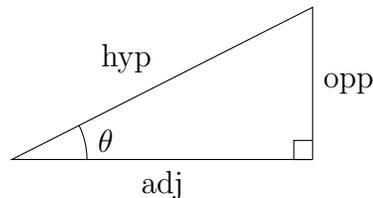


Right Triangle Trigonometry

- $\sin \theta = \frac{\text{opp}}{\text{hyp}}$
- $\cos \theta = \frac{\text{adj}}{\text{hyp}}$
- $\tan \theta = \frac{\text{opp}}{\text{adj}}$
- $\csc \theta = \frac{\text{hyp}}{\text{opp}}$
- $\sec \theta = \frac{\text{hyp}}{\text{adj}}$
- $\cot \theta = \frac{\text{adj}}{\text{opp}}$



Trigonometric Functions of Important Angles

θ	radians	$\sin \theta$	$\cos \theta$
0°	0	0	1
30°	$\pi/6$	$1/2$	$\sqrt{3}/2$
45°	$\pi/4$	$\sqrt{2}/2$	$\sqrt{2}/2$
60°	$\pi/3$	$\sqrt{3}/2$	$1/2$
90°	$\pi/2$	1	0

Pythagorean Identities

- $\sin^2 x + \cos^2 x = 1$
- $\tan^2 x + 1 = \sec^2 x$
- $1 + \cot^2 x = \csc^2 x$

Double Angle Identities

- $\sin(2x) = 2 \sin x \cos x$
- $\cos(2x) = \cos^2 x - \sin^2 x$

Half Angle Identities

- $\sin^2 x = \frac{1 - \cos(2x)}{2}$
- $\cos^2 x = \frac{1 + \cos(2x)}{2}$