

Tabla de derivadas y reglas de derivación

Tabla de derivadas

		Función	Derivada
		$y = k \cdot f(x)$	$y' = k \cdot f'(x)$
		$y = f(x) \pm g(x)$	$y' = f'(x) \pm g'(x)$
		$y = f(x) \cdot g(x)$	$y' = f'(x) \cdot g(x) + f(x) \cdot g'(x)$
		$y = \frac{f(x)}{g(x)}$	$y' = \frac{f'(x)g(x) - f(x)g'(x)}{[g(x)]^2}$
Función	Derivada	Función compuesta	Derivada
$y = k$	$y' = 0$	$y = [f(x)]^n$	$y' = n[f(x)]^{n-1} \cdot f'(x)$
$y = x$	$y' = 1$	$y = \sqrt{f(x)}$	$y' = \frac{1}{2\sqrt{f(x)}} \cdot f'(x) = \frac{f'(x)}{2\sqrt{f(x)}}$
$y = x^2$	$y' = 2x$	$y = \frac{1}{f(x)}$	$y' = -\frac{1}{[f(x)]^2} \cdot f'(x) = \frac{-f'(x)}{[f(x)]^2}$
$y = x^n$	$y' = nx^{n-1}$	$y = e^{f(x)}$	$y' = e^{f(x)} \cdot f'(x)$
$y = \sqrt{x}$	$y' = \frac{1}{2\sqrt{x}}$	$y = a^{f(x)}$	$y' = a^{f(x)} \cdot \ln a \cdot f'(x)$
$y = \frac{1}{x}$	$y' = -\frac{1}{x^2}$	$y = \ln f(x)$	$y' = \frac{1}{f(x)} \cdot f'(x) = \frac{f'(x)}{f(x)}$
$y = e^x$	$y' = e^x$	$y = \log_a f(x)$	$y' = \frac{1}{f(x)} \cdot \frac{1}{\ln a} \cdot f'(x) = \frac{f'(x)}{f(x) \ln a}$
$y = a^x$	$y' = a^x \cdot \ln a$	$y = \operatorname{sen} f(x)$	$y' = f'(x) \cos f(x)$
$y = \ln x$	$y' = \frac{1}{x}$	$y = \cos f(x)$	$y' = -f'(x) \operatorname{sen} f(x)$
$y = \log_a x$	$y' = \frac{1}{x} \cdot \frac{1}{\ln a}$	$y = \operatorname{tg} f(x)$	$y' = f'(x) [1 + \operatorname{tg}^2(f(x))] = \frac{f'(x)}{\cos^2(f(x))}$
$y = \operatorname{sen} x$	$y' = \cos x$	$y = \operatorname{arcsen} f(x)$	$y' = \frac{f'(x)}{\sqrt{1 - [f(x)]^2}}$
$y = \cos x$	$y' = -\operatorname{sen} x$	$y = \operatorname{arccos} f(x)$	$y' = \frac{-f'(x)}{\sqrt{1 - [f(x)]^2}}$
$y = \operatorname{tg} x$	$y' = 1 + \operatorname{tg}^2 x = \frac{1}{\cos^2 x}$	$y = \operatorname{arctg} f(x)$	$y' = \frac{f'(x)}{1 + [f(x)]^2}$
$y = \operatorname{arcsen} x$	$y' = \frac{1}{\sqrt{1 - x^2}}$		
$y = \operatorname{arccos} x$	$y' = \frac{-1}{\sqrt{1 - x^2}}$		
$y = \operatorname{arctg} x$	$y' = \frac{1}{1 + x^2}$		