

Right Triangle:

$$\sin \theta$$

$$\frac{\text{opp}}{\text{hyp}}$$

Right Triangle:

$$\cos \theta$$

$$\frac{\text{adj}}{\text{hyp}}$$

Right Triangle:

$$\tan \theta$$

$$\frac{\text{opp}}{\text{adj}}$$

Circular function, radius r

$$\sin \theta$$

$$\frac{y}{r}$$

Circular function, radius r

$$\cos \theta$$

$$\frac{x}{r}$$

<p>Circular function, radius r</p> <p>$\tan \theta$</p>	$\frac{y}{x}$
<p>Reciprocal Identity:</p> <p>$\csc \theta$</p>	$\frac{1}{\sin \theta}$
<p>Reciprocal Identity:</p> <p>$\sec \theta$</p>	$\frac{1}{\cos \theta}$
<p>Reciprocal Identity:</p> <p>$\cot \theta$</p>	$\frac{1}{\tan \theta}$
<p>Reciprocal Identity:</p> <p>1</p>	$\begin{aligned} &\sin x \csc x \\ &\text{or} \\ &\cos x \sec x \\ &\text{or} \\ &\tan x \cot x \end{aligned}$

Pythagorean Identities:

$$1$$

$$\sin^2 x + \cos^2 x =$$

Pythagorean Identities:

$$\sec^2 x$$

$$1 + \tan^2 x =$$

Pythagorean Identities:

$$\csc^2 x$$

$$1 + \cot^2 x =$$

Cofunction Identities

$$\sin (\pi/2 -x)$$

$$\cos x$$

Cofunction Identities

$$\cos (\pi/2 -x)$$

$$\sin x$$

Cofunction Identities

$$\tan (\pi/2 -x)$$

$$\cot x$$

**Cofunctions of
Complementary Angles**

are equal.

Sum/Difference Formulas:

$$\sin (u \pm v) =$$

$$\sin u \cos v \pm \cos u \sin v$$

Sum/Difference Formulas:

$$\cos (u \pm v) =$$

$$\cos u \cos v \mp \sin u \sin v$$

Sum/Difference Formulas:

$$\tan (u \pm v) =$$

$$\frac{\tan u \pm \tan v}{1 \mp \tan u \tan v}$$

<p>Double angle Formula</p> <p>$\sin 2u$</p>	<p>$2 \sin u \cos u$</p>
<p>Double angle Formula</p> <p>$\cos 2u$</p>	<p>$\cos^2 u - \sin^2 u$</p> <p>$2 \cos^2 u - 1$</p> <p>$1 - 2 \sin^2 u$</p>
<p>Double angle Formula</p> <p>$\tan 2u$</p>	<p>$\frac{2 \tan u}{1 - \tan^2 u}$</p>
<p>Power Reducing Formulas</p> <p>$\sin^2 u$</p>	<p>$\frac{1 - \cos 2u}{2}$</p>
<p>Power Reducing Formulas</p> <p>$\cos^2 u$</p>	<p>$\frac{1 + \cos 2u}{2}$</p>

<p>Power Reducing Formulas</p> $\tan^2 u$	$\frac{1 - \cos 2u}{1 + \cos 2u}$
<p>Product-to-Sum:</p> $\sin u \sin v$	$\frac{1}{2} [\cos (u-v) - \cos (u+v)]$
<p>Product-to-Sum:</p> $\cos u \cos v$	$\frac{1}{2} [\cos (u-v) + \cos (u+v)]$
<p>Product-to-Sum:</p> $\sin u \cos v$	$\frac{1}{2} [\sin (u+v) + \sin (u-v)]$
<p>Product-to-Sum:</p> $\cos u \sin v$	$\frac{1}{2} [\sin (u+v) - \sin (u-v)]$