

MATH - 002 TABLE OF TRIG. FUNCTIONS

x		Sin x	Cos x	Tan x	Csc x	Sec x	Cot x
0	0°	0	1	0	Und.	1	Und.
$\frac{\pi}{6}$	30°	$\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{3}}{3}$	2	$\frac{2}{\sqrt{3}}$	$\sqrt{3}$
$\frac{\pi}{4}$	45°	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{2}}{2}$	1	$\sqrt{2}$	$\sqrt{2}$	1
$\frac{\pi}{3}$	60°	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	$\sqrt{3}$	$\frac{2}{\sqrt{3}}$	2	$\frac{\sqrt{3}}{3}$
$\frac{\pi}{2}$	90°	1	0	Und.	1	Und.	0
$\frac{2\pi}{3}$	120°	$\frac{\sqrt{3}}{2}$	$-\frac{1}{2}$	$-\sqrt{3}$	$\frac{2}{\sqrt{3}}$	-2	$-\frac{\sqrt{3}}{3}$
$\frac{3\pi}{4}$	135°	$\frac{\sqrt{2}}{2}$	$-\frac{\sqrt{2}}{2}$	-1	$\sqrt{2}$	$-\sqrt{2}$	-1
$\frac{5\pi}{6}$	150°	$\frac{1}{2}$	$-\frac{\sqrt{3}}{2}$	$-\frac{\sqrt{3}}{3}$	2	$-\frac{2}{\sqrt{3}}$	$-\sqrt{3}$
π	180°	0	-1	0	Und.	-1	Und.
$\frac{7\pi}{6}$	210°	$-\frac{1}{2}$	$-\frac{\sqrt{3}}{2}$	$\frac{\sqrt{3}}{3}$	-2	$-\frac{2}{\sqrt{3}}$	$\sqrt{3}$
$\frac{5\pi}{4}$	225°	$-\frac{\sqrt{2}}{2}$	$-\frac{\sqrt{2}}{2}$	1	$-\sqrt{2}$	$-\sqrt{2}$	1
$\frac{4\pi}{3}$	240°	$-\frac{\sqrt{3}}{2}$	$-\frac{1}{2}$	$\sqrt{3}$	$-\frac{2}{\sqrt{3}}$	-2	$\frac{\sqrt{3}}{3}$
$\frac{3\pi}{2}$	270°	-1	0	Und.	-1	Und.	0
$\frac{5\pi}{3}$	300°	$-\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	$-\sqrt{3}$	$-\frac{2}{\sqrt{3}}$	2	$-\frac{\sqrt{3}}{3}$
$\frac{7\pi}{4}$	315°	$-\frac{\sqrt{2}}{2}$	$\frac{\sqrt{2}}{2}$	-1	$-\sqrt{2}$	$\sqrt{2}$	-1
$\frac{11\pi}{6}$	330°	$-\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	$-\frac{\sqrt{3}}{3}$	-2	$\frac{2}{\sqrt{3}}$	$-\sqrt{3}$

NOTES : Let n be any integer, then $2n$ is an even integer and $2n + 1$ is an odd integer :

- 1) $\sin x = 0 \implies x = n\pi$; $\cos x = 0 \implies x = (2n + 1)\frac{\pi}{2}$
 $\tan x = 0 \implies x = n\pi$; $\cot x = 0 \implies x = (2n + 1)\frac{\pi}{2}$
 $\csc x = 0$ and $\sec x = 0$ are impossible.
- 2) $\sin x = 1 \implies x = \frac{\pi}{2} + 2n\pi$; $\cos x = 1 \implies x = 2n\pi$
 $\csc x = 1 \implies x = \frac{\pi}{2} + 2n\pi$; $\sec x = 1 \implies x = 2n\pi$
 $\tan x = 1 \implies x = \frac{\pi}{4} + n\pi$; $\cot x = 1 \implies x = \frac{\pi}{4} + n\pi$
- 3) $\sin x = -1 \implies x = \frac{3\pi}{2} + 2n\pi$; $\cos x = -1 \implies x = (2n + 1)\pi$
 $\csc x = -1 \implies x = \frac{3\pi}{2} + 2n\pi$; $\sec x = -1 \implies x = (2n + 1)\pi$
 $\tan x = -1 \implies x = \frac{3\pi}{4} + n\pi$; $\cot x = -1 \implies x = \frac{3\pi}{4} + n\pi$

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