

Some trigonometric identities.

$$\begin{aligned}\cos^2 x &= \frac{1}{2}(1 + \cos 2x) \\ \sin^2 x &= \frac{1}{2}(1 - \cos 2x) \\ \sin 2x &= 2 \sin x \cos x\end{aligned}$$

Some integrals.

$$\begin{aligned}\int \frac{du}{a^2 + u^2} &= \frac{1}{a} \arctan\left(\frac{u}{a}\right) + c \\ \int \frac{du}{\sqrt{a^2 - u^2}} &= \arcsin\left(\frac{u}{a}\right) + c \\ \int \sec u \, du &= \ln |\sec u + \tan u| + c \\ \int \sec^3 u \, du &= \frac{1}{2} \sec u \tan u + \frac{1}{2} \ln |\sec u + \tan u| + c \\ \int \csc u \, du &= \ln |\csc u - \cot u| + c\end{aligned}$$