

Trig. Identities for Trigonometric Integrals & Trig. Substitution

- $\sin 2\theta = 2 \sin \theta \cos \theta$

- $\sin^2 \theta = \frac{1 - \cos 2\theta}{2}$

- $\cos^2 \theta = \frac{1 + \cos 2\theta}{2}$

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

$\sim \sin^2 \theta = 1 - \cos^2 \theta$
 $\sim \cos^2 \theta = 1 - \sin^2 \theta$

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

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