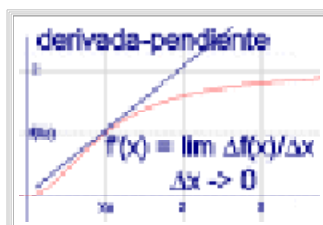


## Tabla de derivadas e integrales



**TABLA DE DERIVADAS**

FUNCIÓN	FUNCIÓN DERIVADA	FUNCIÓN	FUNCIÓN DERIVADA
$Y = k$	$Y' = 0$	$Y = x$	$Y' = 1$
$Y = u \pm v \pm w$	$Y' = u' \pm v' \pm w'$	$Y = u \cdot v$	$Y' = u \cdot v' + u' \cdot v$
$Y = \frac{u}{v}$	$Y' = \frac{v \cdot u' - v' \cdot u}{v^2}$	$Y = \text{Log}_k u$	$Y' = \frac{u'}{u} \cdot \text{Log}_k e \quad (*)$
$Y = u^n$	$Y' = u' \cdot n \cdot u^{n-1}$	$Y = L_n u$	$Y' = \frac{u'}{u}$
$Y = k^u$	$Y' = u' \cdot k^u \cdot L_n k \quad (*)$	$Y = e^u$	$Y' = u' \cdot e^u$
<b>TRIGONOMÉTRICAS</b>		<b>TRIGONOMÉTRICAS</b>	
$Y = \text{sen } u$	$Y' = u' \cdot \text{cos } u$	$Y = \text{cosec } u$	$Y' = -u' \cdot \text{cosec } u \cdot \text{cotg } u$
$Y = \text{cos } u$	$Y' = -u' \cdot \text{sen } u$	$Y = \text{sec } u$	$Y' = u' \cdot \text{sec } u \cdot \text{tg } u$
$Y = \text{tg } u$	$Y' = u' \cdot (1 + \text{tg}^2 u) = (**)$	$Y = \text{cotg } u$	$Y' = -u' \cdot \text{cosec}^2 u$
$Y = \text{arsen } u$	$Y' = \frac{u'}{\sqrt{1-u^2}}$	$Y = \text{arccosec } u$	$Y' = \frac{-u'}{ u  \cdot \sqrt{u^2-1}}$
$Y = \text{arcos } u$	$Y' = \frac{-u'}{\sqrt{1-u^2}}$	$Y = \text{arsec } u$	$Y' = \frac{u'}{ u  \cdot \sqrt{u^2-1}}$
$Y = \text{artg } u$	$Y' = \frac{u'}{1+u^2}$	$Y = \text{arcotg } u$	$Y' = \frac{-u'}{1+u^2}$
$Y = u^v$	$Y' = v' \cdot u^v \cdot L_n u + v \cdot u^{v-1} \cdot u'$		
$Y = f(x) \Rightarrow L_n Y = L_n f(x) \Rightarrow (Y'/Y) = (L_n f(x))' \Rightarrow Y' = Y \cdot (L_n f(x))'$			
<p>(*) <math>L_n k = 1/(\text{Log}_k e)</math> ;    (**) <math>= u'/(\text{cos}^2 u) = u' \cdot \text{sec}^2 u</math> ;</p>			
<p><math>u, v, w</math> son funciones de <math>x</math> ;    <math>u'</math> es la derivada de <math>u</math> respecto de <math>x</math>, <math>u' = du/dx</math> ;    <math>k</math> es una cte.  <math>L_n</math> es Log base <math>e</math> ;    <math>n</math> y <math>b</math> son números racionales ;    <math> u </math> es valor absoluto de <math>u</math>.</p>			

## Tabla de derivadas e integrales

TABLA DE INTEGRALES			
FUNCIÓN	FUNCIÓN INTEGRAL	FUNCIÓN	FUNCIÓN INTEGRAL
$\int k \, du = k \int du$	$k \cdot u$	$\int k u(x) \, dx$	$k \int u(x) \, dx$
$\int (u \pm v \pm w) \, du$	$\int u \, dx \pm \int v \, dx \pm \int w \, dx$	$\int u^n \, du$	$\frac{u^{n+1}}{n+1}$
$\int u \, dv$	$u \cdot v - \int v \cdot du$ (por partes)	$\int f(kx) \, dx$	$\frac{1}{k} \cdot \int f(u) \, du$
$\int \frac{du}{u}$	$L_n  u $	$\int e^u \, du$	$e^u$
$\int k^u \, du$	$\frac{k^u}{L_n k} ; k > 0 ; k \neq 1$	$\int \sqrt{u} \, du$	$\frac{u^{3/2}}{3/2} = \frac{2 \cdot u^{3/2}}{3}$
$\int \text{sen } u \, du$	$-\text{cos } u$	$\int \text{cos } u \, du$	$\text{sen } u \, du$
$\int \text{tg } u \, du$	$L_n \text{sec } u = -L_n \text{cos } u$	$\int \text{cotg } u \, du$	$L_n \text{sen } u$
$\int \text{sec}^2 u \, du$	$\text{tg } u$	$\int \text{cosec}^2 u \, du$	$-\text{cotg } u$
$\int \text{sec } u \cdot \text{tg } u \, du$	$\text{sec } u$	$\int \text{cosec } u \cdot \text{cotg } u \, du$	$-\text{cosec } u$
$\int \text{sec } u \, du$	$L_n (\text{sec } u + \text{tg } u) = L_n \text{tg } (u/2)$	$\int \text{cosec } u \, du$	$L_n \text{tg } (u/2)$
$\int \text{sen}^2 u \, du$	$(\frac{1}{2}) u - (\frac{1}{4}) \text{sen } (2u)$	$\int \text{cos}^2 u \, du$	$(\frac{1}{2}) u + (\frac{1}{4}) \text{sen } (2u)$
$\int \text{tg}^2 u \, du$	$-u + \text{tg } u$	$\int \text{sec}^2 u \, du$	$\text{tg } u$
$\int \frac{\text{sen } u}{\text{cos}^2 u} \cdot du$	$\text{sec } u$	$\int \frac{\text{cos } u}{\text{sen}^2 u} \cdot du$	$-\text{cosec } u$
$\int \frac{du}{\sqrt{1-u^2}}$	$\text{arsen } u = -\text{arcos } u$	$\int \frac{du}{1+u^2}$	$\text{artg } u = -\text{arcotg } u$
$\int \frac{du}{u^2+k^2}$	$\frac{1}{k} \cdot \text{artg } u$	$\int \frac{du}{u^2-k^2}$	$\frac{1}{2k} \cdot L_n \frac{u-k}{u+k}$
$\int \frac{du}{k^2-u^2}$	$\frac{1}{2k} L_n \frac{k+u}{k-u}$	$\int \frac{du}{\sqrt{k^2+u^2}}$	$L_n (u + \sqrt{k^2+u^2})$
$\int \frac{du}{\sqrt{k^2-u^2}}$	$\text{arsen } \frac{u}{k}$	$\int \frac{du}{u\sqrt{u^2-k^2}}$	$-\frac{1}{k} \cdot \text{arcosec } \frac{u}{k}$

(\*) En todas las integrales hay que sumar la cte de integración ;  $k \in R ; n \in Q ; u, v, w$  funciones de  $x$ .