TABLA DE DERIVADAS

FUNCIONES ELEMENTALES		FUNCIONES COMPUESTAS	
$y = k$ (k constante)	$y' = 0$	En esta columna está aplicada la regla de la cadena. U y v son funciones que dependen de x.	
$y = x$	$y' = 1$		
$y = k \cdot x$	$y' = k$	$y = k \cdot u$	$y' = k \cdot u'$
$y = \frac{x}{k}$	$y' = \frac{1}{k}$	$y = \frac{u}{k}$	$y' = \frac{u'}{k}$
$y = u \pm v$	$y' = u' \pm v'$	$y = u \pm v$	$y' = u' \pm v'$
$y = u \cdot v$	$y' = u' \cdot v + u \cdot v'$	$y = u \cdot v$	$y' = u' \cdot v + u \cdot v'$
$y = \frac{u}{v}$	$y' = \frac{u' \cdot v - u \cdot v'}{v^2}$	$y = \frac{u}{v}$	$y' = \frac{u' \cdot v - u \cdot v'}{v^2}$
$y = x^n$	$y' = n \cdot x^{n-1}$	$y = u^n$	$y' = n \cdot u^{n-1} \cdot u'$
(*) $y = \sqrt{x}$	$y' = \frac{1}{2 \cdot \sqrt{x}}$	(*) $y = \sqrt{u}$	$y' = \frac{1}{2 \cdot \sqrt{u}} \cdot u'$
$y = \ln x$	$y' = \frac{1}{x}$	$y = \ln u$	$y' = \frac{1}{u} \cdot u'$
$y = \log_a x$	$y' = \frac{1}{x \cdot \ln a}$	$y = \log_a u$	$y' = \frac{1}{u \cdot \ln a} \cdot u'$
$y = \text{sen } x$	$y' = \cos x$	$y = \text{sen } u$	$y' = \cos u \cdot u'$
$y = \cos x$	$y' = -\text{sen } x$	$y = \cos u$	$y' = -\text{sen } u \cdot u'$
$y = \text{tg } x$	$y' = \frac{1}{\cos^2 x} = 1 + \text{tg}^2 x$	$y = \text{tg } u$	$y' = \frac{1}{\cos^2 u} \cdot u'$
$y = e^x$	$y' = e^x$	$y = e^u$	$y' = e^u \cdot u'$
$y = a^x$	$y' = a^x \cdot \ln a$	$y = a^u$	$y' = a^u \cdot \ln a \cdot u'$
$y = \text{arctg } x$	$y' = \frac{1}{1 + x^2}$	$y = \text{arctg } u$	$y' = \frac{1}{1 + u^2} \cdot u'$
$y = \text{arcsen } x$	$y' = \frac{1}{\sqrt{1 - x^2}}$	$y = \text{arcsen } u$	$y' = \frac{1}{\sqrt{1 - u^2}} \cdot u'$
$y = \text{arcos } x$	$y' = \frac{-1}{\sqrt{1 - x^2}}$	$y = \text{arcos } u$	$y' = \frac{-1}{\sqrt{1 - u^2}} \cdot u'$

DEFINICIÓN DE DERIVADA: $f'(x_0) = \lim_{h \to o} \frac{f(x_0 + h) - f(x_0)}{h}$

REGLA DE LA CADENA: $(g \circ f)'(x) = (g(f(x)))' = g'(f(x)) \cdot f'(x)$

(*) Esta fórmula sólo sirve para la raíz cuadrada. El resto de las raíces se derivan como potencias: $\sqrt[n]{a^m} = a^{\frac{m}{n}}$