A table of handy integrals

$f(x)$	$\int f(x)$
x^a, a any real number, $a \neq -1$	$\frac{x^{a+1}}{a+1} + C$
x^{-1}	$\ln x + C$
e^x	e^x
$\ln x$	$x \ln x - x + C$
$\sin x$	$-\cos x + C$
$\cos x$	$\sin x + C$
$\tan x$	$-\ln \lvert \cos x \rvert + C$
$\cot x$	$\ln \lvert \sin x \rvert + C$
$\sec x$	$\ln(\sec x + \tan x) + C$
$\csc x$	$-\ln(\csc x + \cot x) + C$
$\arctan x = \tan^{-1}(x)$	$x \arctan x - \frac{1}{2} \ln(1 + x^2) + C$
$\cos^2 x$	$\frac{x}{2} + \frac{\sin 2x}{4} + C$
$\sinh x$	$\cosh x + C$
$\cosh x$	$\sinh x + C$
$\tanh x$	$\frac{1}{\cosh^2 x} + C$
$\frac{1}{\sqrt{1+x^2}}$	$\sinh^{-1}(x) + C$
$\frac{1}{\sqrt{x^2-1}}$	$\cosh^{-1}(x) + C$
$\frac{1}{1-x^2}$	$\tanh^{-1}(x) + C$