

Standard Integrals

Mathematics

The antiderivatives worth knowing without looking anything up.

Every one is a derivative read backwards. Add C.

Integrand	Integral
$x^n, n \neq -1$	$x^{n+1}/(n+1) + C$
$1/x$	$\ln x + C$
$e^{(kx)}$	$e^{(kx)}/k + C$
$\sin x$	$-\cos x + C$
$\sec^2 x$	$\tan x + C$
$1/(1+x^2)$	$\arctan x + C$
$1/\sqrt{1-x^2}$	$\arcsin x + C$

$\ln|x|$, not $\ln x$: the antiderivative of $1/x$ has to work on both sides of the origin. Dropping the modulus loses half the domain.