niveau entre les points extrêmes est 15m. Quel est l'angle d'inclinaison de la rampe ?



$$|\hat{\alpha}| = \sin\left(\frac{15}{93}\right) = 9,28^\circ$$

- F) Les côtés de même longueur d'un triangle isocèle mesurent 34 m et l'amplitude de l'angle au sommet égale 36°. Calcule l'aire de ce triangle.



$$|AD| = 34 \cdot \cos 18^\circ = 32,34\text{m}$$

$$|BD| = 34 \cdot \sin 18^\circ = 10,51\text{m}$$

$$|BC| = 10,51 \cdot 2 = 21,02\text{m}$$

$$\text{Aire} = \frac{21,02 \cdot 32,34}{2} = 339,89\text{m}^2$$