

1. Pythagorean Identities: $\cos^2 \alpha + \sin^2 \alpha = 1$; $1 + \tan^2 \alpha = \sec^2 \alpha$; $\cot^2 \alpha + 1 = \csc^2 \alpha$.

2. Write the even/odd identities for the six trigonometric functions:

$\cos(-x) = \underline{\cos(x)}$ $\sin(-x) = \underline{-\sin(x)}$

$\sec(-x) = \underline{\sec(x)}$ $\tan(-x) = \underline{-\tan(x)}$

$\cot(-x) = \underline{-\cot(x)}$ $\csc(-x) = \underline{-\csc(x)}$

3. The completed unit circle chart:

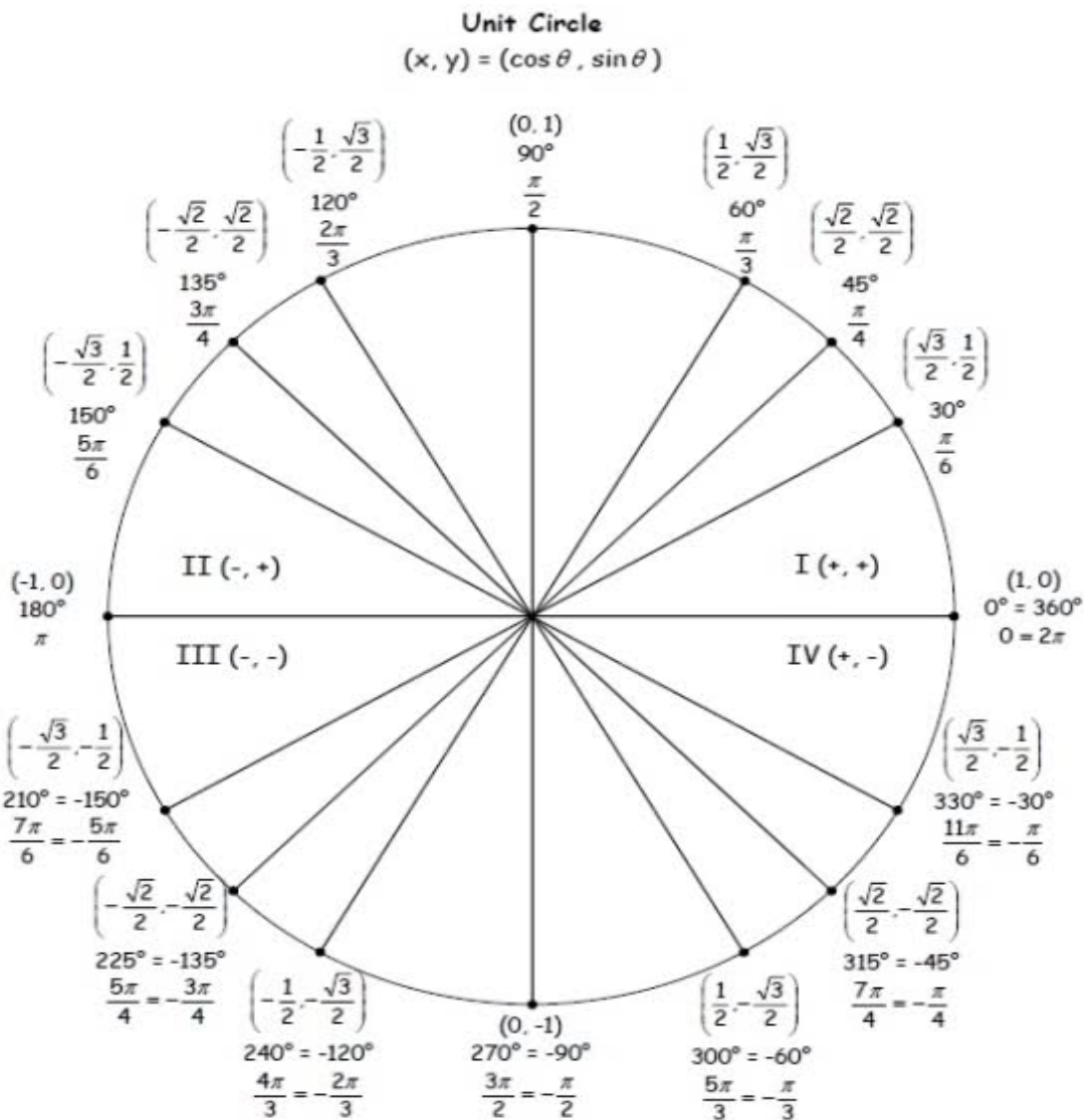


Table of Trigonometric Values

Note. From unit circle coordinates on previous page, since $r = 1$:

$$\cos \theta = x, \sin \theta = y, \tan \theta = \frac{y}{x}, \sec \theta = \frac{1}{x}, \csc \theta = \frac{1}{y} \text{ and } \cot \theta = \frac{x}{y}$$

θ (Deg)	θ (Rad)	Ref \angle	$\sin \theta$	$\cos \theta$	$\tan \theta$	$\csc \theta$	$\sec \theta$	$\cot \theta$
0°	0	0°	0	1	0	und	1	und
30°	$\frac{\pi}{6}$	30°	$\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{3}}{3}$	2	$\frac{2\sqrt{3}}{3}$	$\sqrt{3}$
45°	$\frac{\pi}{4}$	45°	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{2}}{2}$	1	$\sqrt{2}$	$\sqrt{2}$	1
60°	$\frac{\pi}{3}$	60°	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	$\sqrt{3}$	$\frac{2\sqrt{3}}{3}$	2	$\frac{\sqrt{3}}{3}$
90°	$\frac{\pi}{2}$	90°	1	0	und	1	und	0
120°	$\frac{2\pi}{3}$	60°	$\frac{\sqrt{3}}{2}$	$-\frac{1}{2}$	$-\sqrt{3}$	$\frac{2\sqrt{3}}{3}$	-2	$-\frac{\sqrt{3}}{3}$
135°	$\frac{3\pi}{4}$	45°	$\frac{\sqrt{2}}{2}$	$-\frac{\sqrt{2}}{2}$	-1	$\sqrt{2}$	$-\sqrt{2}$	-1
150°	$\frac{5\pi}{6}$	30°	$\frac{1}{2}$	$-\frac{\sqrt{3}}{2}$	$-\frac{\sqrt{3}}{3}$	2	$-\frac{2\sqrt{3}}{3}$	$-\sqrt{3}$
180°	π	0°	0	-1	0	und	-1	und
210°	$\frac{7\pi}{6}$	30°	$-\frac{1}{2}$	$-\frac{\sqrt{3}}{2}$	$\frac{\sqrt{3}}{3}$	-2	$-\frac{2\sqrt{3}}{3}$	$\sqrt{3}$
225°	$\frac{5\pi}{4}$	45°	$-\frac{\sqrt{2}}{2}$	$-\frac{\sqrt{2}}{2}$	1	$-\sqrt{2}$	$-\sqrt{2}$	1
240°	$\frac{4\pi}{3}$	60°	$-\frac{\sqrt{3}}{2}$	$-\frac{1}{2}$	$\sqrt{3}$	$-\frac{2\sqrt{3}}{3}$	-2	$\frac{\sqrt{3}}{3}$
270°	$\frac{3\pi}{2}$	90°	-1	0	und	-1	und	0
300°	$\frac{5\pi}{3}$	60°	$-\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	$-\sqrt{3}$	$-\frac{2\sqrt{3}}{3}$	2	$-\frac{\sqrt{3}}{3}$
315°	$\frac{7\pi}{4}$	45°	$-\frac{\sqrt{2}}{2}$	$\frac{\sqrt{2}}{2}$	-1	$-\sqrt{2}$	$\sqrt{2}$	-1
330°	$\frac{11\pi}{6}$	30°	$-\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	$-\frac{\sqrt{3}}{3}$	-2	$\frac{2\sqrt{3}}{3}$	$-\sqrt{3}$
360°	2π	0°	0	1	0	und	1	und