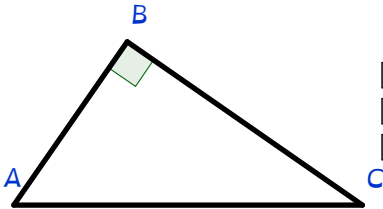




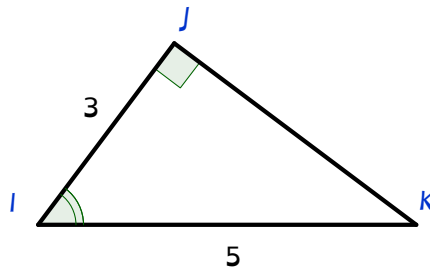
Vocabulaires



[AC] est l'hypoténuse
 [BA] est le côté adjacent de l'angle \widehat{BAC}
 [BC] est le côté opposé de l'angle \widehat{BAC}

Attention : On parlera au collège de trigonométrie uniquement sur les angles aigus d'un triangle rectangle!

I Cosinus



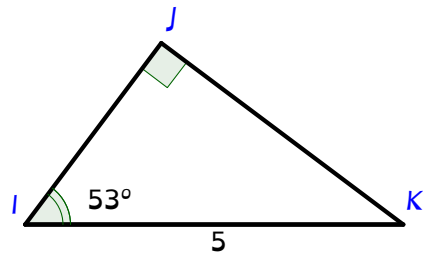
Propriété : \cos d'un angle = $\frac{\text{côté adjacent}}{\text{hypoténuse}}$

Exemple :

$$\cos(\widehat{JIK}) = \frac{IJ}{IK} = \frac{3}{5}$$

$$\widehat{JIK} = \arccos\left(\frac{3}{5}\right) = \cos^{-1}\left(\frac{3}{5}\right) \approx 53^\circ$$

Exemple :

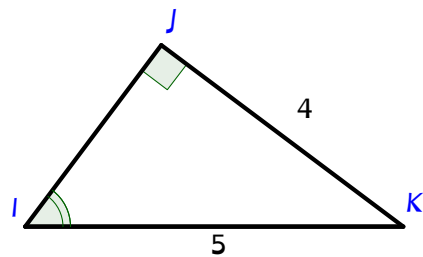


$$\cos(\widehat{JKI}) = \frac{IJ}{IK}$$

$$\frac{\cos(53^\circ)}{1} = \frac{IJ}{5}$$

$$IJ = \frac{5 \times \cos(53^\circ)}{1} \approx 3$$

II Sinus



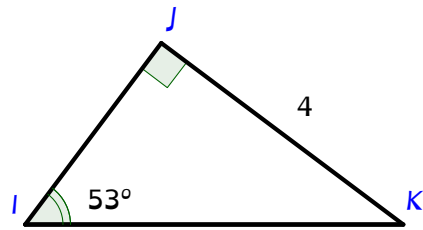
Propriété : Sinus d'un angle = $\frac{\text{côté opposé}}{\text{hypoténuse}}$

Exemple :

$$\sin(\widehat{JKI}) = \frac{JK}{IK} = \frac{4}{5}$$

$$\widehat{JKI} = \arcsin\left(\frac{4}{5}\right) = \sin^{-1}\left(\frac{4}{5}\right) \approx 53^\circ$$

Exemple :

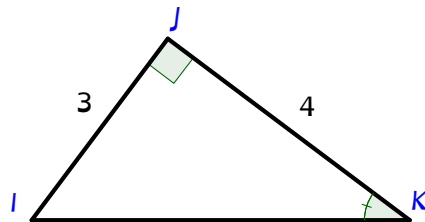


$$\sin(\widehat{JKI}) = \frac{JK}{IK}$$

$$\frac{\sin(53^\circ)}{1} = \frac{4}{IK}$$

$$IK = \frac{4 \times 1}{\sin(53^\circ)} \approx 5$$

III Tangente



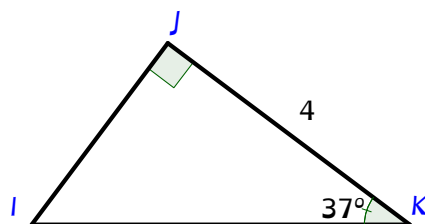
Propriété : Tangente d'un angle = $\frac{\text{Côté opposé}}{\text{côté adjacent}}$

Exemple :

$$\tan(\widehat{JKI}) = \frac{IJ}{JK} = \frac{3}{4}$$

$$\widehat{JKI} = \arctan\left(\frac{3}{4}\right) = \tan^{-1}\left(\frac{3}{4}\right) \approx 37^\circ$$

Exemple :



$$\tan(\widehat{JKI}) = \frac{JI}{JK}$$

$$\frac{\tan(37^\circ)}{1} = \frac{JI}{4}$$

$$JI = \frac{4 \times \tan(37^\circ)}{1} \approx 3$$

Moyen Mnémotechnique :

SOHCAHTOA

$$\sin = \frac{\text{SOH}}{\text{Hypothénuse}} \quad \left| \quad \cos = \frac{\text{CAH}}{\text{Hypothénuse}} \quad \left| \quad \tan = \frac{\text{TOA}}{\text{Adjacent}}$$

CAHSOHTOA

$$\cos = \frac{\text{CAH}}{\text{Hypothénuse}} \quad \left| \quad \sin = \frac{\text{SOH}}{\text{Hypothénuse}} \quad \left| \quad \tan = \frac{\text{TOA}}{\text{Adjacent}}$$