

# Important sines & cosines. (Memorize!)

$\theta$	$0^\circ$	$30^\circ$	$45^\circ$	$60^\circ$	$90^\circ$	$180^\circ$	$270^\circ$	$360^\circ$	8 "special" angles
$\cos \theta$	1	$\sqrt{3}/2$	$1/\sqrt{2}$	$1/2$	0	-1	0	1	8 cosines &
$\sin \theta$	0	$1/2$	$1/\sqrt{2}$	$\sqrt{3}/2$	1	0	-1	0	8 sines
$\cos \theta$	$\sqrt{\frac{4}{4}}$	$\sqrt{\frac{3}{4}}$	$\sqrt{\frac{2}{4}}$	$\sqrt{\frac{1}{4}}$	$\sqrt{\frac{0}{4}}$				
$\sin \theta$	$\sqrt{\frac{0}{4}}$	$\sqrt{\frac{1}{4}}$	$\sqrt{\frac{2}{4}}$	$\sqrt{\frac{3}{4}}$	$\sqrt{\frac{4}{4}}$				

↑ Easy pattern to remember!

$$(0, 1) = (\sqrt{\frac{0}{4}}, \sqrt{\frac{4}{4}})$$

$$\left(\frac{1}{2}, \frac{\sqrt{3}}{2}\right) = \left(\sqrt{\frac{1}{4}}, \sqrt{\frac{3}{4}}\right)$$

$$\left(\frac{1}{\sqrt{2}}, \frac{1}{\sqrt{2}}\right) = \left(\sqrt{\frac{2}{4}}, \sqrt{\frac{2}{4}}\right)$$

$$\theta = \frac{\pi}{2} = 90^\circ$$

$$\theta = \frac{\pi}{3} = 60^\circ$$

$$\theta = \frac{\pi}{4} = 45^\circ$$

$$\theta = \frac{\pi}{6} = 30^\circ$$

$$(0, 0)$$

$$\theta = 0 = 0^\circ$$

$$(1, 0) = \left(\sqrt{\frac{4}{4}}, \sqrt{\frac{0}{4}}\right)$$

$$(x, y) = (\cos \theta, \sin \theta)$$



Visual aids

$$\theta = \frac{3\pi}{2} = 270^\circ$$

$$(0, -1)$$

$$\theta = \pi = 180^\circ$$

$$(-1, 0)$$

$$\theta = 0 = 0^\circ$$

$$(1, 0)$$

$$\theta = 2\pi = 360^\circ$$

