

TABLAS DE DERIVADAS E INTEGRALES

Derivadas

Función	Derivada	Ejemplo
$y = k$	$y' = 0$	$y = 3$; $y' = 0$
$y = k x$	$y' = k$	$y = x$; $y' = 1$
$y = k x^n$	$y' = k \cdot n \cdot x^{n-1}$	$y = 3 x^2$; $y' = 6 x$
$y = a \cdot \text{sen } bx$	$y' = a \cdot b \cdot \text{cos } bx$	$y = 2 \cdot \text{sen } \pi x$; $y' = 2 \pi \cdot \text{cos } \pi x$
$y = a \cdot \text{sen } f(x)$	$y' = a \cdot f'(x) \cdot \text{cos } f(x)$	$y = 5 \cdot \text{sen } 3x^2$; $y' = 5 \cdot 6x \cdot \text{cos } 3x^2 = 30 x \cdot \text{cos } 3x^2$
$y = a \cdot \text{cos } bx$	$y' = -a \cdot b \cdot \text{sen } bx$	$y = 3 \cdot \text{cos } \pi x$; $y' = -3 \pi \cdot \text{sen } \pi x$
$y = a \cdot \text{cos } f(x)$	$y' = -a \cdot f'(x) \cdot \text{sen } f(x)$	$y = 7 \cdot \text{cos } 3x^2$; $y' = -42x \cdot \text{sen } 3x^2$
$y = a \cdot \ln bx$	$y' = \frac{a}{x}$	$y = 5 \cdot \ln 3x$; $y' = \frac{5}{x}$
$y = \sqrt{x}$	$y' = \frac{1}{2\sqrt{x}}$	$y = \sqrt{x}$; $y' = \frac{1}{2\sqrt{x}}$
$y = \sqrt{f(x)}$	$y' = \frac{f'(x)}{2 \cdot \sqrt{f(x)}}$	$y = \sqrt{6x^9}$; $y' = \frac{54x^8}{2 \cdot \sqrt{6x^9}}$

Integrales

Función	Integral	Ejemplo
$y = k$	$\int k \cdot dx = k x + C$	$y = 3$; $\int 3 \cdot dx = 3 x + C$
$y = k x$	$\int k x \cdot dx = \frac{k \cdot x^2}{2} + C$	$y = 5 x$; $\int 5 x \cdot dx = \frac{5 \cdot x^2}{2} + C$
$y = k x^n$	$\int k \cdot x^n dx = \frac{k \cdot x^{n+1}}{n+1} + C$	$y = 2 x^8$; $\int 2 x^8 \cdot dx = \frac{2 x^9}{9} + C$
$y = a \cdot \text{sen } bx$	$\int a \cdot \text{sen } bx dx = -\frac{a}{b} \cdot \text{cos } bx + C$	$y = 3 \text{sen } \pi x$; $\int 3 \cdot \text{sen } \pi x \cdot dx =$ $= -\frac{3}{\pi} \cdot \text{cos } \pi x$
$y = a \cdot \text{cos } bx$	$\int a \cdot \text{cos } bx dx = \frac{a}{b} \cdot \text{sen } bx + C$	$y = 4 \text{cos } \pi x$; $\int 4 \cdot \text{cos } \pi x \cdot dx =$ $= \frac{4}{\pi} \cdot \text{sen } \pi x$
$y = \frac{k}{x}$	$\int \frac{k \cdot dx}{x} = k \cdot \ln x + C$	$y = \frac{8}{x}$; $\int \frac{8 \cdot dx}{x} = 8 \cdot \ln x + C$