

Calculus

Basic Derivatives and Integrals

Integral	Function	Derivative
$\frac{x^{n+1}}{n+1} + c$	x^n	nx^{n-1}
$e^x + c$	e^x	e^x
$\frac{b^x}{\ln b} + c$	b^x	$(\ln b) b^x$
$x \ln x - x + c$	$\ln x$	$\frac{1}{x}$
$-\cos x + c$	$\sin x$	$\cos x$
$\sin x + c$	$\cos x$	$-\sin x$
$-\ln(\cos x) + c$	$\tan x$	$\sec^2 x$
$\ln x + c$	$\frac{1}{x}$	$-\frac{1}{x^2}$
no rule	$f(x)g(x)$	$f'(x)g(x) + f(x)g'(x)$
no rule	$\frac{f(x)}{g(x)}$	$\frac{f'(x)g(x) - g'(x)f(x)}{(g(x))^2}$
no rule	$f(g(x))$	$f'(u)g'(x)$ where $u = g(x)$