

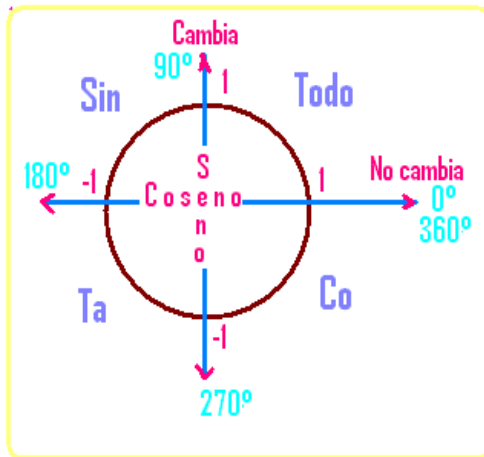


FORMULARIO DE TRIGONOMETRÍA

Montoya.-

	0°	30°	45°	60°	90°
Sen	0	1/2	√2/2	√3/2	1
Cos	1	√3/2	√2/2	1/2	0
	2				

$$\begin{aligned} \text{sen}(\alpha \pm \beta) &= \text{sen } \alpha \cos \beta \pm \cos \alpha \text{sen } \beta \\ \text{cos}(\alpha \pm \beta) &= \cos \alpha \cos \beta \mp \text{sen } \alpha \text{sen } \beta \end{aligned}$$



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

$$\begin{aligned} \text{Sen}^2 \alpha + \text{Cos}^2 \alpha &= 1 \\ \text{Cos } 2\alpha &= \text{Cos}^2 \alpha - \text{Sen}^2 \alpha \\ \text{Cos } 2\alpha &= 2 \text{Cos}^2 \alpha - 1 \\ \frac{\alpha - \beta}{\alpha + \beta} &= \frac{\text{tg} \left(\frac{\alpha - \beta}{2} \right)}{\text{tg} \left(\frac{\alpha + \beta}{2} \right)} \\ \text{Tg}(\alpha + \beta) &= \frac{\text{tg } \alpha \pm \text{tg } \beta}{1 \mp \text{tg } \alpha \times \text{tg } \beta} \end{aligned}$$

$$\begin{aligned} \frac{a}{\text{Sen } A} &= \frac{b}{\text{Sen } B} = \frac{c}{\text{Sen } C} = 2 \text{ Re} \\ a^2 &= b^2 + c^2 - 2bc \text{Cos } \alpha \\ C &= A \text{Cos } \beta + B \text{Cos } \alpha \\ \text{Tg } 2\alpha &= \frac{2\text{tg } \alpha}{1 - \text{tg}^2 \alpha} \end{aligned}$$

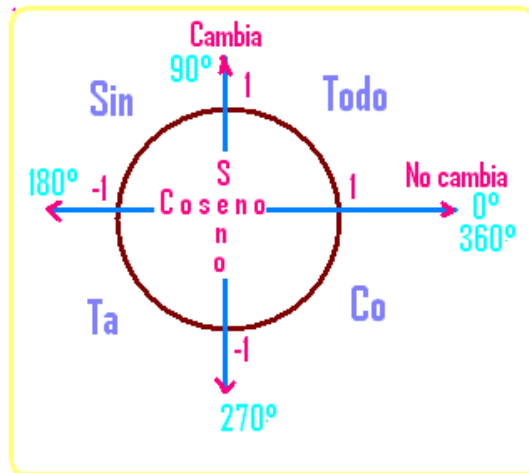
FORMULARIO DE TRIGONOMETRÍA

Montoya.-

	0°	30°	45°	60°	90°
Sen	0	1	2	3	4
Cos	4	3	2	1	0
	2				

$$\text{sen}(\alpha \pm \beta) = \text{sen } \alpha \cos \beta \pm \cos \alpha \text{sen } \beta$$

$$\text{cos}(\alpha \pm \beta) = \cos \alpha \cos \beta \mp \text{sen } \alpha \text{sen } \beta$$



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

$$\text{Sen}^2 \alpha + \text{cos}^2 \alpha = 1$$

$$\text{Cos } 2\alpha = \text{cos}^2 \alpha - \text{sen}^2 \alpha$$

$$\text{Cos } 2\alpha = 2 \text{cos}^2 \alpha - 1$$

$$\frac{\alpha - \beta}{\alpha + \beta} = \frac{\text{tg} \left(\frac{\alpha - \beta}{2} \right)}{\text{tg} \left(\frac{\alpha + \beta}{2} \right)}$$

$$\text{Tg}(\alpha + \beta) = \frac{\text{tg } \alpha \pm \text{tg } \beta}{1 \mp \text{tg } \alpha \times \text{tg } \beta}$$

$$\frac{a}{\text{Sen } A} = \frac{b}{\text{Sen } B} = \frac{c}{\text{Sen } C} = 2 \text{Re}$$

$$a^2 = b^2 + c^2 - 2bc \text{Cos } \alpha$$

$$C = A \cos \beta + B \cos \alpha$$

$$\text{Tg } 2\alpha = \frac{2 \text{tg } \alpha}{1 - \text{tg}^2 \alpha}$$