Table 1.4: **Basic Integration Formulas**

$f(u)$	$\int f(u)\,du$
k (k, a constant)	$ku + C$
$u^n \qquad (n \neq -1)$	$\dfrac{u^{n+1}}{n+1} + C$
$u^{-1} = \dfrac{1}{u}$	$\ln\lvert u\rvert + C = \begin{cases} \ln u + C, & \text{if } u > 0 \\ \ln(-u) + C, & \text{if } u < 0 \end{cases}$
e^u	$e^u + C$
$\cos u$	$\sin u + C$
$\sin u$	$-\cos u + C$
$\sec^2 u$	$\tan u + C$
$\csc^2 u$	$-\cot u + C$
$\sec u$	$\ln\lvert \sec u + \tan u\rvert + C$
$\csc u$	$-\ln\lvert \csc u + \cot u\rvert + C$
$\sec u \tan u$	$\sec u + C$
$\csc u \cot u$	$-\csc u + C$

$f(u)$	$\int f(u)\,du$
$\dfrac{1}{1+u^2}$	$\tan^{-1} u + C$
$\dfrac{1}{\sqrt{1-u^2}}$	$\sin^{-1} u + C$
$\dfrac{1}{u\sqrt{u^2-1}}$	$\sec^{-1} \lvert u \rvert + C$