

DERIVADAS

$y = k, (k \text{ constante})$	$y' = 0$
$y = x^\alpha$	$y' = \alpha x^{\alpha-1}$
<i>en particular</i>	
$y = \sqrt{x}$	$y' = 1/2\sqrt{x}$
$y = 1/x$	$y' = -1/x^2$
<i>funciones trigonométricas</i>	
$y = \sin x$	$y' = \cos x$
$y = \cos x$	$y' = -\sin x$
$y = \operatorname{tg} x$	$y' = 1/\cos^2 x = 1 + \operatorname{tg}^2 x$
$y = \operatorname{cotg} x$	$y' = -1/\sin^2 x$
$y = \sec x$	$y' = \sin x/\cos^2 x$
$y = \operatorname{cosec} x$	$y' = -\cos x/\sin^2 x$
<i>funciones trigonométricas inversas</i>	
$y = \arcsin x$	$y' = 1/\sqrt{1-x^2}$
$y = \arccos x$	$y' = -1/\sqrt{1-x^2}$
$y = \operatorname{arctg} x$	$y' = 1/1+x^2$
$y = \operatorname{arc cotg} x$	$y' = -1/1+x^2$
$y = \operatorname{arc sec} x$	$y' = 1/x\sqrt{x^2-1}$
$y = \operatorname{arc cosec} x$	$y' = -1/x\sqrt{x^2-1}$
<i>función exponencial</i>	
$y = a^x$	$y' = a^x \ln a$
$y = e^x$	$y' = e^x$
<i>función logarítmica</i>	
$y = \log_a x$	$y' = (1/x) \log_a e = (1/x)(1/\ln a)$
$y = \ln x$	$y' = 1/x$
<i>funciones hiperbólicas</i>	
$y = \sinh x$	$y' = \cosh x$
$y = \cosh x$	$y' = \sinh x$
<i>reglas generales de derivación</i>	
$y = Cu(x), (C \text{ constante})$	$y' = Cu'(x)$
$y = u + v - w$	$y' = u' + v' - w'$
$y = uv$	$y' = u'v + uv'$
$y = u/v$	$y' = (u'v - uv')/v^2$
$y = f(u) \left. \begin{array}{l} \right\} \\ u = \varphi(x) \end{array} \right\}$	$y'_x = f'_u(u)\varphi'_x(x)$
$y = u^v$	$y' = vu^{v-1}u' + u^v v' \ln u$

Si $y = f(x)$, $x = \varphi(y)$, donde f y φ son funciones inversas una de la otra, entonces:

$$f'(x) = \frac{1}{\varphi'(y)}, \text{ donde } y = f(x)$$