

TABLA DE DERIVADAS (de usos más frecuentes)

Referencias: x es la variable independiente, c es una constante, u y v son funciones de x derivables

FUNCIONES	DERIVADAS	FUNCIONES	DERIVADAS
$y = c$	$y' = 0$	$y = u$	$y' = u'$
$y = x$	$y' = 1$	$y = u \pm v$	$y' = u' \pm v'$
$y = cx$	$y' = c$	$y = c \cdot u$	$y' = c \cdot u'$
$y = x^n, n \in \mathbb{R}$	$y' = n \cdot x^{n-1}$	$y = u^n, n \in \mathbb{R}$	$y' = n \cdot u^{n-1} \cdot u'$
$y = \frac{1}{x}$	$y' = -\frac{1}{x^2}$	$y = \frac{1}{u}$	$y' = -\frac{1}{u^2} \cdot u'$
$y = \sqrt{x}$	$y' = \frac{1}{2\sqrt{x}}$	$y = \sqrt{u}$	$y' = \frac{1}{2\sqrt{u}} \cdot u'$
$y = \sqrt[n]{x}$	$y' = \frac{1}{n \cdot \sqrt[n]{x^{n-1}}}$	$y = \sqrt[n]{u}$	$y' = \frac{1}{n \cdot \sqrt[n]{u^{n-1}}} \cdot u'$
$y = \ln x$	$y' = \frac{1}{x}$	$y = \ln u$	$y' = \frac{1}{u} \cdot u'$
$y = \log_a x$	$y' = \frac{1}{x} \cdot \log_a e$	$y = \log_a u$	$y' = \frac{1}{u} \cdot \log_a e \cdot u'$
$y = e^x$	$y' = e^x$	$y = e^u$	$y' = e^u \cdot u'$
$y = a^x$	$y' = a^x \cdot \ln a$	$y = a^u$	$y' = a^u \cdot \ln a \cdot u'$
$y = \operatorname{sen} x$	$y' = \cos x$	$y = \operatorname{sen} u$	$y' = \cos u \cdot u'$
$y = \cos x$	$y' = -\operatorname{sen} x$	$y = \cos u$	$y' = -\operatorname{sen} u \cdot u'$
$y = \tan x$	$y' = \frac{1}{\cos^2 x} = \sec^2 x$	$y = \tan u$	$y' = \frac{1}{\cos^2 u} \cdot u' = \sec^2 u \cdot u'$
$y = \sec x$	$y' = \sec x \cdot \operatorname{tg} x = \frac{\operatorname{sen} x}{\cos^2 x}$	$y = \sec u$	$y' = \sec u \cdot \operatorname{tg} u \cdot u' = \frac{\operatorname{sen} u}{\cos^2 u} \cdot u'$
$y = \operatorname{cosec} x$	$y' = -\operatorname{cosec} x \cdot \cotg x = -\frac{\cos x}{\operatorname{sen}^2 x}$	$y = \operatorname{cosec} u$	$y' = -\operatorname{cosec} u \cdot \cotg u \cdot u' = -\frac{\cos u}{\operatorname{sen}^2 u} \cdot u'$
$y = \cotg x$	$y' = \frac{-1}{\operatorname{sen}^2 x} = -\operatorname{cosec}^2 x$	$y = \cotg u$	$y' = \frac{-1}{\operatorname{sen}^2 u} \cdot u' = -\operatorname{cosec}^2 u \cdot u'$
$y = \operatorname{arc} \operatorname{sen} x$	$y' = \frac{1}{\sqrt{1-x^2}}$	$y = \operatorname{arc} \operatorname{sen} u$	$y' = \frac{1}{\sqrt{1-u^2}} \cdot u'$
$y = \operatorname{arc} \cos x$	$y' = -\frac{1}{\sqrt{1-x^2}}$	$y = \operatorname{arc} \cos u$	$y' = -\frac{1}{\sqrt{1-u^2}} \cdot u'$
$y = \operatorname{arc} \tan x$	$y' = \frac{1}{1+x^2}$	$y = \operatorname{arc} \tan u$	$y' = \frac{1}{1+u^2} \cdot u'$
$y = \operatorname{arc} \sec x$	$y' = \frac{1}{x \cdot \sqrt{x^2-1}}$	$y = \operatorname{arc} \sec u$	$y' = \frac{1}{u \cdot \sqrt{u^2-1}} \cdot u'$
$y = \operatorname{arc} \operatorname{cosec} x$	$y' = -\frac{1}{x \cdot \sqrt{x^2-1}}$	$y = \operatorname{arc} \operatorname{cosec} u$	$y' = -\frac{1}{u \cdot \sqrt{u^2-1}} \cdot u'$
$y = \operatorname{arc} \cotg x$	$y' = -\frac{1}{1+x^2}$	$y = \operatorname{arc} \cotg u$	$y' = -\frac{1}{1+u^2} \cdot u'$
$y = u \cdot v$	$y' = u' \cdot v + u \cdot v'$	$y = u^v$	$y' = u^v \left(v' \cdot \ln u + v \cdot \frac{u'}{u} \right)$
$y = \frac{u}{v}$	$y' = \frac{u' \cdot v - u \cdot v'}{v^2}$		