

# Kevin Jhomar Sanchez Sanchez

## I. LOGARITMOS

$$\log_b a = c \longrightarrow b^c = a$$

$$\log_b 1 = 0$$

$$\log_b b = 1$$

$$\log_b b^n = n, \text{ con } b \neq 1$$

$$\log_b(a \cdot c) = \log_b a + \log_b c$$

$$\log_b \left( \frac{p}{q} \right) = \log_b p - \log_b q$$

$$\log_a c^n = n \log_a c$$

$$\log_b \sqrt[n]{a^m} = \frac{m}{n} \cdot \log_b a$$

$$\log_p a = \frac{\log_b a}{\log_b p}$$

## II. LOGARITMOS NEPERIANOS

$$\ln 1 = 0$$

$$\ln e = 1$$

$$\ln e^n = n$$

$$\ln(x \cdot y) = \ln(x) + \ln(y)$$

$$\ln \left( \frac{x}{y} \right) = \ln(x) - \ln(y)$$

$$\ln x^n = n \ln(x)$$

$$\ln \sqrt[n]{x} = \frac{1}{n} \ln x$$

## III. FUNCION EXPONENCIAL

$$\ln e^x = x$$

$$e^{\ln x} = x$$

$$e^0 = 1$$

$$e^{u+v} = e^u \cdot e^v$$

$$e^{u-v} = \frac{e^u}{e^v}$$

$$e^{-v} = \frac{1}{e^v}$$

## IV. IDENTIDADES TRIGONOMETRICAS

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

$$\tan^2 x + 1 = \sec^2 x$$

$$\cot^2 x + 1 = \csc^2 x$$

$$\operatorname{sen} x + \csc x = 1$$

$$\cos x + \sec x = 1$$

$$\tan x + \cot x = 1$$

$$\tan x = \frac{\operatorname{sen} x}{\cos x}$$

$$\cot x = \frac{\cos x}{\operatorname{sen} x}$$

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

$$\csc x = \frac{1}{\operatorname{sen} x}$$

$$\operatorname{sen}(x \pm y) = \operatorname{sen} x \cdot \cos y \pm \cos x \cdot \operatorname{sen} y$$

$$\cos(x \pm y) = \cos x \cdot \cos y \mp \operatorname{sen} x \cdot \operatorname{sen} y$$

$$\tan(x \pm y) = \frac{\tan x \pm \tan y}{1 \mp \tan x \cdot \tan y}$$

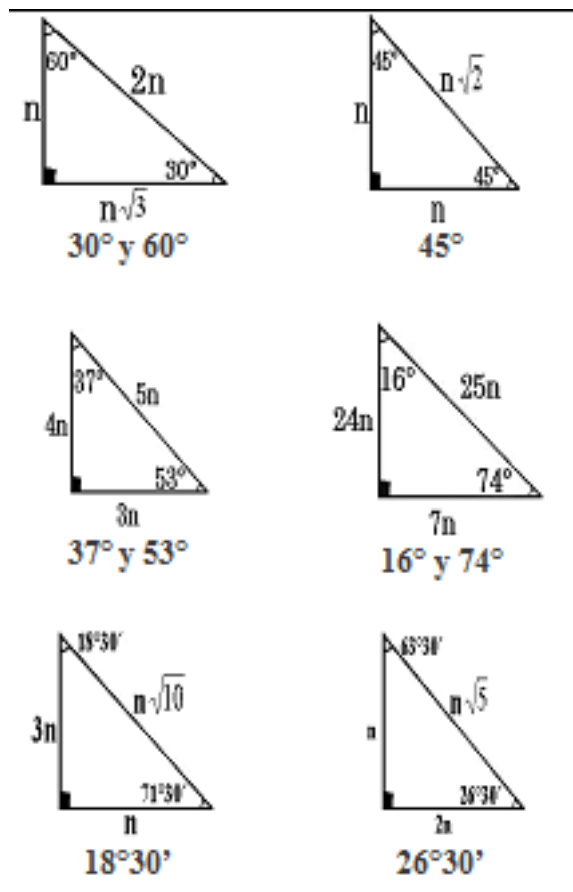
$$\operatorname{sen} 2x = 2 \operatorname{sen} x \cdot \cos x$$

$$\cos 2x = \cos^2 x - \operatorname{sen}^2 x$$

$$\cos 2x = 2 \cos^2 x - 1$$

$$\cos 2x = 1 - 2 \operatorname{sen}^2 x$$

## V. TRIANGULOS NOTABLES



## VI. TABLA DE ANGULOS

	$0^\circ$	$30^\circ$	$45^\circ$	$60^\circ$	$90^\circ$	$120^\circ$	$135^\circ$	$150^\circ$	$180^\circ$
$\theta$	0	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$	$\frac{2\pi}{3}$	$\frac{3\pi}{4}$	$\frac{5\pi}{6}$	$\pi$
$\sin \theta$	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0
$\cos \theta$	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0	$-\frac{1}{2}$	$-\frac{\sqrt{2}}{2}$	$-\frac{\sqrt{3}}{2}$	-1
$\tan \theta$	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	ind	$-\sqrt{3}$	-1	$-\frac{\sqrt{3}}{3}$	0
$\csc \theta$	ind	2	$\sqrt{2}$	$\frac{2\sqrt{3}}{3}$	1	$\frac{2\sqrt{3}}{3}$	$\sqrt{2}$	2	ind
$\sec \theta$	1	$\frac{2\sqrt{3}}{3}$	$\sqrt{2}$	2	ind	-2	$-\sqrt{2}$	$-\frac{2\sqrt{3}}{3}$	-1
$\cot \theta$	ind	$\sqrt{3}$	1	$\frac{\sqrt{3}}{3}$	0	$-\frac{\sqrt{3}}{3}$	-1	$-\sqrt{3}$	ind