


DERIVADAS DE FUNCIONES

FUNCIONES: $y = f(x)$; $u = u(x)$, $v = v(x)$		
CONSTANTES: $C \in \mathbb{R}$, $n \in \mathbb{N}$, e , $a \in \mathbb{R}^+$		
	FUNCIÓN	DERIVADA
1.	$y = f(x) = C$	$y' = 0$
2.	$f(x) = x$	$y' = f'(x) = 1$
3.	$f(x) = C u$	$y' = f'(x) = C u'$
4.	$f(x) = (u \pm v)(x) = u \pm v$	$y' = f'(x) = (u \pm v)'(x) = u' \pm v'$
5.	$f(x) = \ln u$	$y' = f'(x) = \frac{u'}{u}$
6.	$f(x) = u^n$	$y' = f'(x) = n u^{n-1} u'$
Cons	$f(x) = \sqrt[n]{u}$	$y' = f'(x) = \frac{u'}{n \sqrt[n]{u^{n-1}}}$
7.	$f(x) = (u \cdot v)(x) = u \cdot v$	$y' = f'(x) = (u \cdot v)'(x) = u' \cdot v + u \cdot v'$
8.	$f(x) = \frac{u}{v}$	$y' = f'(x) = \frac{u' \cdot v - u \cdot v'}{v^2}$
9.	$f(x) = e^x$	$y' = f'(x) = e^x$
Cons	$f(x) = e^u$	$y' = f'(x) = u' e^u$
10.	$f(x) = a^x$	$y' = f'(x) = a^x \ln a$
Cons	$f(x) = a^u$	$y' = f'(x) = u' a^u \ln a$
11.	$f(x) = u^v$	$y' = f'(x) = v u^{v-1} u' + v' u^v \ln u$
12.	$f(x) = \log_a x$	$y' = f'(x) = \frac{1}{x} \log_a e = \frac{1}{x \ln a}$
Cons	$f(x) = \log_a u$	$y' = f'(x) = \frac{u' \log_a e}{u} = \frac{u'}{u \ln a}$
13.	$f(x) = \text{sen } u$	$y' = f'(x) = u' \cos u$

14.	$f(x) = \cos u$	$y' = f'(x) = -u' \operatorname{sen} u$
15.	$f(x) = \operatorname{tg} u$	$y' = f'(x) = \frac{u'}{\cos^2 u} = u' (1 + \operatorname{tg}^2 u)$
16.	$f(x) = \operatorname{cosec} u = \frac{1}{\operatorname{sen} u}$	$y' = f'(x) = u' \operatorname{cosec} u \operatorname{cotg} u = -\frac{u' \cos u}{\operatorname{sen}^2 u}$
17.	$f(x) = \operatorname{sec} u = \frac{1}{\cos u}$	$y' = f'(x) = u' \operatorname{sec} u \operatorname{tg} u = \frac{u' \operatorname{sen} u}{\cos^2 u}$
18.	$f(x) = \operatorname{cotg} u = \frac{1}{\operatorname{tg} u}$	$y' = f'(x) = \frac{-u'}{\operatorname{sen}^2 u} = -u' (1 + \operatorname{cotg}^2 u)$
19.	$f(x) = \operatorname{arc} \operatorname{sen} u$	$y' = f'(x) = \frac{u'}{\sqrt{1-u^2}}$
20.	$f(x) = \operatorname{arc} \operatorname{cos} u$	$y' = f'(x) = \frac{-u'}{\sqrt{1-u^2}}$
21.	$f(x) = \operatorname{arc} \operatorname{tg} u$	$y' = f'(x) = \frac{u'}{1+u^2}$



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