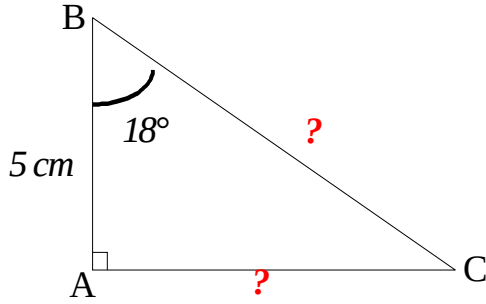


أجوبة سلسلة 6

- a) $\hat{B} = 18^\circ$ et $AB = 5$; b) $\hat{B} = 32^\circ$ et $AC = 9$; c) $\hat{B} = 68^\circ$ et $BC = 12$
 d) $\hat{C} = 25^\circ$ et $AB = 3,5$; e) $\hat{C} = 50^\circ$ et $AC = 4$; f) $\hat{C} = 68^\circ$ et $BC = 10$



حساب BC

ABC مثلث قائم الزاوية في A

$$\cos \hat{B} = \frac{AB}{BC} \quad \text{لدينا}$$

$$\cos 18^\circ = \frac{5}{BC} \quad \text{اذن}$$

$$BC = \frac{5}{\cos 18^\circ}$$

$$BC \approx 5,26 \text{ cm}$$

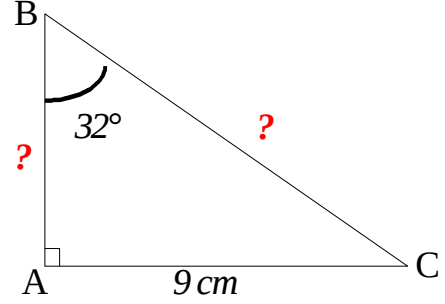
حساب AC

$$\tan \hat{B} = \frac{AC}{AB}$$

$$\tan 18^\circ = \frac{AC}{5}$$

$$AC = 5 \times \tan 18^\circ$$

$$AC \approx 1,62 \text{ cm.}$$



حساب BC

A مثلث قائم الزاوية في ABC

$$\sin \hat{B} = \frac{AC}{BC}$$

$$\sin 32^\circ = \frac{9}{BC}$$

$$BC = \frac{9}{\sin 32^\circ}$$

$$BC \approx 16,98 \text{ cm}$$

حساب AB

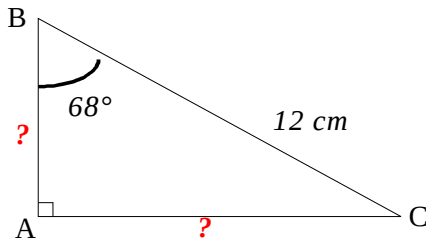
A: مثلث قائم الزاوية في ABC

$$\tan \hat{B} = \frac{AC}{AB}$$

$$\tan 32^\circ = \frac{9}{AB}$$

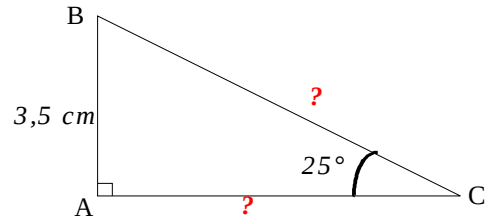
$$AB = \frac{9}{\tan 32^\circ}$$

$$AB \approx 14,40 \text{ cm.}$$



حساب BA -c

$$\cos \hat{B} = \frac{AB}{BC}$$



حساب BC -d

$$\sin \hat{C} = \frac{AB}{BC}$$

$$\cos 68^\circ = \frac{AB}{12}$$

$$AB = 12 \times \cos 68^\circ$$

$$AB \approx 4,50 \text{ cm}$$

ذ

حساب AC

$$\sin \hat{B} = \frac{AC}{BC}$$

$$\sin 68^\circ = \frac{AC}{12}$$

donc $AC = 12 \times \sin 68^\circ$

d'où $AC \approx 11,13 \text{ cm.}$

$$\sin 25^\circ = \frac{3,5}{BC}$$

$$BC = \frac{3,5}{\sin 25^\circ}$$

$$BC \approx 8,28 \text{ cm}$$

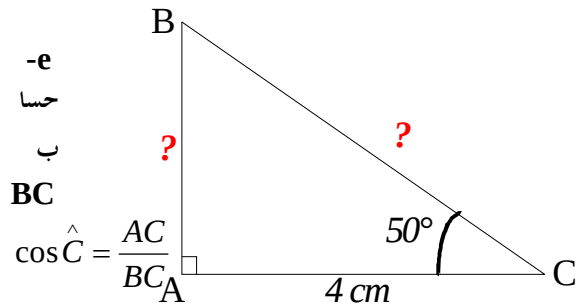
حساب AC

$$\tan \hat{C} = \frac{AB}{AC}$$

$$\tan 25^\circ = \frac{3,5}{AC}$$

$$AC = \frac{3,5}{\tan 25^\circ}$$

$$AC \approx 7,51 \text{ cm.}$$



$$\cos 50^\circ = \frac{4}{BC}$$

$$BC = \frac{4}{\cos 50^\circ}$$

$$BC \approx 6,22 \text{ cm}$$

حساب AB

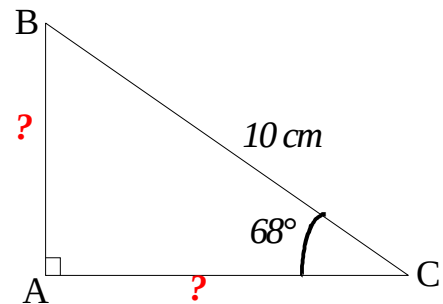
$$\tan \hat{C} = \frac{AB}{AC}$$

$$\tan 50^\circ = \frac{AB}{4}$$

$AB = 4 \times \tan 50^\circ$

$$AB \approx 4,77 \text{ cm.}$$

:



f- حساب AC

$$\cos \hat{C} = \frac{AC}{BC}$$

$$\cos 68^\circ = \frac{AC}{10}$$

donc $AC = 10 \times \cos 68^\circ$

$$AC \approx 3,75 \text{ cm}$$

حساب AB

$$\sin \hat{C} = \frac{AB}{BC}$$

$$\sin 68^\circ = \frac{AB}{10}$$

$AB = 10 \times \sin 68^\circ$

$$AB \approx 9,27 \text{ cm.}$$

التمرين 2

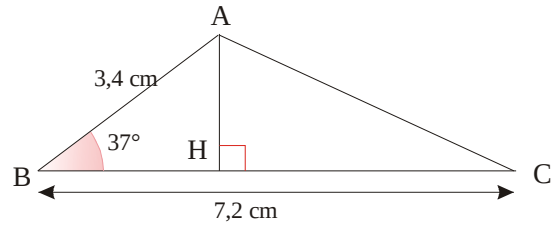
1- حساب AH المثلث ABH قائم الزاوية في H اذن

$$\sin \hat{B} = \frac{AH}{AB}$$

$$\sin 37^\circ = \frac{AH}{3,4}$$

$$AH = 3,4 \times \sin$$

$$AH \approx 2,05 \text{ cm}$$



حساب مساحة المثلث ABC

$$\text{Aire}(ABC) = \frac{BC \times AH}{2}, \approx \frac{7,2 \times 2,05}{2} \approx 7,38$$

التمرين 3

حساب BH

لدينا PBH مثلث قائم الزاوية في B

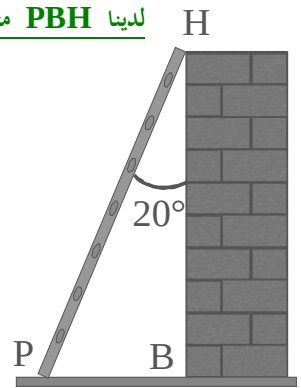
اذن

$$\cos \hat{H} = \frac{BH}{PH}$$

$$\cos 20^\circ = \frac{BH}{9}$$

$$BH = 9 \times \cos 20^\circ$$

$$BH \approx 8,46 \text{ m}$$



التمرين 4

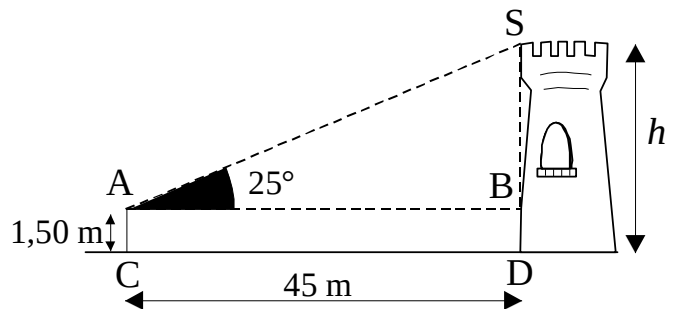
حساب BS

$$\tan \hat{BAS} = \frac{BS}{AB}$$

$$\tan 25^\circ = \frac{BS}{45}$$

$$BS = 45 \times \tan 25^\circ$$

$$BS \approx 21 \text{ m}$$



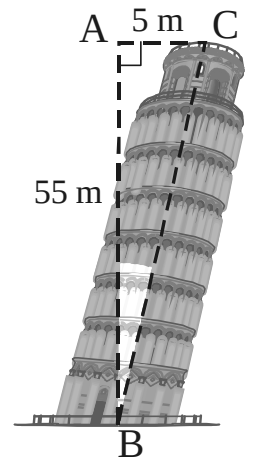
حساب h

$$h = 22,50 \text{ m}$$

التمرين 5

$$\tan \hat{ABC} = \frac{AC}{AB} = \frac{5}{55} = \frac{1}{11}$$

$$\hat{ABC} \approx 5^\circ$$



التمرين 6

$$(\sin x + \cos x)^2 = 1 + 2 \sin x \cos x.$$

$$\begin{aligned} (\sin x + \cos x)^2 &= (\sin x + \cos x) \times (\sin x + \cos x) \\ &= \sin^2 x + \sin x \cos x + \sin x \cos x + \cos^2 x \\ &= \sin^2 x + \cos^2 x + 2 \sin x \cos x \\ &= 1 + 2 \sin x \cos x \end{aligned}$$