

# Trigonometria

$$\sin \alpha = \frac{\text{cateto oposto}}{\text{hipotenusa}}$$

$$\cos \alpha = \frac{\text{cateto adjacente}}{\text{hipotenusa}}$$

$$\tan \alpha = \frac{\text{cateto oposto}}{\text{cateto adjacente}}$$

$$\frac{\sin \alpha}{\cos \alpha} = \frac{\frac{\text{cateto oposto}}{\text{hipotenusa}}}{\frac{\text{cateto adjacente}}{\text{hipotenusa}}} = \frac{\text{cateto oposto}}{\text{cateto adjacente}} = \tan \alpha$$

$$\tan \alpha = \frac{\sin \alpha}{\cos \alpha}$$

## Fórmula Fundamental da Trigonometria

$$\sin^2 \alpha + \cos^2 \alpha = 1$$

cos em evidência

$$\frac{\sin^2 \alpha}{\cos^2 \alpha} + \frac{\cos^2 \alpha}{\cos^2 \alpha} + \frac{1}{\cos^2 \alpha} \Leftrightarrow$$

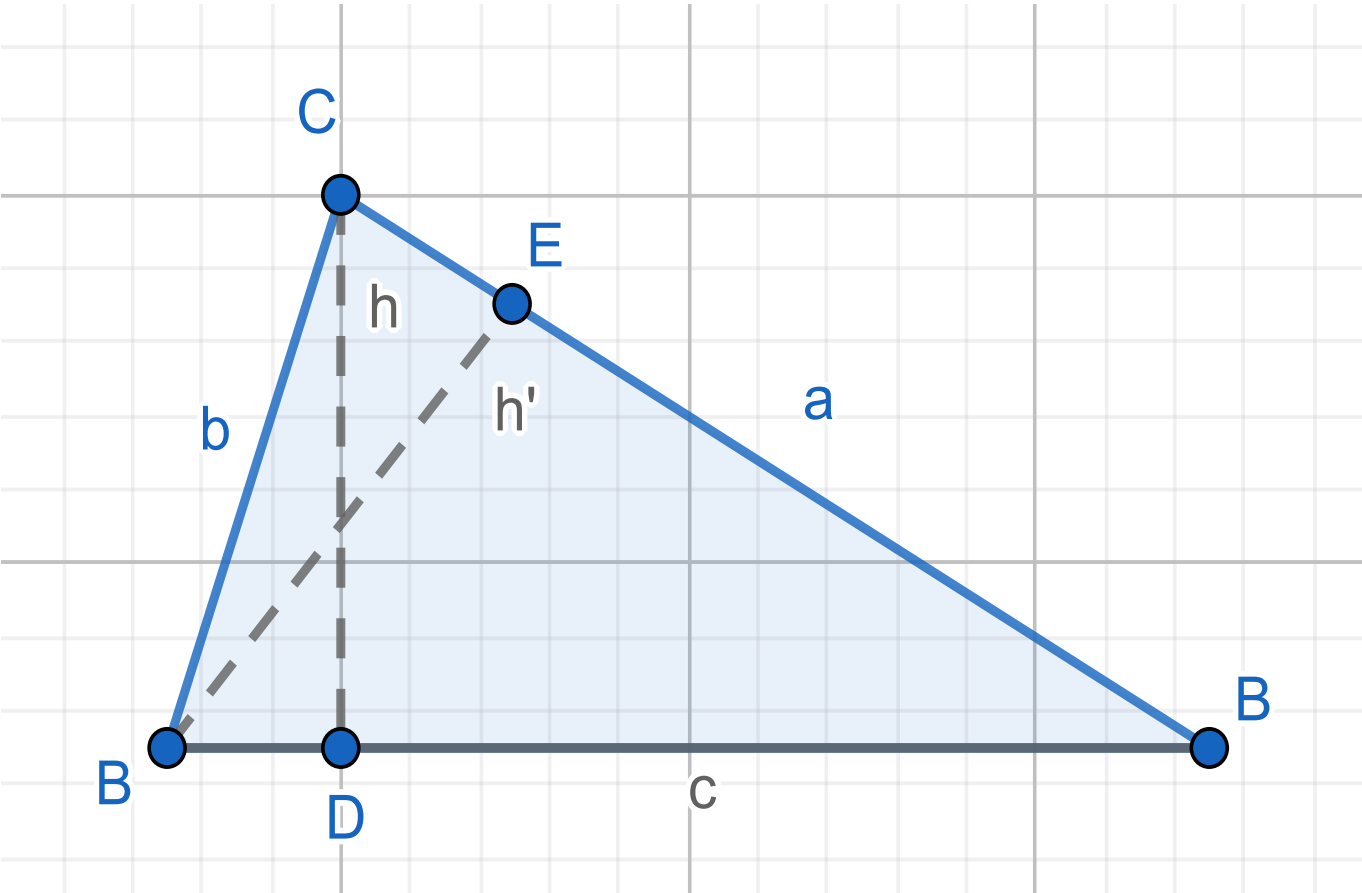
$$\Leftrightarrow \tan^2 \alpha + 1 = \frac{1}{\cos^2 \alpha}$$

# Tabela(s) Trigonométrica

	30°	45°	60°
$\sin \alpha$	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$
$\cos \alpha$	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$
$\tan \alpha$	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$

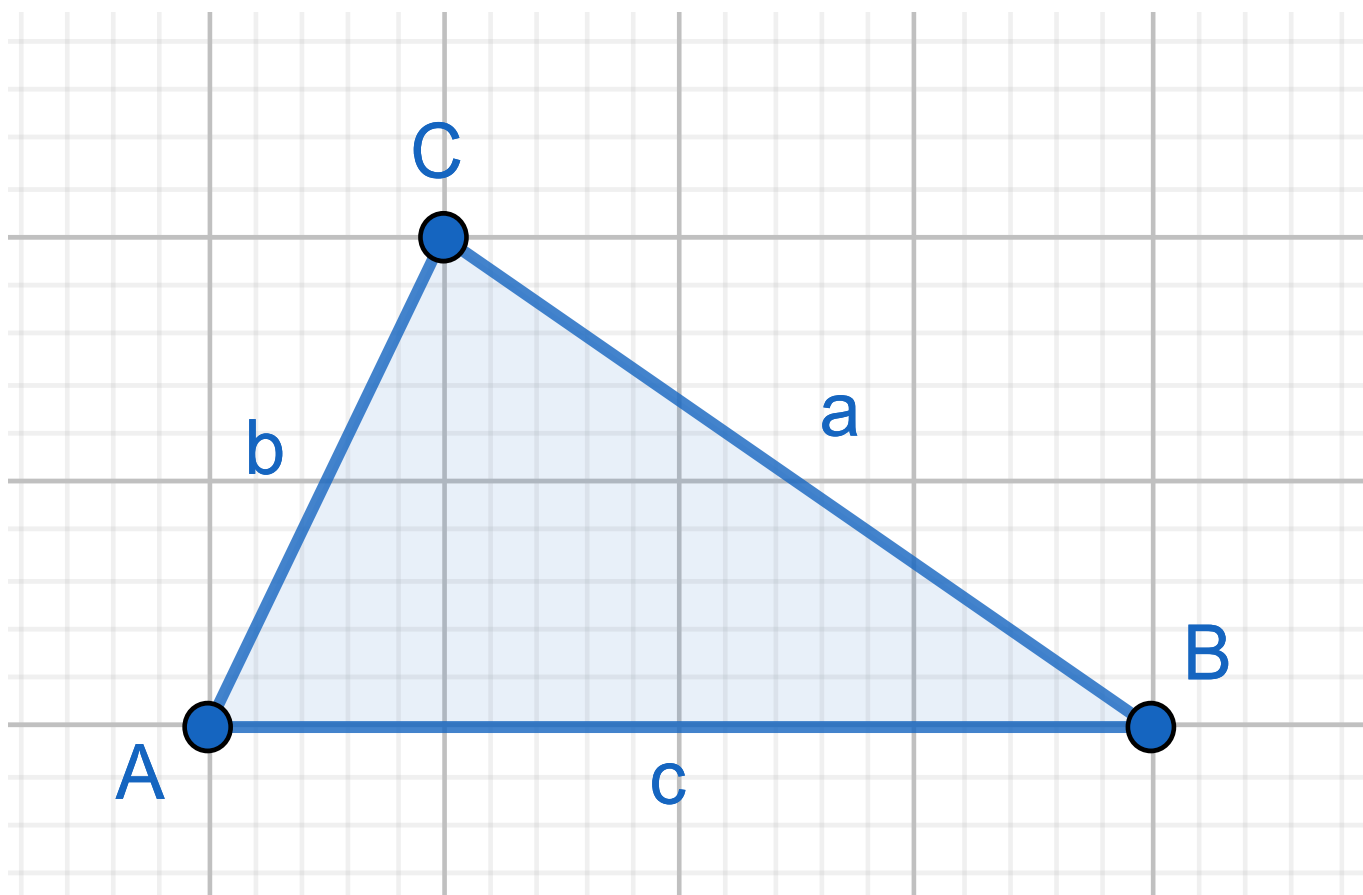
	0°	90°	180°	270°	360°
$\sin \alpha$	0	1	0	-1	0
$\cos \alpha$	1	0	-1	0	1
$\tan \alpha$	0	N.D.	0	N.D.	0

## Lei dos Senos



$$\frac{\sin \hat{A}}{a} = \frac{\sin \hat{B}}{b} = \frac{\sin \hat{C}}{c}$$

# Lei dos Cossenos



$$a^2 = b^2 + c^2 - 2bc \times \cos \hat{A}$$

$$b^2 = a^2 + c^2 - 2ac \times \cos \hat{B}$$

$$c^2 = a^2 + b^2 - 2ab \times \cos \hat{C}$$