CIR - CNB

Formulaire Primitives

Domaine de validité	Fonction	<u>Une</u> primitive
$]0,+\infty[$	χ^{α} $(\alpha \neq -1)$	α+1
		$\frac{x}{\alpha+1}$
$0, +\infty$	1	
J , L	$\frac{1}{x}$ $\frac{1}{x}$	ln x
]-∞,0[1	1 () 1 ()
	X	$\ln\left(-x\right) = \ln\left(\left x\right \right)$
\mathbb{R}	$e^x = \exp(x)$	e^x
\mathbb{R}	$\sin x$	$-\cos x$
\mathbb{R}	$\cos x$	$\sin x$
$\left] -\frac{\pi}{2}, +\frac{\pi}{2} \right[$	$\frac{1}{\cos^2 x} = 1 + \tan^2 x$	tan x
π π	$\tan x = \frac{\sin x}{\cos x}$	$-\ln(\cos x)$
$\left] -\frac{\pi}{2}, +\frac{\pi}{2} \right[$	$\frac{\tan x - \frac{1}{\cos x}}{\cos x}$, ,
\mathbb{R}	ch x	sh x
\mathbb{R}	sh x	ch x
\mathbb{R}	$\frac{1}{\cosh^2 x} = 1 - \tanh^2 x$	th x
\mathbb{R}	th x	$\ln(\operatorname{ch} x)$
	1	arcsin x
]-1,+1[$\frac{1}{\sqrt{1-x^2}}$	ou –arccos x
		(puisque arcsin $x = \pi / 2 - \arccos x$)
\mathbb{R}	$ \frac{1}{1+x^2} $ $ \frac{1}{\sqrt{1+x^2}} $	arctan x
\mathbb{R}	$\frac{1}{\sqrt{x^2+1}}$ 1	$\ln\left(x + \sqrt{x^2 + 1}\right) = \operatorname{argsh} x$
]1,+∞[$\frac{1}{\sqrt{x^2-1}}$	$\ln\left(x + \sqrt{x^2 - 1}\right) = \operatorname{argch} x$
]-1,+1[$\frac{1}{1-x^2} = \frac{1}{2} \left(\frac{1}{1-x} + \frac{1}{1+x} \right)$	$\operatorname{argth} x = \frac{1}{2} \ln \frac{1+x}{1-x}$
]-∞,-1[$\frac{1}{1-x^2}$ $\frac{1}{1-x^2}$ $a^x = e^{x \ln a} \left(a \in \mathbb{R}_+^* - \{1\} \right)$	$\frac{1}{2}\ln\frac{-1-x}{1-x} = \frac{1}{2}\ln\frac{x+1}{x-1}$ $\frac{1}{2}\ln\frac{x+1}{x-1}$ $\underline{a^x}$
]1,+∞[$\frac{1}{1-x^2}$	$\frac{1}{2}\ln\frac{x+1}{x-1}$
\mathbb{R}	$a^{x} = e^{x \ln a} \left(a \in \mathbb{R}_{+}^{*} - \{1\} \right)$	$\frac{a^x}{\ln a}$
$\mathbb R$	$\frac{1}{a^2+x^2}$	$\frac{1}{a}\arctan\frac{x}{a}$
$]0,\pi[$	$\frac{a^2 + x^2}{\sin x}$	$\ln\left(\tan\frac{x}{2}\right)$
$\left]-\frac{\pi}{2},+\frac{\pi}{2}\right[$	$\frac{1}{\cos x}$	$\ln\left(\tan\left(\frac{x}{2} + \frac{\pi}{4}\right)\right)$