

## REGLAS DE DERIVADAS

<b>SUMA</b>	$D[f(x) + g(x)] = f'(x) + g'(x)$	
<b>PRODUCTO POR UN NÚMERO</b>	$D[k \cdot f(x)] = k \cdot f'(x)$	
<b>PRODUCTO</b>	$D[f(x) \cdot g(x)] = f'(x) \cdot g(x) + f(x) \cdot g'(x)$	
<b>COCIENTE</b>	$D\left[\frac{f(x)}{g(x)}\right] = \frac{f'(x) \cdot g(x) - f(x) \cdot g'(x)}{[g(x)]^2}$	
<b>COMPOSICIÓN</b> (Regla de la cadena)	$D\{f[g(x)]\} = f'[g(x)] \cdot g'(x)$ $D\{f(g[h(x)])\} = f'(g[h(x)]) \cdot g'[h(x)] \cdot h'(x)$	
<b>POTENCIA</b>	$D(x^k) = k \cdot x^{k-1}$ $D(\sqrt{x}) = D(x^{1/2}) = \frac{1}{2\sqrt{x}}$ $D\left(\frac{1}{x}\right) = D(x^{-1}) = -\frac{1}{x^2}$	$D\{[f(x)]^k\} = k \cdot [f(x)]^{k-1} \cdot f'(x)$ $D[\sqrt{f(x)}] = \frac{1}{2\sqrt{f(x)}} \cdot f'(x)$ $D\left[\frac{1}{f(x)}\right] = -\frac{1}{[f(x)]^2} \cdot f'(x)$
<b>TRIGONOMÉTRICA</b>	$D(\sin x) = \cos x$ $D(\cos x) = -\sin x$ $D(\tan x) = 1 + \tan^2 x$	$D[\sin f(x)] = f'(x) \cdot \cos f(x)$ $D[\cos f(x)] = -f'(x) \cdot \sin f(x)$ $D[\tan f(x)] = [1 + \tan^2 f(x)] \cdot f'(x)$
<b>EXPONENCIALES</b>	$D(e^x) = e^x$ $D(a^x) = a^x \cdot \ln a$	$D[e^{f(x)}] = e^{f(x)} \cdot f'(x)$ $D[a^{f(x)}] = a^{f(x)} \cdot \ln a \cdot f'(x)$
<b>LOGARÍTMICAS</b>	$D(\ln x) = \frac{1}{x}$ $D(\log_a x) = \frac{1}{x} \cdot \frac{1}{\ln a}$	$D[\ln f(x)] = \frac{1}{f(x)} \cdot f'(x)$ $D[\log_a f(x)] = \frac{1}{f(x)} \cdot \frac{1}{\ln a} \cdot f'(x)$