

Basic anti-derivatives

$$\begin{aligned}\int x^n dx &= \frac{1}{n+1}x^{n+1} + C \\ \int \frac{1}{x} dx &= \ln(x) + C \\ \int e^x dx &= e^x + C \\ \int e^{ax} dx &= \frac{1}{a}e^{ax} + C \\ \int \sin(x) dx &= -\cos(x) + C \\ \int \cos(x) dx &= \sin(x) + C\end{aligned}$$

Chain rule versions

$$\begin{aligned}\int [u(x)]^n u'(x) dx &= \frac{1}{n+1}[u(x)]^{n+1} + C \\ \int \frac{1}{u(x)} u'(x) dx &= \ln[u(x)] + C \\ \int e^{u(x)} u'(x) dx &= e^{u(x)} + C \\ \int \sin[u(x)] u'(x) dx &= -\cos[u(x)] + C \\ \int \cos[u(x)] u'(x) dx &= \sin[u(x)] + C\end{aligned}$$