

# FUNCIONES TRIGONOMÉTRICAS



$\text{Sen}^2 \alpha + \text{cos}^2 \alpha = 1$	$\text{Sen } 2\alpha = 2 \text{ sen } \alpha \text{ cos } \alpha$
$\text{Cos } 2\alpha = \text{cos}^2 \alpha - \text{sen}^2 \alpha$	$\frac{A}{\text{Sen } A} = \frac{B}{\text{sen } B} = \frac{C}{\text{sen } C} = 2\text{Re}$
$\text{Cos } 2\alpha = 2 \text{cos}^2 \alpha - 1$	$A^2 = B^2 + C^2 - 2BC \text{ cos } \alpha$
$\frac{A-B}{A+B} = \frac{\text{tg}(A-B)/2}{\text{tg}(A+B)/2}$	$C = A \text{ cos } \beta + B \text{ cos } \alpha$
$\text{Tg } \alpha \pm \beta = \frac{\text{tg } \alpha \pm \text{tg } \beta}{1 \mp \text{tg } \alpha \text{ tg } \beta}$	$\text{Tg } 2\alpha = \frac{2 \text{tg } \alpha}{1 - \text{tg}^2 \alpha}$

Montoya.

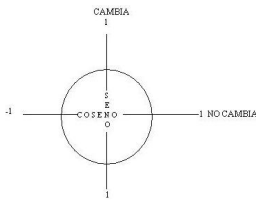
	Sen $\alpha$	Cos $\alpha$	Tg $\alpha$	Ctg $\alpha$	Sec $\alpha$	Csc $\alpha$
Sen $\alpha$		$\sqrt{1 - \text{cos}^2 \alpha}$	$\frac{\text{Tg } \alpha}{\sqrt{1 + \text{tg}^2 \alpha}}$	$\frac{1}{\sqrt{1 + \text{ctg}^2 \alpha}}$	$\frac{\sqrt{\text{sec}^2 \alpha - 1}}{\text{sec } \alpha}$	$\frac{1}{\text{csc } \alpha}$
Cos $\alpha$	$\sqrt{1 - \text{sen}^2 \alpha}$		$\frac{1}{\sqrt{1 + \text{tg}^2 \alpha}}$	$\frac{\text{ctg } \alpha}{\sqrt{1 + \text{ctg}^2 \alpha}}$	$\frac{1}{\text{sec } \alpha}$	$\frac{\sqrt{\text{csc}^2 \alpha - 1}}{\text{csc } \alpha}$
Tg $\alpha$	$\frac{\text{Sen } \alpha}{\sqrt{1 - \text{sen}^2 \alpha}}$	$\frac{\sqrt{1 - \text{cos}^2 \alpha}}{\text{cos } \alpha}$		$\frac{1}{\text{ctg } \alpha}$	$\sqrt{\text{sec}^2 \alpha - 1}$	$\frac{1}{\sqrt{\text{csc}^2 \alpha - 1}}$
Ctg $\alpha$	$\frac{\sqrt{1 - \text{sen}^2 \alpha}}{\text{sen } \alpha}$	$\frac{\text{Cos } \alpha}{\sqrt{1 - \text{cos}^2 \alpha}}$	$\frac{1}{\text{tg } \alpha}$		$\frac{1}{\sqrt{\text{sec}^2 \alpha - 1}}$	$\sqrt{\text{csc}^2 \alpha - 1}$
Sec $\alpha$	$\frac{1}{\sqrt{1 - \text{sen}^2 \alpha}}$	$\frac{1}{\text{cos } \alpha}$	$\sqrt{1 + \text{tg}^2 \alpha}$	$\frac{\sqrt{1 + \text{ctg}^2 \alpha}}{\text{ctg } \alpha}$		$\frac{\text{csc } \alpha}{\sqrt{\text{csc}^2 \alpha - 1}}$
Csc $\alpha$	$\frac{1}{\text{sen } \alpha}$	$\frac{1}{\sqrt{1 - \text{cos}^2 \alpha}}$	$\frac{\sqrt{1 + \text{tg}^2 \alpha}}{\text{tg } \alpha}$	$\sqrt{1 + \text{ctg}^2 \alpha}$	$\frac{\text{Sec } \alpha}{\sqrt{\text{sec}^2 \alpha - 1}}$	

$\text{Sen } (\alpha + \beta) = \text{sen } \alpha \text{ cos } \beta + \text{sen } \alpha \text{ cos } \beta$        $\text{Cos } (\alpha + \beta) = \text{cos } \alpha \text{ cos } \beta - \text{sen } \alpha \text{ sen } \beta$

	sen	cos	tg
$\frac{\alpha}{2}$	$\sqrt{\frac{1-\text{cos } \alpha}{2}}$	$\sqrt{\frac{1+\text{cos } \alpha}{2}}$	$\frac{\sqrt{1-\text{cos } \alpha}}{\sqrt{1+\text{cos } \alpha}}$

SIN	TODO
TA	CO

	0°	30°	45°	60°	90°
SEN	0	1	2	3	4
COS	4	3	2	1	0
	2				



Triangulo		Polígono
$A = \frac{1}{2} ac \text{ sen } \beta$	$RA = \frac{A}{p - a}$	$A_i = \frac{1}{2} R^2 \text{ sen } (2\pi/n)$
$R_i = A/p$	$A = \frac{1}{2} a^2 \frac{\text{sen } B \text{ sen } C}{\text{Sen } (B+C)}$	$P_i = 2 n R \text{ sen } (\pi/n)$
$Re = \frac{abc}{4A}$	$Pe = 2n R \text{ tg } (\pi/n)$ (Polígono)	$Ae = n R^2 \text{ tg } (\pi/n)$