

FORMULARIO DE TRIGONOMETRIA :

$$\boxed{\text{sen}^2 x + \text{cos}^2 x = 1}$$

$$\boxed{\text{sec}^2 x - \text{tg}^2 x = 1}$$

$$\boxed{\text{csc}^2 x - \text{ctg}^2 x = 1}$$

$$\boxed{\text{tg} x = \frac{\text{sen} x}{\text{cos} x}}$$

$$\boxed{\text{ctg} x = \frac{\text{cos} x}{\text{sen} x}}$$

sen x	<u>inversa</u>	csc x
cos x	<u>inversa</u>	sec x
tg x	<u>inversa</u>	ctg x

$$\boxed{\text{sec} x = \frac{1}{\text{cos} x}}$$

$$\boxed{\text{csc} x = \frac{1}{\text{sen} x}}$$

$$\boxed{\text{ctg} x = \frac{1}{\text{tg} x}}$$

Angulos Dobles :

$$\begin{cases} \text{sen} 2x = 2 \text{sen} x \cdot \text{cos} x \\ \text{cos} 2x = \text{cos}^2 x - \text{sen}^2 x \\ \text{tg} 2x = \frac{2 \text{tg} x}{1 - \text{tg}^2 x} \end{cases}$$

Angulos Medios :

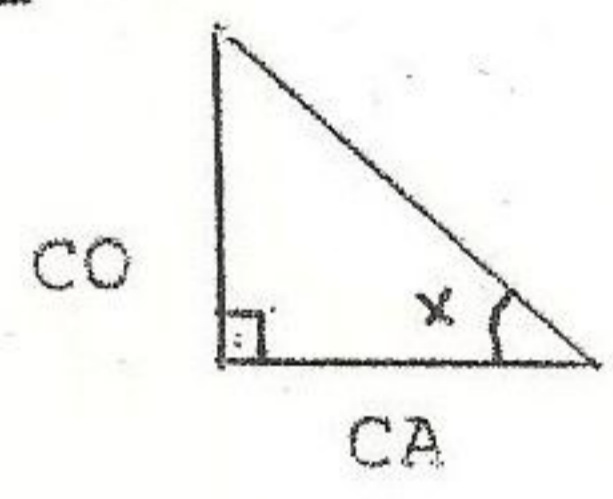
$$\begin{cases} \text{sen} x/2 = \sqrt{\frac{1 - \text{cos} x}{2}} \\ \text{cos} x/2 = \sqrt{\frac{1 + \text{cos} x}{2}} \\ \text{tg} x/2 = \sqrt{\frac{1 - \text{cos} x}{1 + \text{cos} x}} \end{cases}$$

Suma y Resta de Angulos :

$$\begin{cases} \text{cos}(x+y) = \text{cos} x \cdot \text{cos} y - \text{sen} x \cdot \text{sen} y \\ \text{cos}(x-y) = \text{cos} x \cdot \text{cos} y + \text{sen} x \cdot \text{sen} y \\ \text{sen}(x+y) = \text{sen} x \cdot \text{cos} y + \text{cos} x \cdot \text{sen} y \\ \text{sen}(x-y) = \text{sen} x \cdot \text{cos} y - \text{cos} x \cdot \text{sen} y \\ \text{tg}(x+y) = \frac{\text{tg} x + \text{tg} y}{1 - \text{tg} x \cdot \text{tg} y} \\ \text{tg}(x-y) = \frac{\text{tg} x - \text{tg} y}{1 + \text{tg} x \cdot \text{tg} y} \end{cases}$$

Razones Trigonometricas :

H = Hipotenusa  
CO = Cateto Opuesto  
CA = Cateto Adyacente



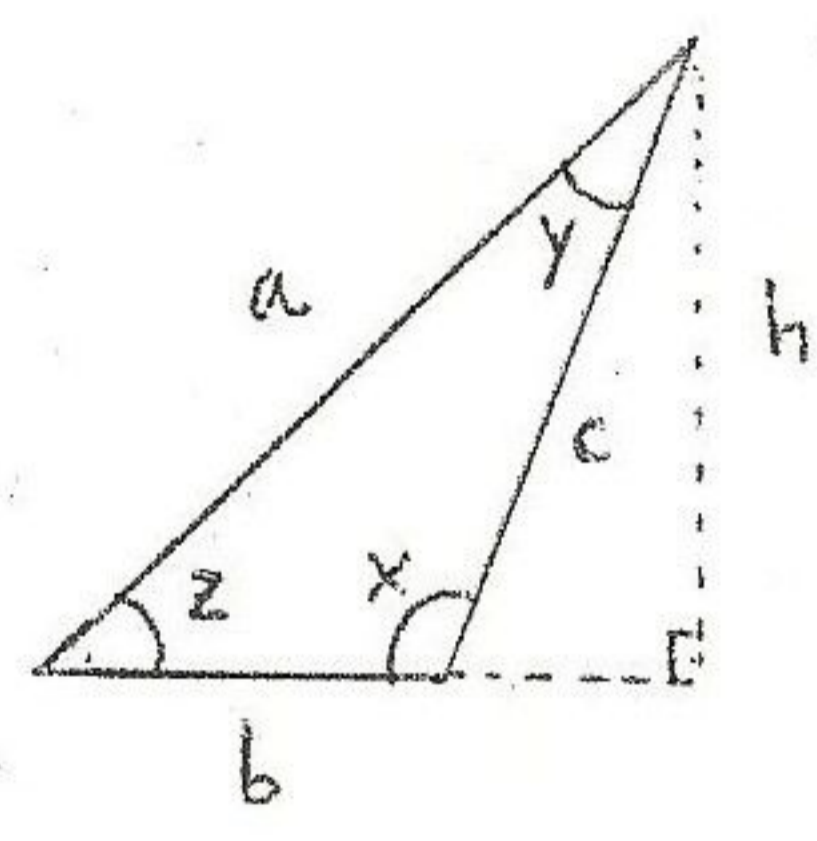
$$\text{sen} x = \frac{\text{CO}}{\text{H}} \quad \text{cos} x = \frac{\text{CA}}{\text{H}} \\ \text{tg} x = \frac{\text{CO}}{\text{CA}}$$

Teorema del Seno :

$$\frac{a}{\text{sen} x} = \frac{b}{\text{sen} y} = \frac{c}{\text{sen} z}$$

Teorema del Coseno:

$$\begin{cases} a^2 = b^2 + c^2 - 2bc \cdot \text{cos} x \\ b^2 = a^2 + c^2 - 2ac \cdot \text{cos} y \\ c^2 = a^2 + b^2 - 2ab \cdot \text{cos} z \end{cases}$$



Valores de los Angulos Notables :

x \ F	sen	cos	tg
30°	1/2	√3/2	√3/3
60°	√3/2	1/2	√3
45°	√2/2	√2/2	1

x \ F	sen	cos	tg
0°	0	1	0
90°	1	0	∞
180°	0	-1	0
270°	-1	0	-∞
360°	0	1	0

Signo de las Funciones y Reducción al Primer Cuadrante

