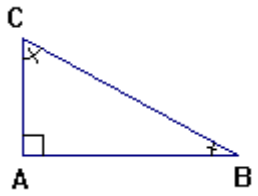
Exercice 1 (Soh Cah Toa)



Le triangle ABC est rectangle en ….

$\cos A\hat{B}C = \frac{\ldots}{\ldots}$ $\sin A\hat{B}C = \frac{\ldots}{\ldots}$ $\tan A\hat{B}C = \frac{\ldots}{\ldots}$

$\cos A\hat{C}B = \frac{\ldots}{\ldots}$ $\sin A\hat{C}B = \frac{\ldots}{\ldots}$ $\tan A\hat{C}B = \frac{\ldots}{\ldots}$

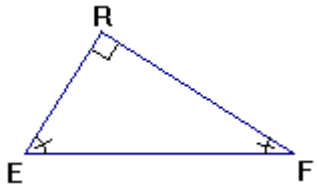
Réponse

Le triangle ABC est rectangle en A

$\cos A\hat{B}C = \frac{BA}{BC}$, $\sin A\hat{B}C = \frac{AC}{BC}$, $\tan A\hat{B}C = \frac{AC}{AB}$

$\cos A\hat{C}B = \frac{CA}{CB}$, $\sin A\hat{C}B = \frac{BA}{BC}$, $\tan A\hat{C}B = \frac{AB}{AC}$

Exercice 2



Le triangle REF est rectangle en ….

$\cos R\hat{E}F = \frac{\ldots}{\ldots}$ $\sin R\hat{E}F = \frac{\ldots}{\ldots}$ $\tan R\hat{E}F = \frac{\ldots}{\ldots}$

$\cos R\hat{F}E = \frac{\ldots}{\ldots}$ $\sin R\hat{F}E = \frac{\ldots}{\ldots}$ $\tan R\hat{F}E = \frac{\ldots}{\ldots}$

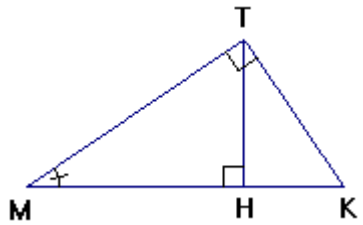
Réponse

Le triangle REF est rectangle en R

$\cos R\hat{E}F = \frac{ER}{EF}$, $\sin R\hat{E}F = \frac{RF}{EF}$, $\tan R\hat{E}F = \frac{RF}{RE}$

$\cos R\hat{F}E = \frac{RF}{EF}$, $\sin R\hat{F}E = \frac{ER}{EF}$, $\tan R\hat{F}E = \frac{RE}{RF}$

Exercice 3



Le triangle MTH est rectangle en ….

$\cos T\hat{M}H = \frac{\ldots}{\ldots}$ $\sin T\hat{M}H = \frac{\ldots}{\ldots}$ $\tan T\hat{M}H = \frac{\ldots}{\ldots}$

Le triangle MTK est rectangle en ….

$\cos T\hat{M}K = \frac{\ldots}{\ldots}$ $\sin T\hat{M}K = \frac{\ldots}{\ldots}$ $\tan T\hat{M}K = \frac{\ldots}{\ldots}$

Réponse

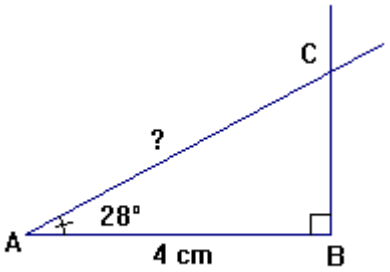
Le triangle MTH est rectangle en H

$\cos T\hat{M}H = \frac{MH}{MT}$, $\sin T\hat{M}H = \frac{TH}{MT}$, $\tan T\hat{M}H = \frac{TH}{MH}$

Le triangle MTK est rectangle en T

$\cos T\hat{M}K = \frac{TM}{MK}$, $\sin T\hat{M}K = \frac{TK}{MK}$, $\tan T\hat{M}K = \frac{TK}{TM}$

Exercice 4



Construire le triangle ABC
Calculer AC

Réponse

Le triangle ABC est rectangle en B
Donc

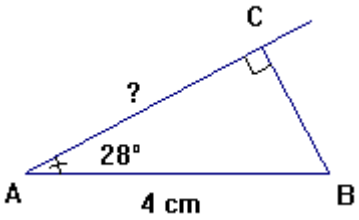
$\cos B\hat{A}C = \frac{AB}{AC}$

$\cos 28 = \frac{4}{AC}$

$AC = \frac{4}{\cos 28}$

$AC \approx 4{,}5$ cm

Exercice 5



Construire le triangle ABC
Calculer AC

Réponse

Le triangle ABC est rectangle en C
Donc

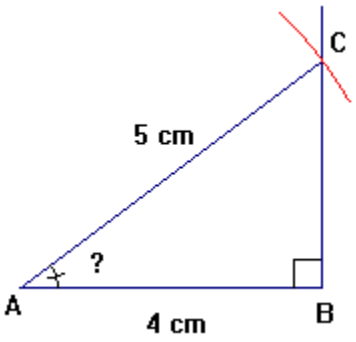
$\cos B\hat{A}C = \frac{AC}{AB}$

$\cos 28 = \frac{AC}{4}$

$AC = 4 \times \cos 28$

$AC \approx 3{,}5$ cm

Exercice 6



Construire le triangle ABC
Calculer $B\hat{A}C$

Réponse

Le triangle ABC est rectangle en B
Donc

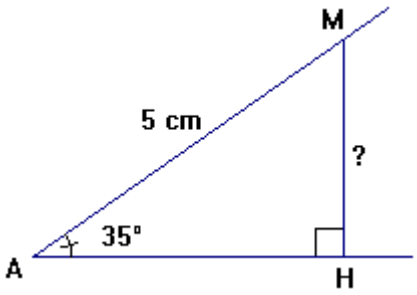
$\cos B\hat{A}C = \frac{AB}{AC}$

$\cos B\hat{A}C = \frac{4}{5}$

$B\hat{A}C = \cos^{-1}(\frac{4}{5})$

$B\hat{A}C \approx 37°$

Exercice 7



Construire le triangle AMH
Calculer MH

Réponse

Le triangle AMH est rectangle en H

Donc :

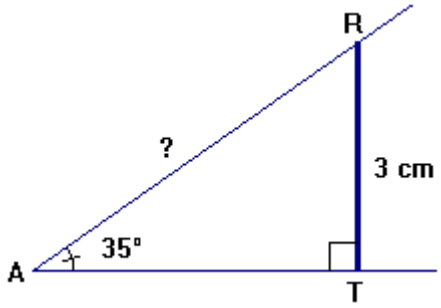
$\sin M\hat{A}H = \frac{MH}{AM}$

$\sin 35 = \frac{MH}{5}$

$MH = 5 \times \sin 35$

$AC \approx 2{,}9$ cm

Exercice 8



Construire le triangle ART
Calculer TS

Réponse

Le triangle ART est rectangle en T

Donc :

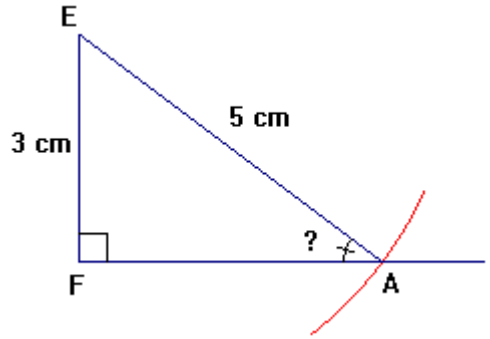
$\sin R\hat{A}T = \frac{RT}{AR}$

$\sin 35 = \frac{3}{AR}$

$AR = \frac{3}{\sin 35}$

$AR \approx 5{,}2$ cm

Exercice 9



Construire le triangle AEF
Calculer l'angle $E\hat{A}F$

Réponse

Le triangle AEF est rectangle en F

Donc :

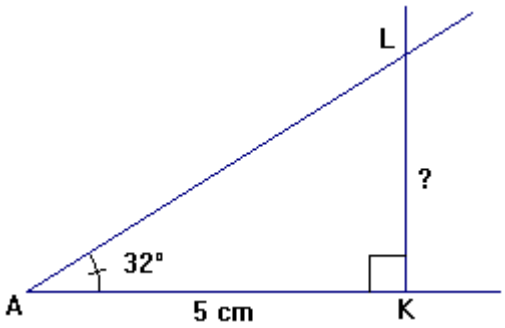
$\sin E\hat{A}F = \frac{EF}{EA}$

$\sin E\hat{A}F = \frac{3}{5}$

$E\hat{A}F = \sin^{-1}(\frac{3}{5})$

$E\hat{A}F \approx 37°$

Exercice 10



Construire le triangle ALK
Calculer LK

Réponse

Le triangle AKL est rectangle en K

Donc :

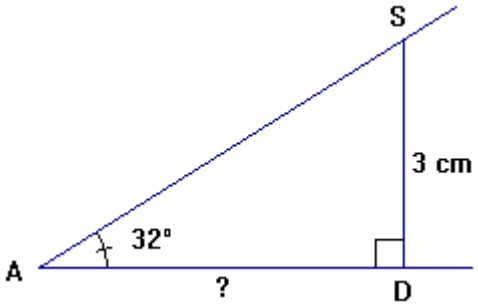
$\tan L\hat{A}K = \frac{LK}{AK}$

$\tan 32 = \frac{LK}{5}$

$LK = 5 \times \sin 32$

AC $\approx$ 2,6 cm

Exercice 11



Construire le triangle ADS
Calculer AD

Réponse

Le triangle ADS est rectangle en D

Donc :

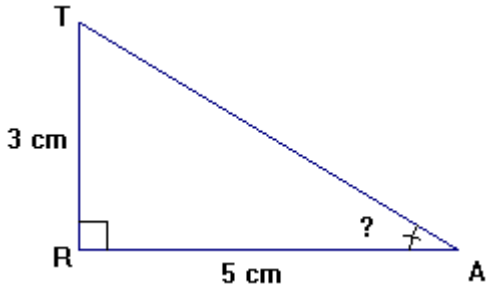
$\tan D\hat{A}S = \frac{DS}{AD}$

$\tan 32 = \frac{3}{AD}$

$AD = \frac{3}{\tan 32}$

AD $\approx$ 4,8 cm

Exercice 12



Construire le triangle ART
Calculer l'angle $R\hat{A}T$

Réponse

Le triangle ART est rectangle en R

Donc :

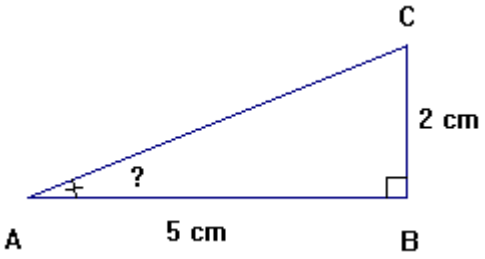
$\tan R\hat{A}T = \frac{RT}{RA}$

$\tan R\hat{A}T = \frac{3}{5}$

$R\hat{A}T = \tan^{-1}(\frac{3}{5})$

$R\hat{A}T \approx 31°$

Exercice 13



Construire le triangle ABC

Calculer l'angle $B\hat{A}C$

Réponse

Le triangle ABC est rectangle en B

Donc :

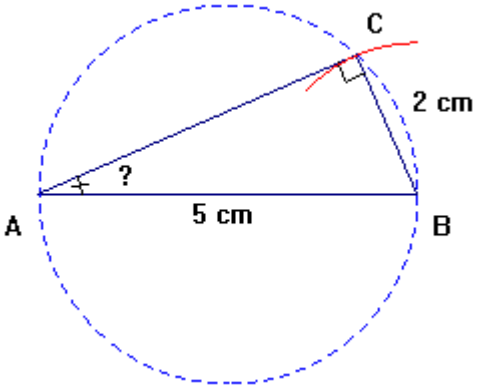
$\tan B\hat{A}C = \frac{BC}{AB}$

$\tan B\hat{A}C = \frac{2}{5}$

$B\hat{A}C = \tan^{-1}(\frac{2}{5})$ (valeur exacte)

$B\hat{A}C \approx 22°$ (arrondie au degré)

Exercice 14



Construire le triangle ABC

Calculer l'angle $B\hat{A}C$

Réponse

Le triangle ABC est rectangle en C

Donc :

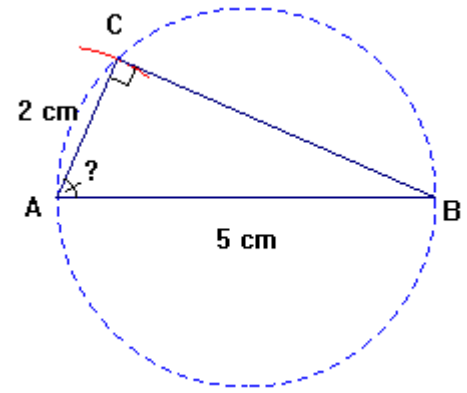
$\sin B\hat{A}C = \frac{BC}{AB}$

$\sin B\hat{A}C = \frac{2}{5}$

$B\hat{A}C = \sin^{-1}(\frac{2}{5})$

$B\hat{A}C \approx 24°$

Exercice 15



Construire le triangle ABC

Calculer l'angle $B\hat{A}C$

Réponse

Le triangle ABC est rectangle en C

Donc :

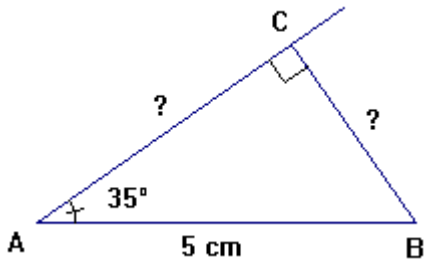
$\cos B\hat{A}C = \frac{BC}{AB}$

$\cos B\hat{A}C = \frac{2}{5}$

$B\hat{A}C = \cos^{-1}(\frac{2}{5})$

$B\hat{A}C \approx 66°$

Exercice 16



Construire le triangle ABC
Calculer AC er BC

Réponse

Le triangle ABC est rectangle en C
Donc :

$\cos B\hat{A}C = \frac{AC}{AB}$

$\cos 35 = \frac{AC}{5}$

$AC = 5 \times \cos 35$

$AC \approx 4{,}1$

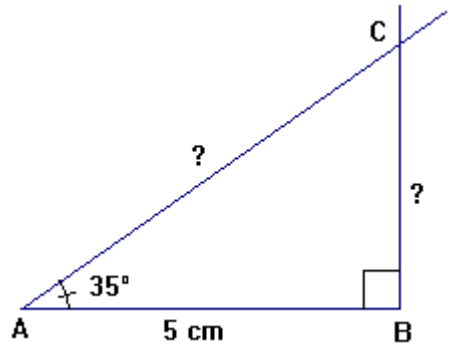
$\sin B\hat{A}C = \frac{BC}{AB}$

$\sin 35 = \frac{BC}{5}$

$BC = 5 \times \sin 35$

$BC \approx 2{,}9$

Exercice 17



Construire le triangle ABC
Calculer AC et BC

Réponse

Le triangle ABC est rectangle en B
Donc

$\cos B\hat{A}C = \frac{AB}{AC}$

$\cos 35 = \frac{5}{AC}$

$AC = \frac{5}{\cos 35}$

$AC \approx 6{,}1$

$\tan B\hat{A}C = \frac{BC}{AB}$

$\tan 35 = \frac{BC}{5}$

$BC = 5 \times \tan 35$

$BC \approx 3{,}5$