Ex 2a:

(a) AC → hypoténuse

BC → adjacent AB → opposé

(b) EF → hyp DF → adj DE → opp

(c) HG → hyp HK → adj GK → opp

(d) LM → hyp LN → adj NM → opp.

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1) AB ; TI ; KJ ; HZ

2) AC ; GT ; JF ; HM

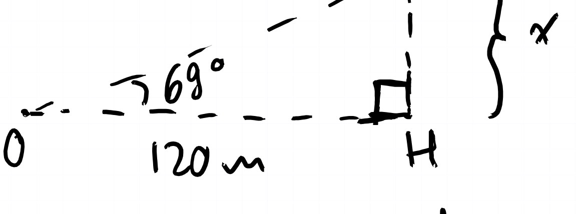
b) $90° - 70° = 20°$ $90° - 40° = 50°$

$90° - 18° = 72°$ $90° - 65° = 25°$

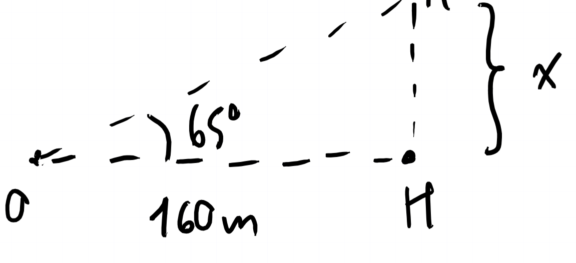
$90° - 37° = 53°$ $90° - 46° = 44°$

Ex 3b:

1)



2)



Sinus d'un angle = $\dfrac{\text{côté opposé à l'angle}}{\text{hypoténuse}}$

cosinus d'un angle = $\dfrac{\text{côté adjacent à l'angle}}{\text{hypoténuse}}$

Ex 3c :

2) $\cos \hat{C} = \dfrac{AC}{BC}$ $\sin \hat{C} = \dfrac{AB}{BC}$

$\cos \hat{D} = \dfrac{FD}{ED}$ $\sin \hat{D} = \dfrac{EF}{ED}$

$\cos \hat{J} = \dfrac{JK}{JL}$ $\sin \hat{J} = \dfrac{KL}{JL}$

$\cos \hat{S} = \dfrac{TS}{RS}$ $\sin \hat{S} = \dfrac{RT}{RS}$

$\cos \hat{C} = \dfrac{AC}{BC}$ $\cos \hat{G} = \dfrac{GT}{GI}$ $\cos \hat{F} = \dfrac{JF}{KF}$ $\cos \hat{M} = \dfrac{HM}{ZM}$

$\sin \hat{C} = \dfrac{AB}{BC}$ $\sin \hat{G} = \dfrac{TI}{GI}$ $\sin \hat{F} = \dfrac{KJ}{KF}$ $\sin \hat{M} = \dfrac{HZ}{ZM}$

3) $\hat{A} = 34°$ $\Rightarrow$ $\cos \hat{A} =$

Calculer le $\cos \hat{A}$ arrondi à 0,01 près.

$\cos 34° = 0,829... \simeq 0,83$

$\cos \hat{A} = 0,53$

Calculer $\hat{A}$.

$\hat{A} = a\cos(0,53) = 57,99° \simeq 58°$

4) 1) $\cos \widehat{BAC} = \dfrac{AC}{AB} = \dfrac{12}{15} = \dfrac{4}{5} = 0,8$

$\sin \widehat{BAC} = \dfrac{BC}{AB} = \dfrac{9}{15} = \dfrac{3}{5} = 0,6$

$\widehat{BAC} = a\cos(0,8) = 36,869... \simeq 37°$

$= a\sin(0,6) = 36,869... \simeq 37°$

$\cos \hat{I} = \dfrac{7}{25}$

$\sin \hat{I} = \dfrac{24}{25}$

$\hat{I} = \operatorname{acos}\left(\dfrac{7}{25}\right) = \operatorname{asin}\left(\dfrac{24}{25}\right) = \simeq 74°$

$\cos \hat{S} = \dfrac{12}{13}$

$\sin \hat{S} = \dfrac{5}{13}$

$\hat{S} = \operatorname{acos}\left(\dfrac{12}{13}\right) = \operatorname{asin}\left(\dfrac{5}{13}\right) = \simeq 23°$

$\cos \hat{O} = \dfrac{6{,}3}{10}$

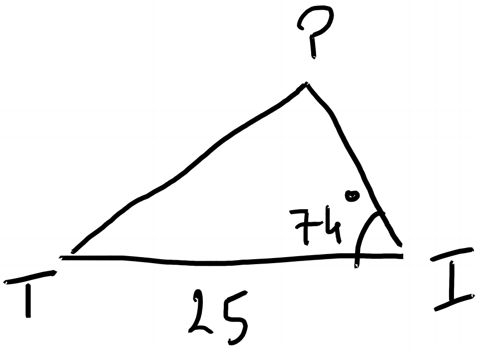
$\sin \hat{O} = ?$

$\hat{O} = \operatorname{acos}\left(\dfrac{6{,}3}{10}\right) = 51°$

$\cos \hat{C} = ?$

$\sin \hat{C} = \dfrac{7{,}3}{8}$

$\hat{C} = \operatorname{asin}\left(\dfrac{7{,}3}{8}\right) = 66°$



<u>Calculer PI et TP.</u>

$$\cos 74° = \frac{PI}{25}$$

Donc $PI = 25 \times \cos 74°$

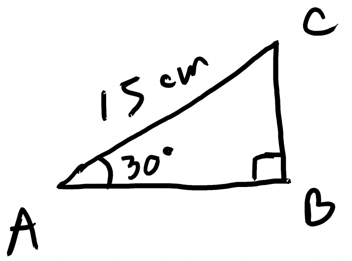
$= 6{,}89 \simeq 7$ cm

$$\sin 74° = \frac{PT}{25}$$

Donc $PT = 25 \times \sin 74° =$

$= 24{,}03\ldots \simeq 24$ cm

2)

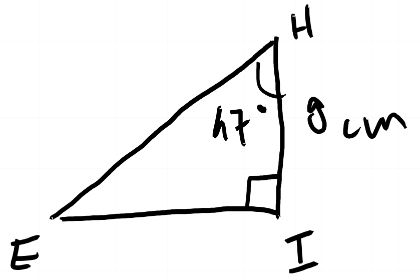


$BC = ?$

BC est le côté opposé à $\hat{A}$, donc

$$\sin \hat{A} = \frac{BC}{AC} \Rightarrow BC = AC \times \sin \hat{A}$$

Alors, $BC = 15 \times \sin 30° = 7{,}5 \text{ cm}$



$HE = ?$

HI est le côté adjacent à $\hat{H}$, donc

$$\cos \hat{H} = \frac{HI}{HE} \Rightarrow HE \times \cos \hat{H} = HI$$

$$\Rightarrow HE = \frac{HI}{\cos \hat{H}}$$

Alors, $HE = \dfrac{9}{\cos 47°} = 13{,}2 \text{ cm}$