Table of antidifferentiation formulas

Function	Particular antiderivative	Function	Particular antiderivative
$x^n (n \neq -1)$	$\dfrac{x^{n+1}}{n+1}$	$\dfrac{1}{x}$	$\ln\lvert x\rvert$
e^x	e^x	$a^x (a > 0)$	$\dfrac{a^x}{\ln a}$
$\cos x$	$\sin x$	$\sin x$	$-\cos x$
$\sec^2 x$	$\tan x$	$\sec x \tan x$	$\sec x$
$\dfrac{1}{1+x^2}$	$\tan^{-1} x$	$\dfrac{1}{\sqrt{1-x^2}}$	$\sin^{-1} x$
$\cosh x$	$\sinh x$	$\sinh x$	$\cosh x$
$\csc^2 x$	$-\cot x$	$\csc x \cot x$	$-\csc x$

Let f and g be two functions defined on an interval I. Let F and G be respectively antiderivatives of f and g on I. Let k be a constant.

(a) kF is an antiderivative of kf on I.

(b) $F + G$ is an antiderivative of $f + g$ on I.

To obtain the most general antiderivative from the particular ones in the table, just add a constant C.