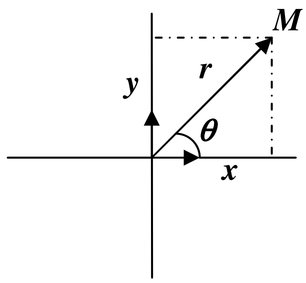
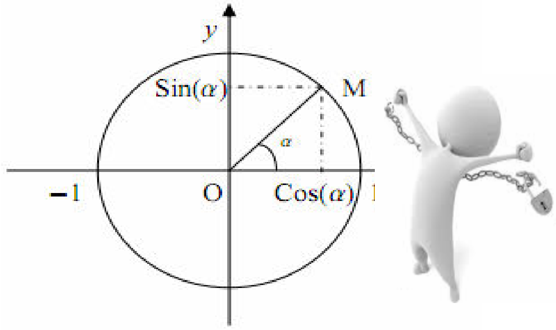
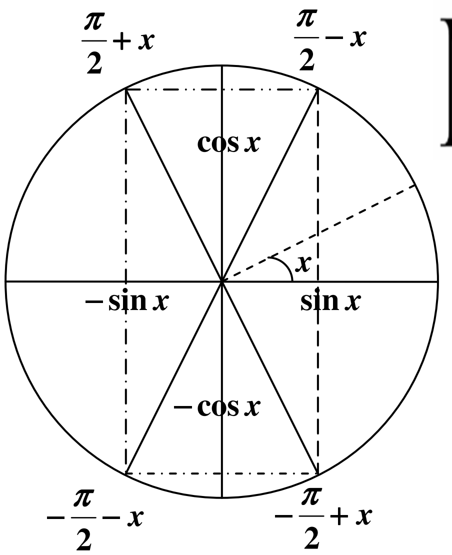
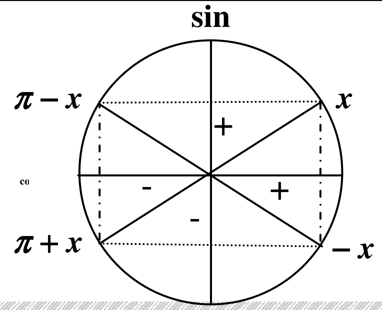
$$\begin{cases} r = \sqrt{x^2 + y^2} \\ \cos\theta = \dfrac{x}{r} \\ \sin\theta = \dfrac{y}{r} \end{cases}$$









x	0	$\dfrac{\pi}{6}$	$\dfrac{\pi}{4}$	$\dfrac{\pi}{3}$	$\dfrac{\pi}{2}$
$\sin x$	0	$\dfrac{1}{2}$	$\dfrac{\sqrt{2}}{2}$	$\dfrac{\sqrt{3}}{2}$	1
$\cos x$	1	$\dfrac{\sqrt{3}}{2}$	$\dfrac{\sqrt{2}}{2}$	$\dfrac{1}{2}$	0

$\sin\left(\dfrac{\pi}{2} - x\right) = \cos x$	$\cos\left(\dfrac{\pi}{2} - x\right) = \sin x$	$\cos(-x) = \cos x$	$\sin(-x) = -\sin x$
$\sin\left(\dfrac{\pi}{2} + x\right) = \cos x$	$\cos\left(\dfrac{\pi}{2} + x\right) = -\sin x$	$\cos(\pi - x) = -\cos x$	$\sin(\pi - x) = \sin x$
$\sin\left(-\dfrac{\pi}{2} - x\right) = -\cos x$	$\cos\left(-\dfrac{\pi}{2} - x\right) = -\sin x$	$\cos(\pi + x) = -\cos x$	$\sin(\pi + x) = -\sin x$
$\sin\left(-\dfrac{\pi}{2} + x\right) = -\cos x$	$\cos\left(-\dfrac{\pi}{2} + x\right) = \sin x$	$\cos(x + 2k\pi) = \cos x$	$\sin(x + 2k\pi) = \sin x$

$$c\tan x = \frac{\cos x}{\sin x} \quad ، \quad \tan x = \frac{\sin x}{\cos x}$$

$$-1 \le \sin x \le 1 \quad ، \quad -1 \le \cos x \le 1$$

$$\cos^2 x + \sin^2 x = 1$$

$$\cos(a+b) = \cos a.\cos b - \sin a.\sin b$$

$$\cos(a-b) = \cos a.\cos b + \sin a.\sin b$$

$$\sin(a+b) = \sin a.\cos b + \cos a.\sin b$$

$$\sin(a-b) = \sin a.\cos b - \cos a.\sin b$$

$$\sin 2x = 2\sin x.\cos x$$

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

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

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

$$\cos x = \cos b \Leftrightarrow \begin{cases} x = b + 2k\pi \\ x = -b + 2k\pi \end{cases}$$

$$\cos^2 x = \frac{\cos 2x + 1}{2}$$

$$\sin^2 x = \frac{1 - \cos 2x}{2}$$

$$\sin x = \sin a \Leftrightarrow \begin{cases} x = a + 2k\pi \\ x = \pi - a + 2k\pi \end{cases}$$

تذكر جيدا: " أنك (تستطيع النجاح) في حياتك الدراسية ولو كان الناس جميعا يعتقدون أنك غير ناجح . ولكنك (لن تنجح أبدا) إذا كنت تعتقد في نفسك أنك غير ناجح".

الأستاذ : مبـــاركي

انتظروا الجديد .....