

Derivadas

① $f(x) = 3x^4 + 7x^2$

$f'(x) = 12x^3 + 14x$

② $f(x) = 2x^7 + 3x^3$

$f'(x) = 14x^6 + 9x^2$

③ $f(x) = (2^a + 3^b)^2$

$f(x) = 4 + 12x + 9x^2$

$f'(x) = 12 + 18x$

④ $f(x) = (x^2 - 6)^3$

$3(x^2 - 6)^2 \cdot 2x$

$6x(x^2 - 6)^2$

$\frac{d}{dx} v^n = n v^{n-1} \frac{dv}{dx}$

$v = (x^2 - 6)$
 $n = 3$
 $v' = 2x$

$$\textcircled{5} f(x) = 2(5x^2 + x)^3$$

$$u(x) \cdot v(x) = u(x)$$

Para sacar $v' =$

$$(5x^2 + x)^3$$

$$\frac{d}{dx} v^n = n v^{n-1} \cdot \frac{dv}{dx}$$

$$v = 5x^2 + x$$

$$n = 3$$

$$v' = 10x + 1$$

$$3(5x^2 + x)^2 \cdot (10x + 1)$$

$$f'(x) = 2 \left[3(5x^2 + x)^2 \cdot (10x + 1) \right] + (5x^2 + x)^3$$

$$f'(x) = 6(5x^2 + x)^2(10x + 1) + (5x^2 + x)^3$$