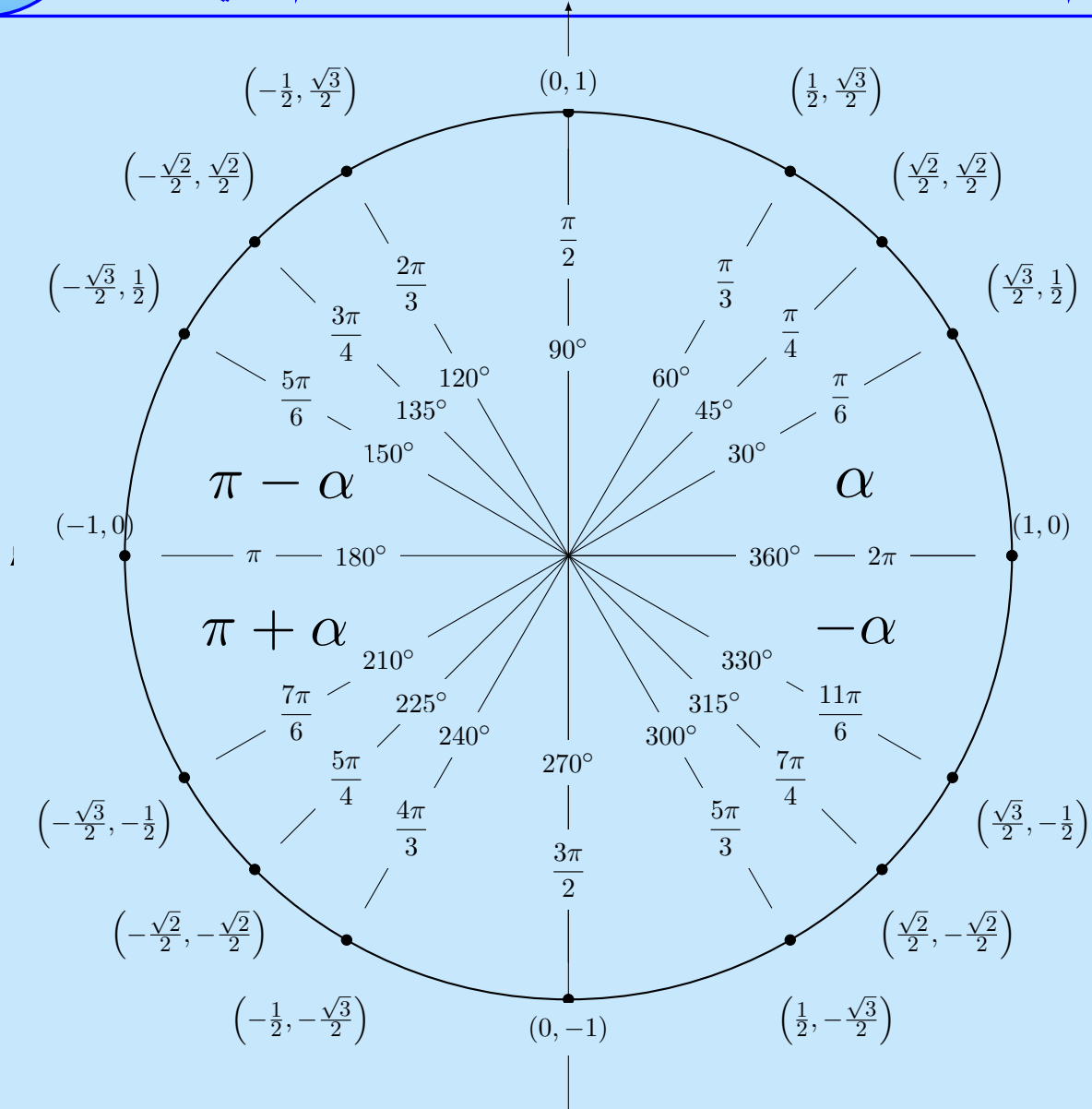




جدول القيم الشهيرة نتائج

$$\begin{cases} \cos(\frac{\pi}{2} + x) = -\sin x \\ \sin(\frac{\pi}{2} + x) = \cos x \end{cases}$$

$$\begin{cases} \cos(\pi + x) = -\cos x \\ \sin(\pi + x) = -\sin x \end{cases}$$

$$\begin{cases} \cos(x + 2k\pi) = \cos x \\ \sin(x + 2k\pi) = \sin x \end{cases}$$

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

$$\begin{cases} \cos(a + b) = \cos a \cos b - \sin a \sin b \\ \cos(a - b) = \cos a \cos b + \sin a \sin b \end{cases}$$

$$\begin{cases} \cos(-\frac{\pi}{2} - x) = -\sin x \\ \sin(-\frac{\pi}{2} - x) = -\cos x \end{cases}$$

$$\begin{cases} \cos(-\frac{\pi}{2} + x) = \sin x \\ \sin(-\frac{\pi}{2} + x) = -\cos x \end{cases}$$

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

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

$$\begin{cases} \sin(a - b) = \sin a \cos b - \cos a \sin b \\ \sin(a + b) = \sin a \cos b + \cos a \sin b \end{cases}$$

$$-1 \leq \cos x \leq 1, \quad -1 \leq \sin x \leq 1, \quad \cos^2 x + \sin^2 x = 1$$