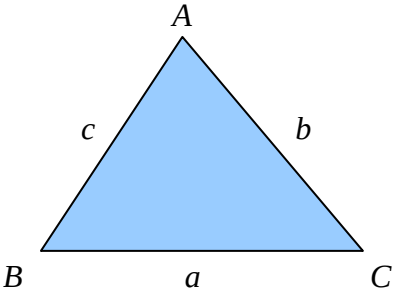


Fórmulas trigonométricas - Teorema del seno - Teorema de los cosenos

Relaciones básicas	$\operatorname{sen}^2 x + \cos^2 x = 1,$ $1 + \tan^2 x = \frac{1}{\cos^2 x},$ $\tan x = \frac{\operatorname{sen} x}{\cos x}$ $\sec x = \frac{1}{\cos x},$ $\operatorname{cosec} x = \frac{1}{\operatorname{sen} x},$ $\cotan x = \frac{\cos x}{\operatorname{sen} x} = \frac{1}{\tan x}$
Ángulo doble	$\operatorname{sen} 2x = 2 \operatorname{sen} x \cos x,$ $\cos 2x = \cos^2 x - \operatorname{sen}^2 x,$ $\tan 2x = \frac{2 \tan x}{1 - \tan^2 x}$
Ángulo mitad	$\operatorname{sen} \frac{x}{2} = \pm \sqrt{\frac{1 - \cos x}{2}},$ $\cos \frac{x}{2} = \pm \sqrt{\frac{1 + \cos x}{2}},$ $\tan \frac{x}{2} = \pm \sqrt{\frac{1 - \cos x}{1 + \cos x}}$
Suma-resta de ángulos	$\operatorname{sen}(a + b) = \operatorname{sen} a \cos b + \cos a \operatorname{sen} b$ $\operatorname{sen}(a - b) = \operatorname{sen} a \cos b - \cos a \operatorname{sen} b$ $\cos(a + b) = \cos a \cos b - \operatorname{sen} a \operatorname{sen} b$ $\cos(a - b) = \cos a \cos b + \operatorname{sen} a \operatorname{sen} b$ $\tan(a + b) = \frac{\tan a + \tan b}{1 - \tan a \cdot \tan b}$ $\tan(a - b) = \frac{\tan a - \tan b}{1 + \tan a \cdot \tan b}$
Suma-resta de función trigonométrica	$\operatorname{sen} a + \operatorname{sen} b = 2 \operatorname{sen} \frac{a+b}{2} \cos \frac{a-b}{2}$ $\cos a + \cos b = 2 \cos \frac{a+b}{2} \cos \frac{a-b}{2}$ $\operatorname{sen} a - \operatorname{sen} b = 2 \cos \frac{a+b}{2} \operatorname{sen} \frac{a-b}{2}$ $\cos a - \cos b = -2 \operatorname{sen} \frac{a+b}{2} \operatorname{sen} \frac{a-b}{2}$

Fórmulas para triángulos

Teorema del seno	$\frac{a}{\operatorname{sen} A} = \frac{b}{\operatorname{sen} B} = \frac{c}{\operatorname{sen} C}$	
Teorema de los cosenos	$a^2 = b^2 + c^2 - 2bc \cos A$ $b^2 = a^2 + c^2 - 2ac \cos B$ $c^2 = a^2 + b^2 - 2ab \cos C$	
Suma de los ángulos	$A + B + C = 180^\circ$	