

Trigonometric Reference

RECIPROCAL IDENTITIES

- $\sin \theta = 1 / \csc \theta$
 - $\cos \theta = 1 / \sec \theta$
 - $\tan \theta = 1 / \cot \theta$
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PYTHAGOREAN IDENTITIES

- $\sin^2 \theta + \cos^2 \theta = 1$
 - $\tan^2 \theta + 1 = \sec^2 \theta$
 - $1 + \cot^2 \theta = \csc^2 \theta$
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DOUBLE ANGLE

- $\sin(2\theta) = 2 \sin \theta \cos \theta$
 - $\cos(2\theta) = \cos^2 \theta - \sin^2 \theta$
 - $\tan(2\theta) = 2 \tan \theta / (1 - \tan^2 \theta)$
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SINE WAVE GRAPH: $Y = \sin(X)$

COMMON VALUES

θ (deg)	0	30	45	60	90
$\sin \theta$	0	1/2	$\sqrt{2}/2$	$\sqrt{3}/2$	1
$\cos \theta$	1	$\sqrt{3}/2$	$\sqrt{2}/2$	1/2	0

TANGENT & COTANGENT

- $\tan \theta = \sin \theta / \cos \theta$
 - $\cot \theta = \cos \theta / \sin \theta$
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