Table of antiderivatives

I skip $+C$ in the right-hand expression

$$x^a \qquad\qquad \begin{cases} \dfrac{1}{a+1}x^{a+1} & a \neq -1 \\[2mm] \log|x| & a = -1 \end{cases}$$

$$x^\alpha \log x \qquad\qquad (\alpha+1)^{-1}x^{\alpha+1}\log x - (\alpha+1)^{-2}x^{\alpha+1}$$

Exponents

e^x	e^x
a^x	$(\log a)^{-1}a^x$
xe^x	$(x-1)e^x$
e^x	e^x

Trigonometric functions

$\cos(x)$	$\sin(x)$
$\sin(x)$	$-\cos(x)$
$\tan(x)$	$-\log|\cos(x)|$
$\cot(x)$	$\log|\sin(x)|$
$\sec^2(x)$	$\tan(x)$
$\csc^2(x)$	$-\cot(x)$
$\sec(x)$	$\log(\sec(x)+\tan(x))$
$\csc(x)$	$-\log(\csc(x)+\cot(x))$

Hyperbolic functions

$\cosh(x)$	$\sinh(x)$
$\sinh(x)$	$\cosh(x)$
$\tanh(x)$	$\log\cosh(x)$
$\coth(x)$	$\log|\sinh(x)|$
$\cosh^{-2}(x)$	$\tanh(x)$
$\sinh^{-2}(x)$	$-\coth(x)$
$\cosh^{-1}(x)$	$2\arctan(\tanh(x/2))$
$\sinh^{-1}(x)$	$\log(\tanh(x/2))$

Irrational functions

$$\frac{1}{1+x^2}$$

$$\frac{1}{1-x^2}$$

$$\frac{1}{\sqrt{1-x^2}}$$

$$\frac{1}{\sqrt{1+x^2}}$$

$$\frac{1}{\sqrt{x^2-1}}$$

$$\arctan(x)$$

$$\frac{1}{2}\log\frac{|1-x|}{|1+x|}$$

$$\arcsin(x)$$

$$\log(x+\sqrt{1+x^2})$$

$$\log(x+\sqrt{x^2-1})$$