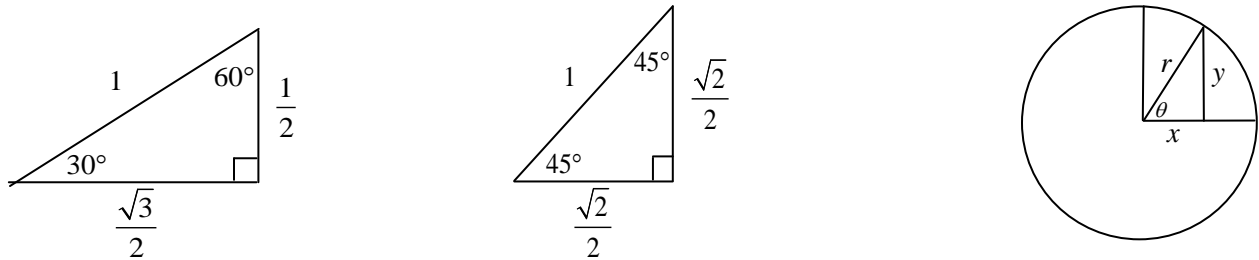


Values of Trigonometric Functions for Commonly Used Angles



DEG	RAD	$\sin \theta$	$\cos \theta$	$\tan \theta$	$\csc \theta = \frac{1}{\sin \theta}$	$\sec \theta = \frac{1}{\cos \theta}$	$\cot \theta = \frac{1}{\tan \theta}$
0°	0	0	1	0	undefined	1	undefined
30°	$\frac{\pi}{6}$	$\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{3}}{3} = \frac{1}{\sqrt{3}}$	2	$\frac{2\sqrt{3}}{3} = \frac{2}{\sqrt{3}}$	$\sqrt{3}$
45°	$\frac{\pi}{4}$	$\frac{\sqrt{2}}{2} = \frac{1}{\sqrt{2}}$	$\frac{\sqrt{2}}{2} = \frac{1}{\sqrt{2}}$	1	$\sqrt{2}$	$\sqrt{2}$	1
60°	$\frac{\pi}{3}$	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	$\sqrt{3}$	$\frac{2\sqrt{3}}{3} = \frac{2}{\sqrt{3}}$	2	$\frac{\sqrt{3}}{3} = \frac{1}{\sqrt{3}}$
90°	$\frac{\pi}{2}$	1	0	undefined	1	undefined	0
120°	$\frac{2\pi}{3}$	$\frac{\sqrt{3}}{2}$	$-\frac{1}{2}$	$-\sqrt{3}$	$\frac{2\sqrt{3}}{3} = \frac{2}{\sqrt{3}}$	-2	$-\frac{\sqrt{3}}{3} = -\frac{1}{\sqrt{3}}$
135°	$\frac{3\pi}{4}$	$\frac{\sqrt{2}}{2} = \frac{1}{\sqrt{2}}$	$-\frac{\sqrt{2}}{2} = -\frac{1}{\sqrt{2}}$	-1	$\sqrt{2}$	$-\sqrt{2}$	-1
150°	$\frac{5\pi}{6}$	$\frac{1}{2}$	$-\frac{\sqrt{3}}{2}$	$-\frac{\sqrt{3}}{3} = -\frac{1}{\sqrt{3}}$	2	$-\frac{2\sqrt{3}}{3} = -\frac{2}{\sqrt{3}}$	$-\sqrt{3}$
180°	π	0	-1	0	undefined	-1	undefined
210°	$\frac{7\pi}{6}$	$-\frac{1}{2}$	$-\frac{\sqrt{3}}{2}$	$\frac{\sqrt{3}}{3} = \frac{1}{\sqrt{3}}$	-2	$-\frac{2\sqrt{3}}{3} = -\frac{2}{\sqrt{3}}$	$\sqrt{3}$
225°	$\frac{5\pi}{4}$	$-\frac{\sqrt{2}}{2} = -\frac{1}{\sqrt{2}}$	$-\frac{\sqrt{2}}{2} = -\frac{1}{\sqrt{2}}$	1	$-\sqrt{2}$	$-\sqrt{2}$	1
240°	$\frac{4\pi}{3}$	$-\frac{\sqrt{3}}{2}$	$-\frac{1}{2}$	$\sqrt{3}$	$-\frac{2\sqrt{3}}{3} = -\frac{2}{\sqrt{3}}$	-2	$\frac{\sqrt{3}}{3} = \frac{1}{\sqrt{3}}$
270°	$\frac{3\pi}{2}$	-1	0	undefined	-1	undefined	0
300°	$\frac{5\pi}{3}$	$-\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	$-\sqrt{3}$	$-\frac{2\sqrt{3}}{3} = -\frac{2}{\sqrt{3}}$	2	$-\frac{\sqrt{3}}{3} = -\frac{1}{\sqrt{3}}$
315°	$\frac{7\pi}{4}$	$-\frac{\sqrt{2}}{2} = -\frac{1}{\sqrt{2}}$	$\frac{\sqrt{2}}{2} = \frac{1}{\sqrt{2}}$	-1	$-\sqrt{2}$	$\sqrt{2}$	-1
330°	$\frac{11\pi}{6}$	$-\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	$-\frac{\sqrt{3}}{3} = -\frac{1}{\sqrt{3}}$	-2	$\frac{2\sqrt{3}}{3} = \frac{2}{\sqrt{3}}$	$-\sqrt{3}$
360°	2π	0	1	0	undefined	1	undefined