TABLA DE DERIVADAS E INTEGRALES

Función	Derivada
c	0
x^n	nx^{n-1}
$sen\,x$	$\cos x$
$\cos x$	$-sen\,x$
$\tan x$	$\sec^2 x$
$\sec x$	$\sec x \bullet \tan x$
$\csc x$	$-\csc x \bullet \cot x$
$\cot x$	$-\csc^2 x$
$\arctan x$	$\frac{1}{1+x^2}$
$arcsen\,x$	$\frac{1}{\sqrt{1-x^2}}$
$arc\sec x$	$\frac{1}{x\sqrt{x^2-1}}$
e^x	e^x
a^x	$\ln(a)\,a^x$
$\ln x$	$\frac{1}{x}$
$\log_a x$	$\frac{1}{\ln(a)\,x}$
$f(x) \bullet g(x)$	$f^l \bullet g + f \bullet g^l$
$\frac{f(x)}{g(x)}$	$\frac{f^l \bullet g + g^l \bullet f}{[g(x)]^2}$
$\sqrt{x}$	$\frac{1}{2\sqrt{x}}$
$\sqrt[n]{x}$	$\frac{1}{n\sqrt[n]{x^{n-1}}}$
$\frac{1}{x}$	$\frac{-1}{x^2}$

Función	Integral
c	
x^n	$\frac{x^{n+1}}{n+1} + C$
$sen\,x$	$-\cos x + C$
$\cos x$	$sen\,x + C$
$\tan x$	$-\ln\lvert\cos x\rvert + C$
$\cot x$	$\ln\lvert sen\,x\rvert + C$
$\sec x$	$\ln\lvert\sec x + \tan x\rvert + C$
$\csc x$	$\ln\lvert\csc x - \cot x\rvert + C$
$\sec^2 x$	$\tan x + C$
$\csc^2 x$	$-\cot x + C$
$\sec x \bullet \tan x$	$\sec x + C$
$\csc x \bullet \cot x$	$-\csc x + C$
$\frac{1}{x}$	$\ln\lvert x\rvert + C$
e^x	$e^x + C$
a^x	$\frac{1}{\ln(a)} \cdot a^x + C$
$\frac{1(derivada)}{1+x^2}$	$\arctan x + C$
$\frac{1(derivada)}{\sqrt{1-x^2}}$	$arcsen\,x + C$
$\frac{1(derivada)}{x\sqrt{x^2-1}}$	$arc\sec x + C$
$sen^2\,ax$	$\frac{1}{2}x - \frac{1}{4\cdot a}sen\,2x + C$ $\frac{1}{2}x - \frac{1}{2\cdot a}Sen\,x\,Cos\,x$
$\cos^2 ax$	$\frac{1}{2}x + \frac{1}{4\cdot a}sen\,2x + C$ $\frac{1}{2}x + \frac{1}{2\cdot a}Sen\,x\,Cos\,x$

Función	Integrales
$\log_a x$	$\frac{1}{\ln a}(x\ln x - x) + c$
ln x	x ln x – x
$\int (a\lg o)^n (a\lg o)'$	$\frac{(a\lg o)^{n+1}}{n+1}$
$\tan^2 x$	$\tan x - x + C$
$\frac{1}{ax^2 + bx + c}$	$\frac{2}{\sqrt{-\Delta}} \arctan\left(\frac{2ax+b}{\sqrt{-\Delta}}\right) + c$ *Solo si* $\Delta < 0$
$\int Csc^3 x$	$\frac{-1}{2} Cscx\,Cot\,x + \frac{1}{2}\ln\lvert Ccsx - Cot\,x\rvert$ + C
$\int Sec^3 x$	$\frac{1}{2} SecxTan\,x + \frac{1}{2}\ln\lvert Secx + Tan\,x\rvert$ + C

IDENTIDADES

Recomendable para exponentes impa res

$Sen^2 x + Cos^2 x = 1 \Rightarrow Cos^2 x = 1 - sen^2 x \quad Sen^2 x = 1 - Cos^2 x$

$1 + \tan^2 x = \sec^2 x \Rightarrow Tan^2 x = Sec^2 x - 1$

$1 + \cot^2 x = \csc^2 x \Rightarrow Cot^2 x = Csc^2 x - 1$

Recomendable para exponentes pares

$Sen^2 x = \frac{1}{2} - \frac{1}{2}\cdot\cos 2x$

$Cos^2 x = \frac{1}{2} + \frac{1}{2}\cdot\cos 2x$

Más identidades

$$senx\cdot\cos x=\frac{1}{2}\,sen\,2x \qquad \cos^2 x-sen^2 x=\cos 2x$$

$$senx\cdot\cos y=\frac{1}{2}sen(x+y)+\frac{1}{2}sen(x-y)$$

$$senx\cdot sen\,y=\frac{1}{2}\cos(x-y)-\frac{1}{2}\cos(x+y)$$

$$\cos x\cdot\cos y=\frac{1}{2}\cos(x-y)+\frac{1}{2}\cos(x+y)$$

$$sen(x+y)=senx\cos y+sen\,y\cos x \qquad Cos\,(x-y)=\cos x\cos y+sen\,x\;sen\,y$$

$$sen(x-y)=senx\cos y-sen\,y\cos x \qquad Cos\,(x+y)=\cos x\cos y-sen\,x\;sen\,y$$

$$Sec\,x=\frac{1}{\cos\,x} \qquad Cot\,x=\frac{1}{\tan x}=\frac{\cos x}{senx} \qquad sen\,\theta=\frac{cateto\,opuesto}{hipotenusa}$$

$$Csc\;x=\frac{1}{sen\,x} \qquad \tan x=\frac{sen\,x}{\cos x} \qquad \cos\theta=\frac{cateto\,adyacente}{hipotenusa}$$

$$Tan\,\theta=\frac{opuesto}{adyancente}$$