

Table of antiderivatives

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

Powers and logarithms

$$x^a \quad \begin{cases} \frac{1}{a+1}x^{a+1} & a \neq -1 \\ \log|x| & a = -1 \end{cases}$$

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

Exponents

$$\begin{array}{l} e^x \\ a^x \\ xe^x \\ e^x \end{array} \quad \begin{array}{l} e^x \\ (\log a)^{-1}a^x \\ (x-1)e^x \\ e^x \end{array}$$

Trigonometric functions

$$\begin{array}{l} \cos x \\ \sin x \\ \tan x \\ \cot x \\ \sec^2 x \\ \csc^2 x \end{array} \quad \begin{array}{l} \sin x \\ -\cos x \\ -\log|\cos x| \\ \log|\sin x| \\ \tan x \\ -\cot x \end{array}$$

Hyperbolic functions

$$\begin{array}{l} \cosh x \\ \sinh x \\ \tanh x \\ \coth x \\ \sinh^{-2} x \\ \cosh^{-2} x \end{array} \quad \begin{array}{l} \sinh x \\ \cosh x \\ \log \cosh x \\ \log|\sinh x| \\ \tanh x \\ -\coth x \end{array}$$

Irrational functions

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

$$\arctan x$$

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

$$\arcsin x$$

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

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