

TABLA DE DERIVADAS

Tipo	Función simple	Función compuesta
Potencial (r es una constante)	$(x^r)' = r \cdot x^{r-1}$ $(\sqrt{x})' = \frac{1}{2 \cdot \sqrt{x}}$	$(u^r)' = r \cdot u^{r-1} \cdot u'$ $(\sqrt{u})' = \frac{1}{2 \cdot \sqrt{u}} \cdot u'$
Logaritmo (a es una constante positiva distinta de 1)	$(\ln x)' = \frac{1}{x}$ $(\log_a x)' = \frac{1}{x} \cdot \log_a e$	$(\ln u)' = \frac{1}{u} \cdot u'$ $(\log_a u)' = \frac{1}{u} \cdot \log_a e \cdot u'$
Exponencial (a es una constante positiva distinta de 1)	$(e^x)' = e^x$ $(a^x)' = a^x \cdot \ln a$	$(e^u)' = e^u \cdot u'$ $(a^u)' = a^u \cdot \ln a \cdot u'$
Seno	$(\sin x)' = \cos x$	$(\sin u)' = \cos u \cdot u'$
Coseno	$(\cos x)' = -\sin x$	$(\cos u)' = -\sin u \cdot u'$
Secante	$(\sec x)' = \sec x \cdot \operatorname{tg} x = \frac{\sin x}{\cos^2 x}$	$(\sec u)' = \sec u \cdot \operatorname{tg} u \cdot u' = \frac{\sin u}{\cos^2 u} \cdot u'$
Cosecante	$(\operatorname{cosec} x)' = -\operatorname{cosec} x \cdot \operatorname{ctg} x = \frac{-\cos x}{\sin^2 x}$	$(\operatorname{cosec} u)' = -\operatorname{cosec} u \cdot \operatorname{ctg} u \cdot u' = \frac{-\cos u}{\sin^2 u} \cdot u'$
Tangente	$(\operatorname{tg} x)' = 1 + \operatorname{tg}^2 x = \frac{1}{\cos^2 x}$	$(\operatorname{tg} u)' = (1 + \operatorname{tg}^2 u) \cdot u' = \frac{1}{\cos^2 u} \cdot u'$
Cotangente	$(\operatorname{ctg} x)' = -(1 + \operatorname{ctg}^2 x) = \frac{-1}{\sin^2 x}$	$(\operatorname{ctg} u)' = -(1 + \operatorname{ctg}^2 u) \cdot u' = \frac{-1}{\sin^2 u} \cdot u'$
Arco seno	$(\arcsin x)' = \frac{1}{\sqrt{1-x^2}}$	$(\arcsin u)' = \frac{1}{\sqrt{1-u^2}} \cdot u'$
Arco coseno	$(\arccos x)' = \frac{-1}{\sqrt{1-x^2}}$	$(\arccos u)' = \frac{-1}{\sqrt{1-u^2}} \cdot u'$
Arco secante	$(\operatorname{arcsec} x)' = \frac{1}{ x \cdot \sqrt{x^2-1}}$	$(\operatorname{arcsec} u)' = \frac{1}{ u \cdot \sqrt{u^2-1}} \cdot u'$
Arco cosecante	$(\operatorname{arccosec} x)' = \frac{-1}{ x \cdot \sqrt{x^2-1}}$	$(\operatorname{arccosec} u)' = \frac{-1}{ u \cdot \sqrt{u^2-1}} \cdot u'$
Arco tangente	$(\operatorname{arctg} x)' = \frac{1}{1+x^2}$	$(\operatorname{arctg} u)' = \frac{1}{1+u^2} \cdot u'$
Arco cotangente	$(\operatorname{arccotg} x)' = \frac{-1}{1+x^2}$	$(\operatorname{arccotg} u)' = \frac{-1}{1+u^2} \cdot u'$