TABLA DE DERIVADAS

NOTA: *u* y *v* representan, cada una, una expresión en función de *x*

PROPIEDADES BÁSICAS	
$y = ku \Rightarrow y' = ku',\ k \in R$	$y = u \pm v \Rightarrow y' = u' \pm v'$
$y = u \cdot v \Rightarrow y' = u'v + uv'$	$y = \frac{u}{v} \Rightarrow y' = \frac{u'v - v'u}{v^2}$

FUNCIÓN	DERIVADA	Ejemplos	
Constante			
$y = k$	$y' = 0$	$y = 5$	$y' = 0$
Identidad			
$y = x$	$y' = 1$	$y = 4x$	$y' = 4$
Potenciales			
$y = u^n$	$y' = nu^{n-1}u'$	$y = (2x+7)^4$	$y' = 8(2x+7)^3$
$y = \sqrt{u}$	$y' = \frac{u'}{2\sqrt{u}}$	$y = \sqrt{3x}$	$y' = \frac{3}{2\sqrt{3x}}$
$y = \sqrt[n]{u}$	$y' = \frac{u'}{n\sqrt[n]{u^{n-1}}}$	$y = \sqrt[4]{7x}$	$y' = \frac{7}{4\sqrt[4]{(7x)^3}}$
Exponenciales			
$y = e^u$	$y' = u'e^u$	$y = e^{4x+5}$	$y' = 4e^{4x+5}$
$y = a^u$	$y' = u'a^u \ln a$	$y = 3^{7x-5}$	$y' = 7 \cdot 3^{7x-5} \ln 3$
Logarítmicas			
$y = \ln u$	$y' = \frac{u'}{u}$	$y = \ln(2x+7)$	$y' = \frac{2}{2x+7}$
$y = \log_a u$	$y' = \frac{u'}{u}\log_a e = \frac{u'}{u}\frac{1}{\ln a}$	$y = \log_2(3x+4)$	$y' = \frac{3}{3x+4}\log_2 e$
Trigonométricas			
$y = \operatorname{sen} u$	$y' = u' \cos u$	$y = \operatorname{sen} 2x$	$y' = 2\cos 2x$
$y = \cos u$	$y' = -u' \operatorname{sen} u$	$y = \cos x^3$	$y' = -3x^2 \operatorname{sen} x^3$
$y = \operatorname{tg} u$	$y' = \frac{u'}{\cos^2 u} = u'(1+\operatorname{tg}^2 u)$	$y = \operatorname{tg} 5x$	$y' = \frac{5}{\cos^2 5x} = 5(1+\operatorname{tg}^2 5x)$
$y = \operatorname{cotg} u$	$y' = -\frac{u'}{\operatorname{sen}^2 u} = -u'(1+\operatorname{cotg}^2 u)$	$y = \operatorname{cotg}(3x+2)$	$y' = -\frac{3}{\operatorname{sen}^2(3x+2)}$
$y = \sec u$	$y' = u' \sec u \operatorname{tg} u$	$y' = \sec 3x$	$y' = 3 \sec 3x \operatorname{tg} 3x$
$y = \operatorname{cosec} u$	$y' = -u' \operatorname{cosec} u \operatorname{cotg} u$	$y' = \operatorname{cosec} x^2$	$y' = -2x \operatorname{cosec} x^2 \operatorname{cotg} x^2$
$y = \operatorname{arcsen} u$	$y' = \frac{u'}{\sqrt{1-u^2}}$	$y = \operatorname{arcsen} x^2$	$y' = \frac{2x}{\sqrt{1-x^4}}$
$y = \arccos u$	$y' = -\frac{u'}{\sqrt{1-u^2}}$	$y = \arccos 5x$	$y' = -\frac{5}{\sqrt{1-25x^2}}$
$y = \operatorname{arctg} u$	$y' = \frac{u'}{1+u^2}$	$y = \operatorname{arctg} 2x$	$y' = \frac{2}{1+4x^2}$