TABLA DE DERIVADAS E INTEGRALES

T I P O S	F O R M A S: S I M P L E S	COMPUESTAS
Constante: $f(x)=k$	$f'(x)=0$	
F. Identidad: $f(x)=x$	$f'(x)=1$	
Potencial	$Dx^n = n.x^{n-1}$	$Df^n = n.f^{n-1}.f'$
Potencial	$Dx^\alpha = n.x^{\alpha-1},\ \alpha\in R$	$Df^\alpha = n.f^{\alpha-1}.f',\ \alpha\in R$
Logarítmico	$D(Lx)=\frac{1}{x}$	$D(Lf)=\frac{f'}{f}$
	$D\log_a x=\frac{1}{x}\cdot\log_a e$	$D\log_a f=\frac{f'}{f}\cdot\log_a e$
Exponencial	$D(e^x)=e^x$	$D(e^f)=f'.e^f$
	$D(a^x)=a^x.La$	$D(a^f)=f'.a^f.La$
Potencial-exponencial	$D\,f^g = g.f^{g-1}.f'+g'.f^g.Lf$	
Raíz Cuadrada	$D\sqrt{x}=\frac{1}{2\sqrt{x}}$	$D\sqrt{f}=\frac{f'}{2\sqrt{f}}$
Seno	$D\operatorname{sen}x=\cos x$	$D\operatorname{sen}f=f'\cdot\cos f$
Coseno	$D\cos x=-\operatorname{sen}x$	$D\cos f=-f'\operatorname{sen}f$
Tangente	$D\operatorname{tg}x=1+\operatorname{tg}^2x$	$D\operatorname{tg}f=f'.(1+\operatorname{tg}^2 f)$
	$D\operatorname{tg}x=\sec^2 x$	$D\operatorname{tg}f=f'.\sec^2 f$
	$D\operatorname{tg}x=\frac{1}{\cos^2 x}$	$D\operatorname{tg}f=\frac{f'}{\cos^2 f}$
Cotangente	$D\operatorname{ctg}x=-(1+\operatorname{ctg}^2x)$	$D\operatorname{ctg}f=-f'.(1+\operatorname{ctg}^2 f)$
	$D\operatorname{ctg}x=-\operatorname{cosec}^2x$	$D\operatorname{ctg}f=-f'\cdot\operatorname{cosec}^2 f$
	$D\operatorname{ctg}x=-\frac{1}{\operatorname{sen}^2x}$	$D\operatorname{ctg}f=-\frac{f'}{\operatorname{sen}^2 f}$
Arco seno	$D\arcsen x=\frac{1}{\sqrt{1-x^2}}$	$D\arcsen f=\frac{f'}{\sqrt{1-f^2}}$
Arco coseno	$D\arccos x=-\frac{1}{\sqrt{1-x^2}}$	$D\arccos f=-\frac{f'}{\sqrt{1-f^2}}$
Arco tangente	$D\operatorname{arctg}x=\frac{1}{1+x^2}$	$D\operatorname{arctg}f=\frac{f'}{1+f^2}$
Arco cotangente	$D\operatorname{arcctg}x=-\frac{1}{1+x^2}$	$D\operatorname{arcctg}f=-\frac{f'}{1+f^2}$

TIPOS	F O R M A S: SIMPLES	COMPUESTAS
Potencial $\alpha\neq-1$	$\int x^\alpha.dx=\frac{x^{\alpha+1}}{\alpha+1}+K$	$\int f^\alpha.f'.dx=\frac{f^{\alpha+1}}{\alpha+1}+K$
Logarítmico	$\int\frac{1}{x}\cdot dx=L\lvert x\rvert+K$	$\int\frac{f'}{f}\cdot dx=L\lvert f\rvert+K$
Exponencial	$\int e^x dx=e^x+K$	$\int f'e^f dx=e^f+K$
	$\int a^x dx=\frac{1}{La}\cdot a^x+K$	$\int f'a^f dx=\frac{1}{La}\cdot a^f+K$
Seno	$\int\cos x.dx=\operatorname{sen}x+K$	$\int f'.\cos f.dx=\operatorname{sen}f+K$
Coseno	$\int\operatorname{sen}x.dx=-\cos x+K$	$\int f'.\operatorname{sen}f.dx=-\cos f+K$
Tangente	$\int\sec^2 x.dx=\operatorname{tg}x+K$	$\int f'\sec^2 f.dx=\operatorname{tg}f+K$
	$\int(1+\operatorname{tg}^2x)dx=\operatorname{tg}x+K$	$\int(1+\operatorname{tg}^2 f)f'dx=\operatorname{tg}f+K$
	$\int\frac{1}{\cos^2 x}\cdot dx=\operatorname{tg}x+K$	$\int\frac{f'}{\cos^2 f}\cdot dx=\operatorname{tg}f+K$
Cotangente	$\int\operatorname{cosec}^2x.dx=-\operatorname{ctg}x+K$	$\int f'.\operatorname{cosec}^2 f.dx=-\operatorname{ctg}f+K$
	$\int(1+\operatorname{ctg}^2x)dx=-\operatorname{ctg}x+K$	$\int(1+\operatorname{tg}^2 f)f'dx=\operatorname{tg}f+K$
	$\int\frac{1}{\operatorname{sen}^2x}\cdot dx=-\operatorname{ctg}x+K$	$\int\frac{f'}{\operatorname{sen}^2 f}\cdot dx=-\operatorname{ctg}f+K$
Arco seno (= –arco coseno)	$\int\frac{1}{\sqrt{1-x^2}}\cdot dx=\arcsen x+K=-\arccos x+K$	$\int\frac{f'}{\sqrt{1-f^2}}\cdot dx=\arcsen f+K=-\arccos f+K$
	$\int\frac{1}{\sqrt{a^2-x^2}}\cdot dx=\arcsen\frac{x}{a}+K=-\arccos\frac{x}{a}+K$	$\int\frac{f'}{\sqrt{a^2-f^2}}\cdot dx=\arcsen\frac{f}{a}+K=-\arccos\frac{f}{a}+K$
Arco tangente = –Arco cotangente.	$\int\frac{1}{1+x^2}\cdot dx=\operatorname{arctg}x+K=-\operatorname{arcctg}x+K$	$\int\frac{f'}{1+f^2}\cdot dx=\operatorname{arctg}f+K=-\operatorname{arcctg}f+K$
	$\int\frac{1}{a^2+x^2}\cdot dx=\frac{1}{a}\cdot\operatorname{arctg}\frac{x}{a}+K=-\frac{1}{a}\cdot\operatorname{arcctg}\frac{x}{a}+K$	$\int\frac{f'}{a^2+f^2}\cdot dx=\frac{1}{a}\cdot\operatorname{arctg}\frac{f}{a}+K=-\frac{1}{a}\cdot\operatorname{arcctg}\frac{f}{a}+K$