MATEMÁTICAS

Tabla de Derivadas

Función simple	*Función derivada*	*Función compuesta*	*Función derivada*
$y = k$	$y' = 0$		
$y = x$	$y' = 1$		
$y = x^n$	$y' = nx^{n-1}$	$y = (f(x))^n$	$y' = n(f(x))^{n-1}f'(x)$
$y = \sqrt{x}$	$y' = \frac{1}{2\sqrt{x}}$	$y = \sqrt{f(x)}$	$y' = \frac{1}{2\sqrt{f(x)}} f'(x)$
$y = \sqrt[n]{x}$	$y' = \frac{1}{n\sqrt[n]{x^{n-1}}}$	$y = \sqrt[n]{f(x)}$	$y' = \frac{1}{n\sqrt[n]{f(x)^{n-1}}} \cdot f'(x)$
$y = \frac{1}{x}$	$y' = -\frac{1}{x^2}$		
$y = Ln(x)$	$y' = \frac{1}{x}$	$y = Lnf(x)$	$y' = \frac{1}{f(x)} f'(x)$
$y = \log_a x$	$y' = \frac{1}{x}\log_a e$	$y = \log_a f(x)$	$y' = \frac{1}{f(x)}\log_a e \cdot f'(x)$
$y = e^x$	$y' = e^x$	$y = e^{f(x)}$	$y' = e^{f(x)} \cdot f'(x)$
$y = a^x$	$y' = a^x \cdot Lna$	$y = a^{f(x)}$	$y' = a^{f(x)} \cdot Lna \cdot f'(x)$
$y = sen\ x$	$y' = \cos x$	$y = sen\ f(x)$	$y' = \cos(f(x)) \cdot f'(x)$
$y = \cos x$	$y' = -sen\ x$	$y = \cos f(x)$	$y' = -sen(f(x)) \cdot f'(x)$
$y = tg\ x$	$y' = 1 + tg^2 x = 1/\cos^2 x$	$y = tg\ f(x)$	$y' = [1 + tg^2 f(x)] \cdot f'(x)$
$y = arc\ sen\ x$	$y' = \frac{1}{\sqrt{1-x^2}}$	$y = arc\ sen\ f(x)$	$y' = \frac{1}{\sqrt{1-f(x)^2}} \cdot f'(x)$
$y = arc\ tg\ x$	$y' = \frac{1}{1+x^2}$	$y = arc\ tg\ f(x)$	$y' = \frac{1}{1+f(x)^2} \cdot f'(x)$

Suma y diferencia	$(f+g)'(x) = f'(x) + g'(x)$ $(f-g)'(x) = f'(x) - g'(x)$
Producto de un número por una función	$(kf)'(x) = kf'(x)$
Producto	$(f \cdot g)'(x) = f'(x) \cdot g(x) + f(x) \cdot g'(x)$
División	$\left(\frac{f}{g}\right)'(x) = \frac{f'(x) \cdot g(x) - f(x) \cdot g'(x)}{(g(x))^2}$
Composición	$(f(g(x)))' = f'(g(x)) \cdot g'(x)$