Centro de Estudios Luis Vives
Sol: 91 559 4770 ✷ Moncloa: 91 542 5007

TABLA DE DERIVADAS

FUNCIONES SIMPLES		FUNCIONES COMPUESTAS (Regla de la cadena)	
$y = x^n$	$y' = n \cdot x^{n-1}$	$y = f^n(x)$	$y' = n \cdot f^{n-1}(x) \cdot f'(x)$
$y = \sqrt{x}$	$y' = \frac{1}{2\sqrt{x}}$	$y = \sqrt{f(x)}$	$y' = \frac{f'(x)}{2\sqrt{f(x)}}$
$y = \sqrt[n]{x}$	$y' = \frac{1}{n\sqrt[n]{x^{n-1}}}$	$y = \sqrt[n]{f(x)}$	$y' = \frac{f'(x)}{n\sqrt[n]{f(x)^{n-1}}}$
$y = a^x$	$y' = a^x \cdot Ln(a)$	$y = a^{f(x)}$	$y' = a^{f(x)} \cdot f'(x) \cdot Ln(a)$
$y = e^x$	$y' = e^x$	$y = e^{f(x)}$	$y' = e^{f(x)} \cdot f'(x)$
$y = \log_a x$	$y' = \frac{1}{x \cdot Ln(a)}$	$y = \log_a f(x)$	$y' = \frac{f'(x)}{f(x) \cdot Ln(a)}$
$y = Ln(x)$	$y' = \frac{1}{x}$	$y = Ln(f(x))$	$y' = \frac{f'(x)}{f(x)}$
$y = sen(x)$	$y' = \cos(x)$	$y = sen(f(x))$	$y' = f'(x) \cdot \cos(f(x))$
$y = \cos(x)$	$y' = -sen(x)$	$y = \cos(f(x))$	$y' = -f'(x) \cdot sen(f(x))$
$y = tg(x)$	$y' = 1 + tg^2(x) = \frac{1}{cos^2(x)}$	$y = tg(f(x))$	$y' = f'(x) \cdot (1 + tg^2(f(x))) = \frac{f'(x)}{cos^2(f(x))}$
$y = arcsen(x)$	$y' = \frac{1}{\sqrt{1 - x^2}}$	$y = ar\square sen\, f(x)$	$y' = \frac{f'(x)}{\sqrt{1 - f^2(x)}}$
$y = \arccos(x)$	$y' = -\frac{1}{\sqrt{1 - x^2}}$	$y = arccosf(x)$	$y' = -\frac{f'(x)}{\sqrt{1 - f^2(x)}}$
$y = arctg(x)$	$y' = \frac{1}{1 + x^2}$	$y = arctgf(x)$	$y' = \frac{f'(x)}{1 + f^2(x)}$

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REGLAS DE DERIVACIÓN

- Constante

$$y = k \implies y' = 0$$

- Producto por un número

$$y = k \cdot f(x) \implies y' = k \cdot f'(x)$$

- Suma o resta

$$y = f(x) \pm g(x) \implies y' = f'(x) \pm g'(x)$$

- Producto

$$y = f(x) \cdot g(x) \implies y' = f'(x) \cdot g(x) + f(x) \cdot g'(x)$$

- División

$$y = \frac{f(x)}{g(x)} \implies y' = \frac{f'(x) \cdot g(x) - f(x) \cdot g'(x)}{g^2(x)}$$

- Regla de la cadena

$$y = f\big(g(x)\big) \implies y' = f'\big(g(x)\big) \cdot g'(x)$$