

# TABLA DE DERIVADAS

Función	Derivada	Ejemplo	Derivada
$y = k$	$y' = 0$	$y = 3$	$y' = 0$
$y = x^n$	$y' = nx^{n-1}$	$y = x^3$	$y' = 3x^2$
$y = a^x$	$y' = a^x \ln a$	$y = 3^x$	$y' = 3^x \ln 3$
$y = e^x$	$y' = e^x$		
$y = \log_a x$	$y' = \frac{1}{x \ln a}$	$y = \log_2 x$	$y' = \frac{1}{x \ln 2}$
$y = \ln x$	$y' = \frac{1}{x}$		
$y = \sqrt{x}$	$y' = \frac{1}{2\sqrt{x}}$		
$y = \sqrt[n]{x}$	$y' = \frac{1}{n\sqrt[n]{x^{n-1}}}$		
$y = \text{sen } x$	$y' = \cos x$		
$y = \cos x$	$y' = -\text{sen } x$		
$y = \tan x$	$y' = \frac{1}{\cos^2 x} = 1 + \tan^2 x$		
$y = \arcsen x$	$y' = \frac{1}{\sqrt{1-x^2}}$		
$y = \arccos x$	$y' = \frac{-1}{\sqrt{1-x^2}}$		
$y = \arctan x$	$y' = \frac{1}{1+x^2}$		
Operaciones			
$y = k \cdot f$	$y' = k \cdot f'$		
$(f + g)'$	$f' + g'$	$y = x^3 + 3x$	$y' = 3x^2 + 3$
$(f \cdot g)'$	$f' \cdot g + f \cdot g'$	$y = x^2 \cdot \text{sen } x$	$y' = 2x \cdot \text{sen } x + x^2 \cdot \cos x$
$\left(\frac{f}{g}\right)'$	$\frac{f' \cdot g - f \cdot g'}{g^2}$	$y = \frac{3x^4}{2x+1}$	$y' = \frac{(12x^3)(2x+1) - (3x^4)(2)}{(2x+1)^2}$
$(f \circ g)(x)$	$f'(g(x)) \cdot g'(x)$	$y = \text{sen}(\sqrt{x})$	$y' = \cos \sqrt{x} \cdot \frac{1}{2\sqrt{x}}$