

Trigonometric Identities Cheat sheet

Inverse functions

$$\sin = \frac{1}{\csc}$$

$$\cos = \frac{1}{\sec}$$

$$\tan = \frac{\sin}{\cos}$$

$$\csc = \frac{1}{\sin}$$

$$\sec = \frac{1}{\cos}$$

$$\cot = \frac{\cos}{\sin}$$

Fundamental Identities

$$\sin^2 + \cos^2 = 1$$

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

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

Complimentary Angles

$$\sin\left(\frac{\pi}{2} - u\right) = \cos(u)$$

$$\sec\left(\frac{\pi}{2} - u\right) = \csc(u)$$

$$\tan\left(\frac{\pi}{2} - u\right) = \cot(u)$$

$$\cos\left(\frac{\pi}{2} - u\right) = \sin(u)$$

$$\csc\left(\frac{\pi}{2} - u\right) = \sec(u)$$

$$\cot\left(\frac{\pi}{2} - u\right) = \tan(u)$$

Odd and Even Functions

$$\sin(-u) = -\sin(u)$$

$$\tan(-u) = -\tan(u)$$

$$\cos(-u) = \cos(u)$$

$$\csc(-u) = -\csc(u)$$

$$\cot(-u) = -\cot(u)$$

$$\sec(-u) = \sec(u)$$