

Ejemplo

$$f(x) = x^3$$

$$\frac{df}{dx} = 3x^2$$

$$\frac{d^2f}{dx^2} = \frac{d}{dx} \left(\frac{df}{dx} \right) = 6x = f^{(2)}(x)$$

$$\frac{d^3f}{dx^3} = \frac{d}{dx} \left(\frac{d^2f}{dx^2} \right) = 6 = f^{(3)}(x)$$

$$\frac{d^4f}{dx^4} = \frac{d}{dx} \left(\frac{d^3f}{dx^3} \right) = 0 = f^{(4)}(x)$$

$$f(x) = \text{sen } x$$

$$\frac{df}{dx} = \cos x \quad \frac{d^2f}{dx^2} = -\text{sen } x$$

$$\frac{d^3f}{dx^3} = -\cos x \quad \frac{d^4f}{dx^4} = \text{sen } x$$