Reciprocal Identities :

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

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

$$\tan\theta = \frac{1}{\cot\theta} \qquad \cot\theta = \frac{1}{\tan\theta}$$

Pythagorean Identities :

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

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

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

Cofuntion Identities :

$$\sin\theta = \cos\left(\frac{\pi}{2} - \theta\right), \quad \cos\theta = \sin\left(\frac{\pi}{2} - \theta\right)$$

$$\sec\theta = \csc\left(\frac{\pi}{2} - \theta\right), \quad \csc\theta = \sec\left(\frac{\pi}{2} - \theta\right)$$

$$\tan\theta = \cot\left(\frac{\pi}{2} - \theta\right), \quad \cot\theta = \tan\left(\frac{\pi}{2} - \theta\right)$$

Even Odd Identities :

$$\sin(-\theta) = -\sin\theta, \quad \csc(-\theta) = -\csc\theta$$

$$\tan(-\theta) = -\tan\theta, \quad \cot(-\theta) = -\cot\theta$$

$$\cos(-\theta) = \cos\theta, \quad \sec(-\theta) = \sec t\theta$$

Quotient Identities :

$$\tan\theta = \frac{\sin\theta}{\cos\theta} \qquad \cot\theta = \frac{\cos\theta}{\sin\theta}$$