

Tabla de derivadas

| Función | Derivada | Ejemplos | |
|------------------------------|--|--------------------------------|--|
| Constante | | | |
| $y=k$ | $y'=0$ | $y=8$ | $y'=0$ |
| Identidad | | | |
| $y=x$ | $y'=1$ | $y=x$ | $y'=1$ |
| Funciones potenciales | | | |
| $y = u^m$ | $y' = mu^{m-1}u'$ | $y = (2x^2 + 1)^3$ | $y' = 3(2x^2 + 1)^2 \cdot 4x$ |
| $y = \frac{1}{u^m}$ | $y' = -\frac{mu'}{u^{m+1}}$ | $y = \frac{1}{(2x + 1)^3}$ | $y' = -\frac{6}{(2x + 1)^4}$ |
| $y = \sqrt{u}$ | $y' = \frac{u'}{2\sqrt{u}}$ | $y = \sqrt{5x}$ | $y' = \frac{5}{2\sqrt{5x}}$ |
| $y = \sqrt[m]{u}$ | $y' = \frac{u'}{m\sqrt[m]{u^{m-1}}}$ | $y = \sqrt[5]{3x^2}$ | $y' = \frac{6x}{5\sqrt[5]{(3x^2)^4}}$ |
| Funciones exponenciales | | | |
| $y = e^u$ | $y' = u'e^u$ | $y = e^{3x^2+1}$ | $y' = 6xe^{3x^2+1}$ |
| $y = a^u$ | $y' = u'a^u La$ | $y = 5^{3x-4}$ | $y' = 3 \cdot 5^{3x-4} L5$ |
| Funciones logarítmicas | | | |
| $y = Lu$ | $y' = \frac{u'}{u}$ | $y = L(x^2 + 7x)$ | $y' = \frac{2x + 7}{x^2 + 7x}$ |
| $y = \log_a u$ | $y' = \frac{u'}{u} \log_a e$ | $y = \log_2 (5x + 7)$ | $y' = \frac{5}{5x + 7} \log_2 e$ |
| Funciones trigonométricas | | | |
| $y = \text{sen } u$ | $y' = u' \cos u$ | $y = \text{sen } 5x$ | $y' = 5 \cos 5x$ |
| $y = \cos u$ | $y' = -u' \text{sen } u$ | $y = \cos 3x^2$ | $y' = -6x \text{sen } x^2$ |
| $y = \text{tg } u$ | $y' = u' \sec^2 u$ | $y = \text{tg } 7x$ | $y' = 7 \sec^2 7x$ |
| $y = \cot g u$ | $y' = u' \operatorname{cosec}^2 u$ | $y = \cot g (4x + 5)$ | $y' = -4 \operatorname{cosec}^2 (4x + 5)$ |
| $y = \sec u$ | $y' = u' \sec u \cdot \text{tg } u$ | $y = \sec x^3$ | $y' = 3x^2 \sec x^3 \text{tg } x^3$ |
| $y = \operatorname{cosec} u$ | $y' = -u' \operatorname{cosec} u \cot g u$ | $y = \operatorname{cosec} x^2$ | $y' = -2x \operatorname{cosec} x^2 \cot g x^2$ |
| | | | |

| | | | |
|---|---------------------------------|-------------------------------|---|
| $y = \arcsen u$ | $y' = \frac{u'}{\sqrt{1-u^2}}$ | $y = \arcsen x^2$ | $y' = \frac{2x}{\sqrt{1-x^4}}$ |
| $y = \arccos u$ | $y' = \frac{-u'}{\sqrt{1-u^2}}$ | $y = \arccos 3x$ | $y' = \frac{-3}{\sqrt{1-9x^2}}$ |
| $y = \operatorname{arctg} u$ | $y' = \frac{u'}{1+u^2}$ | $y = \operatorname{arctg} 3x$ | $y' = \frac{3}{1+9x^2}$ |
| Derivadas de sumas, restas, productos y cocientes de funciones | | | |
| $y = ku$ | $y' = ku'$ | $y = 3x^5$ | $y' = 3 \cdot 5x^4 = 15x^4$ |
| $y = u + v - w$ | $y' = u' + v' - w'$ | $y = 3x^2 - 2x + 5$ | $y' = 6x - 2$ |
| $y = uv$ | $y' = u'v + uv'$ | $y = x^2 \cos x$ | $y' = 2x \cos x + x^2(-\operatorname{sen} x)$ |
| $y = \frac{u}{v}$ | $y' = \frac{u'v - uv'}{v^2}$ | $y = \frac{2x^2}{x^3 - 1}$ | $y' = \frac{4x(x^3 - 1) - 2x^2(3x^2)}{(x^3 - 1)^2}$ |