

$$\cos^2(x) + \sin^2(x) = 1$$

$$\cos(x + y) = \cos(x) \cos(y) - \sin(x) \sin(y)$$

$$\sin(x + y) = \sin(x) \cos(y) + \sin(y) \cos(x)$$

$$\sin^2(x) = \frac{1 - \cos(2x)}{2}$$

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

$$\sin(x) \cos(x) = \frac{\sin(2x)}{2}$$

$$\sec^2(x) = 1 + \tan^2(x)$$

$$\frac{d}{dx} \tan(x) = \sec^2(x)$$

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

$$\int \tan(x) dx = \ln(|\sec(x)|)$$

$$\int \sec(x) dx = \ln(|\sec(x) + \tan(x)|)$$

$$\sin(A) \cos(B) = \frac{1}{2}(\sin(A - B) + \sin(A + B))$$

$$\sin(A) \cos(B) = \frac{1}{2}(\cos(A - B) - \cos(A + B))$$

$$\cos(A) \cos(B) = \frac{1}{2}(\cos(A - B) + \cos(A + B))$$