

REGLAS DE DERIVACIÓN

SUMA	$y = u + v$ $y' = u' + v'$	PRODUCTO	$y = u v$ $y' = u'v + u v'$
RESTA	$y = u - v$ $y' = u' - v'$	COCIENTE	$y = \frac{u}{v}$ $y' = \frac{u'v - u v'}{v^2}$
DIRECTAS	$y = k$ $y' = 0$ $y = x$ $y' = 1$ $y = k x$ $y' = k$ $y = x^2$ $y' = 2 x$ $y = x^n$ $y' = n x^{n-1}$ $y = \sqrt{x}$ $y' = \frac{1}{2\sqrt{x}}$ $y = \frac{1}{x}$ $y' = \frac{-1}{x^2}$ $y = \operatorname{sen} x$ $y' = \cos x$ $y = \operatorname{cos} x$ $y' = -\operatorname{sen} x$ $y = e^x$ $y' = e^x$ $y = a^x$ $y' = a^x \ln a$ $y = \ln x$ $y' = \frac{1}{x}$ $y = \log_a x$ $y' = \frac{1}{x \ln a}$ $y = \operatorname{tg} x$ $\begin{cases} y' = 1 + \operatorname{tg}^2 x \\ y' = \frac{1}{\cos^2 x} = \sec^2 x \end{cases}$ $y = \operatorname{cot} x$ $y' = \frac{-1}{\operatorname{sen}^2 x}$ $y = \operatorname{arcsen} x$ $y' = \frac{1}{\sqrt{1-x^2}}$ $y = \operatorname{arccos} x$ $y' = \frac{-1}{\sqrt{1-x^2}}$ $y = \operatorname{arctg} x$ $y' = \frac{1}{1+x^2}$	COMPUESTAS	$y = u$ $y' = u'$ $y = k u$ $y' = k u'$ $y = u^2$ $y' = 2 u u'$ $y = u^n$ $y' = n u^{n-1} u'$ $y = \sqrt{u}$ $y' = \frac{u'}{2\sqrt{u}}$ $y = \frac{1}{u}$ $y' = \frac{-u'}{u^2}$ $y = \operatorname{sen} u$ $y' = \cos u \cdot u'$ $y = \operatorname{cos} u$ $y' = -\operatorname{sen} u \cdot u'$ $y = e^u$ $y' = e^u u'$ $y = a^u$ $y' = a^u \ln a \cdot u'$ $y = \ln u$ $y' = \frac{u'}{u}$ $y = \log_a u$ $y' = \frac{u'}{u \ln a}$ $y = \operatorname{tg} u$ $\begin{cases} y' = (1 + \operatorname{tg}^2 u) u' \\ y' = \frac{u'}{\cos^2 u} = u' \sec^2 u \end{cases}$ $y = \operatorname{cot} u$ $y' = \frac{-u'}{\operatorname{sen}^2 u}$ $y = \operatorname{arcsen} u$ $y' = \frac{u'}{\sqrt{1-u^2}}$ $y = \operatorname{arccos} u$ $y' = \frac{-u'}{\sqrt{1-u^2}}$ $y = \operatorname{arctg} u$ $y' = \frac{u'}{1+u^2}$
DERIVACIÓN LOGARÍTMICA	<ol style="list-style-type: none"> $y = u^v$ $\ln y = \ln(u^v)$ $\ln y = v \ln u$ 	<ol style="list-style-type: none"> $\frac{y'}{y} = v' \ln u + v \frac{u'}{u}$ $y' = y (v' \ln u + v \frac{u'}{u})$ $y' = u^v (v' \ln u + v \frac{u'}{u})$ 	

Siendo: y, u, v funciones de x ; a, k, n constantes