

Trigonometric Identities

$$\tan x = \frac{\sin x}{\cos x}$$

$$\sec x = \frac{1}{\cos x}$$

$$\cot x = \frac{\cos x}{\sin x}$$

$$\csc x = \frac{1}{\sin x}$$

$$\sin\left(\frac{\pi}{2} - x\right) = \cos x$$

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

$$\cos(-x) = \cos x$$

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

$$\sin(-x) = -\sin x$$

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

$$\cos(a - b) = \cos a \cos b + \sin a \sin b$$

$$\sin(a - b) = \sin a \cos b - \cos a \sin b$$

$$\cos(a + b) = \cos a \cos b - \sin a \sin b$$

$$\sin(a + b) = \sin a \cos b + \cos a \sin b$$

$$\cos(2a) = \cos^2 a - \sin^2 a$$

$$\sin(2a) = 2 \sin a \cos a$$

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