Identidades Fundamentales:

identidades l'undamentales.			
$\operatorname{sen} \alpha = \frac{1}{\csc \alpha}$	$\cos \alpha = \frac{1}{\sec \alpha}$	$\tan \alpha = \frac{1}{\cot \alpha}$	$\operatorname{sen}(-x) = -\operatorname{sen}(x)$
		$\cot \alpha = \frac{1}{\tan \alpha}$	$\cos(-x) = \cos(x)$
$\tan \alpha = \frac{\operatorname{sen} \alpha}{\cos \alpha}$	$\cot \alpha = \frac{\cos \alpha}{\sin \alpha}$		$\tan(-x)=-\tan(x)$

$\operatorname{sen}^2\alpha + \cos^2\alpha = 1$			
$\operatorname{sen}^2 \alpha = 1 - \cos^2 \alpha$	$\cos^2\alpha = 1 - \sin^2\alpha$	$\tan^2 x = \frac{1 - \cos^2 x}{\cos^2 x}$	$\cot^2 x = \csc^2 x - 1$
$ \operatorname{sen} \alpha = \sqrt{1 - \cos^2 \alpha} $	$\cos\alpha = \sqrt{1 - \sin^2\alpha}$	$\tan x = \frac{\sqrt{1 - \cos^2 x}}{\cos x}$	$\cot x = \sqrt{\csc^2 x - 1}$

Fórmulas de suma y diferencia de ángulos:

FUNCIÓN	SUMA	DIFERENCIA	ANGULO DOBLE	ANGULO MITAD	ANGULO TRIPLE
seno (sen)	$sen (\alpha + \beta) = sen \alpha cos \beta + sen \beta cos \alpha$	$\operatorname{sen} (\alpha - \beta) = \operatorname{sen} \alpha \cos \beta - \operatorname{sen} \beta \cos \alpha$	$\operatorname{sen} 2\alpha = 2\operatorname{sen} \alpha \cos \alpha$	$^{\text{sen}}_{2} = \pm \sqrt{2}$	
coseno (cos)	$\cos(\alpha + \beta) = \cos \alpha \cos \beta - \sin \alpha \sin \beta$	$\cos(\alpha - \beta) = \cos\alpha\cos\beta + \sin\alpha\sin\beta$	$\cos 2\alpha = \cos^2 \alpha - \sin^2 \alpha$	$\cos\frac{x}{2} = \pm\sqrt{\frac{1+\cos x}{2}}$	$\cos 3\alpha = 4\cos^3\alpha - 3\cos\alpha$
tangente (tan)	$\tan(\alpha + \beta) = \frac{\tan\alpha + \tan\beta}{1 - \tan\alpha \cdot \tan\beta}$	$\tan(\alpha - \beta) = \frac{\tan\alpha - \tan\beta}{1 + \tan\alpha \cdot \tan\beta}$	$\tan 2 a = \frac{2 \tan a}{1 - \tan^2 a}$	$\tan\frac{x}{2} = \pm\sqrt{\frac{1-\cos x}{1+\cos x}}$	$\tan 3\alpha = \frac{3\tan\alpha - \tan^3\alpha}{1 - 3\tan^2\alpha}$
cosecante (csc)	$\csc(\alpha + \beta) = \frac{1}{\sec \alpha \cos \beta + \sec \beta \cos \alpha}$	$\csc(\alpha - \beta) = \frac{1}{\sec \alpha \cos \beta - \sec \beta \cos \alpha}$		$\csc\frac{x}{2} = \frac{1}{\pm\sqrt{\frac{1-\cos x}{2}}}$	$\csc 3\alpha = \frac{\csc^3 \alpha}{3\csc^2 \alpha - 4}$
secante (sec)			$\cos 2\alpha = \frac{1}{\cos^2 \alpha - \sin^2 \alpha}$	$\sec \frac{x}{2} = \frac{1}{\pm \sqrt{\frac{1+\cos x}{2}}}$	$\sec 3 \alpha = \frac{1}{\cos^2 \alpha - \sin^2 \alpha}$
cotangente (cot)	$\cot (\alpha + \beta) = \frac{\cot \alpha \cdot \cot \beta - 1}{\cot \alpha + \cot \beta}$	$\cot (\alpha - \beta) = \frac{\cot \alpha \cdot \cot \beta + 1}{\cot \beta - \cot \alpha}$	$\cot 2\alpha = \frac{\cot^2 \alpha - 1}{2\cot \alpha}$	$\cot \frac{x}{2} = \frac{1}{\pm \sqrt{\frac{1-\cos x}{1+\cos x}}}$	$\cot 3\alpha = \frac{\cot^3 \alpha - 3\cot \alpha}{3\cot^2 \alpha - 1}$

Identidades de Cofunción y reducción:

dendudes de condicion y reduccion.			
$\operatorname{sen}\left(\frac{\pi}{2} - x\right) = \cos x$	$\csc\left(\frac{\pi}{2} - x\right) = \sec x$	$\operatorname{sen}\left(\frac{\pi}{2} + x\right) = \cos x$	$\operatorname{sen}(x+\pi) = -\operatorname{sen} x$
$\cos\left(\frac{\pi}{2} - x\right) = \operatorname{sen} x$	$\sec\left(\frac{\pi}{2} - x\right) = \csc x$	$\cos\left(\frac{\pi}{2} + x\right) = -\operatorname{sen} x$	$\cos(x+\pi) = -\cos x$
$\tan\left(\frac{\pi}{2} - x\right) = \cot x$	$\cot\left(\frac{\pi}{2} - x\right) = \tan x$	$\tan\left(\frac{\pi}{2} + x\right) = -\cot x$	$\tan\left(x+\pi\right) = \tan x$

Identidades de Reducción de Potencias:

ч	circuates ac recauction
	$\operatorname{sen}^2 x = \frac{1 - \cos 2x}{2}$
	$\cos^2 x = \frac{1 + \cos 2x}{2}$
	$\tan^2 x = \frac{1 - \cos 2x}{1 + \cos 2x}$

Fórmulas de transformación de sumas y diferencias en productos:

	Suma	Diferencia
sen	$\operatorname{sen} \alpha + \operatorname{sen} \beta = 2 \operatorname{sen} \frac{\alpha + \beta}{2} \cdot \cos \frac{\alpha - \beta}{2}$	$\operatorname{sen} \alpha - \operatorname{sen} \beta = 2 \operatorname{sen} \frac{\alpha - \beta}{2} \cdot \cos \frac{\alpha + \beta}{2}$
cos	$\cos \alpha + \cos \beta = 2\cos \frac{\alpha + \beta}{2} \cdot \cos \frac{\alpha - \beta}{2}$	$\cos \alpha - \cos \beta = -2 \operatorname{sen} \frac{\alpha + \beta}{2} \cdot \operatorname{sen} \frac{\alpha - \beta}{2}$
tan	$\tan \alpha + \tan \beta = \frac{\sin (\alpha + \beta)}{\cos \alpha \cdot \cos \beta}$	$\tan \alpha - \tan \beta = \frac{\operatorname{sen} (\alpha - \beta)}{\cos \alpha \cdot \cos \beta}$

Ley del seno, coseno y la tangente

a,b,c: lados A,B,C: ángulos y/o vértices		
Ley del Seno	$\underline{a} = \underline{b} = \underline{c}$	
	$\operatorname{sen} A = \operatorname{sen} B = \operatorname{sen} C$	
Ley del Coseno	$a^2 = b^2 + c^2 - 2bc \cos A$	
Ley de la Tangente	$\frac{a-b}{a+b} = \frac{\tan\frac{A-B}{2}}{\tan\frac{A+B}{2}}$	