Trigonometric Identities Cheat sheet

Inverse functions

$$\sin = \frac{1}{\csc} \qquad \csc = \frac{1}{\sin}$$
$$\cos = \frac{1}{\sec} \qquad \sec = \frac{1}{\cos}$$
$$\tan = \frac{\sin}{\cos} \qquad \cot = \frac{\cos}{\sin}$$

Fundamental Identities

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

Complimentary Angles

$$\sin(\frac{\pi}{2} - u) = \cos(u) \qquad \cos(\frac{\pi}{2} - u) = \sin(u)$$
$$\sec(\frac{\pi}{2} - u) = \csc(u) \qquad \csc(\frac{\pi}{2} - u) = \sec(u)$$
$$\tan(\frac{\pi}{2} - u) = \cot(u) \qquad \cot(\frac{\pi}{2} - u) = \tan(u)$$

Complimentary with Identities

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

Odd and Even Functions

$$\sin(-u) = -\sin(u) \qquad \csc(-u) = -\csc(u)$$
$$\tan(-u) = -\tan(u) \qquad \cot(-u) = -\cot(u)$$
$$\cos(-u) = \cos(u) \qquad \sec(-u) = \sec(u)$$