















$$f(x) = x + \frac{1}{(x-2)^2}$$



$$\cos(\alpha + \beta) = \cos \alpha \cos \beta - \sin \alpha \sin \beta$$

$$\cos(\alpha - \beta) = \cos \alpha \cos \beta + \sin \alpha \sin \beta$$

$$\tan(\alpha + \beta) = \frac{\tan \alpha + \tan \beta}{1 - \tan \alpha \tan \beta}$$

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

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

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

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



$$\frac{\sin \alpha}{\cos \alpha} = \tan \alpha = \frac{\sec \alpha}{\csc \alpha}$$

$$\frac{\cos \alpha}{\sin \alpha} = \cot \alpha = \frac{\csc \alpha}{\sec \alpha}$$



$$\sin \theta = \frac{\text{side opposite to angle } \theta}{\text{Hypotenuse}}$$

$$\cos \theta = \frac{\text{side adjacent to angle } \theta}{\text{Hypotenuse}}$$

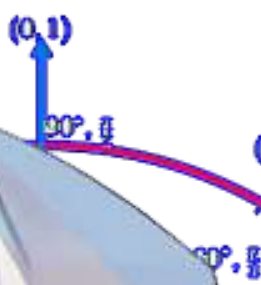
$$\tan \theta = \frac{\text{side opposite to angle } \theta}{\text{side adjacent to angle } \theta}$$

$$\tan \alpha \cdot \cot \alpha = 1$$

$$\sin \alpha \cdot \csc \alpha = 1$$

$$\cos \alpha \cdot \sec \alpha = 1$$

UNIT CIRCLE



A













$$\frac{d}{dx}$$

$$\frac{d}{dx}(\cos x)$$

$$\frac{d}{dx}(\tan x)$$

$$\frac{d}{dx}(\cot x)$$

$$\frac{d}{dx}(\sec x) = \tan x$$

$$\frac{d}{dx}$$

$$\frac{d}{dx}$$

$$\frac{d}{dx}$$

$$\frac{d}{dx}(\tan^{-1} x) = \frac{1}{1+x^2}$$

$$\frac{1}{1+x^2}$$

$$\frac{1}{\sqrt{x^2-1}}$$

$$\frac{1}{\sqrt{x^2-1}}$$

$$x) = -\frac{1}{x}$$

$$dx$$

$$dx$$

$$dx$$

$$dx$$

$$dx$$

$$dx$$

$$dx$$

$$dx$$

$$dx$$

$$dx$$

$$\frac{d}{dx}(\coth x) = -\operatorname{csch} x \coth x$$