

$$OA = 1$$

$$AC = \sin \theta$$

$$OB = \sec \theta$$

$$OC = \cos \theta$$

$$OD = \csc \theta$$

$$AB = \tan \theta$$

$$AD = \cot \theta$$

## Trigonometric Identities

$$\begin{array}{ll}\sec \theta = \frac{1}{\cos \theta} & \sin^2 \theta + \cos^2 \theta = 1 \\ \csc \theta = \frac{1}{\sin \theta} & 1 + \cot^2 \theta = \csc^2 \theta \\ \cot \theta = \frac{\cos \theta}{\sin \theta} & 1 + \tan^2 \theta = \sec^2 \theta\end{array}$$

$$\sin(\alpha \pm \beta) = \sin \alpha \cos \beta \pm \sin \beta \cos \alpha$$

$$\cos(\alpha \pm \beta) = \cos \alpha \cos \beta \mp \sin \alpha \sin \beta$$

$$\tan(\alpha \pm \beta) = \frac{\tan \alpha \pm \tan \beta}{1 \mp \tan \alpha \tan \beta}$$



