

## MATHEMTAICAL TABLES

$\int u^n du = \frac{u^{(n+1)}}{(n+1)} + c, (n \neq -1)$
$\int \frac{du}{u} = \ln u + c$
$\int \sin(u) du = -\cos(u) + c$
$\int \cos(u) du = \sin(u) + c$
$\int \sec^2(u) du = \tan(u) + c$
$\int \operatorname{cosec}^2(u) du = -\cot(u) + c$
$\int \sec(u) \tan(u) du = \sec(u) + c$
$\int \operatorname{cosec}(u) \cot(u) du = -\operatorname{cosec}(u) + c$
$\int e^u du = e^u + c$
$\int a^u du = \frac{a^u}{(\ln a)} + c$
$\int \frac{du}{(\sqrt{a^2 - u^2})} = \sin^{-1}\left(\frac{u}{a}\right) + c$
$\int \frac{du}{(a^2 + u^2)} = \frac{1}{a} \tan^{-1}\left(\frac{u}{a}\right) + c$
$\int \frac{du}{(u\sqrt{u^2 - a^2})} = \frac{1}{a} \sec^{-1}\left(\frac{u}{a}\right) + c$
$\int \sinh(u) du = \cosh(u) + c$
$\int \cosh(u) du = \sinh(u) + c$
$\int \operatorname{sech}^2(u) du = \tanh(u) + c$
$\int \operatorname{sech}(u) \tanh(u) du = -\operatorname{sech}(u) + c$
$\int \operatorname{cosech}(u) \cdot \operatorname{coth}(u) du = -\operatorname{cosech}(u) + c$
$\int \operatorname{cosech}^2(u) du = -\operatorname{coth}(u) + c$
$\int \frac{du}{(\sqrt{a^2 + u^2})} = \sinh^{-1}\left(\frac{u}{a}\right) + c = \ln(u + \sqrt{u^2 + a^2}) + c$
$\int \frac{du}{(\sqrt{u^2 - a^2})} = \cosh^{-1}\left(\frac{u}{a}\right) + c = \ln(u + \sqrt{u^2 - a^2}) + c$
$\int \frac{du}{(a^2 - u^2)} = \frac{1}{a} \tanh^{-1}\left(\frac{u}{a}\right) + c = \frac{1}{2a} \ln\left(\frac{a+u}{a-u}\right) + c$
$\int \frac{du}{(u\sqrt{a^2 - u^2})} = \frac{1}{a} \operatorname{sech}^{-1}(u) + c$
$\int \frac{du}{(u\sqrt{u^2 + a^2})} = \frac{1}{a} \operatorname{cosech}^{-1}\left(\frac{u}{a}\right) + c$