

## UNAS DERIVADAS BÁSICAS

$$\frac{d}{dx} k = 0$$

$$\frac{d}{dx} x = 1$$

$$\frac{d}{dx} (cx) = c$$

$$\frac{d}{dx} x^c = cx^{c-1} \quad \text{donde } x^c \text{ y } cx^{c-1} \text{ se encuentran definidos}$$

$$\frac{d}{dx} (cx^n) = cnx^{n-1}$$

$$\frac{d}{dx} |x| = \frac{x}{|x|} = \operatorname{sgn} x, \quad x \neq 0$$

$$\frac{d}{dx} \left( \frac{1}{x} \right) = \frac{d}{dx} (x^{-1}) = -x^{-2} = -\frac{1}{x^2}$$

$$\frac{d}{dx} \left( \frac{1}{x^c} \right) = \frac{d}{dx} (x^{-c}) = -cx^{-c-1} = -\frac{c}{x^{c+1}}$$

$$\frac{d}{dx} (\sqrt[n]{x}) = \frac{1}{n\sqrt[n]{x^{n-1}}} \text{ sea } x > 0$$

$$\frac{d}{dx} \sqrt{x} = \frac{d}{dx} x^{\frac{1}{2}} = \frac{1}{2} x^{-\frac{1}{2}} = \frac{1}{2\sqrt{x}}, \quad x > 0$$

$$\frac{d}{dx} f(x)^n = n f(x)^{n-1} \cdot \frac{d}{dx} f(x)$$

$$\frac{d}{dx} c^x = c^x \ln c, \quad c > 0$$

$$\frac{d}{dx} e^x = e^x \frac{d}{dx} (x)$$

$$\frac{d}{dx} \log_c x = \frac{1}{x \ln c}, \quad c > 0, c \neq 1$$

$$\frac{d}{dx} \ln x = \frac{1}{x} \quad , x > 0$$

$$\frac{d}{dx} \ln |x| = \frac{1}{x}$$

$$\frac{d}{dx} x^x = x^x (1 + \ln x)$$

$$(f^g)' = f^g \left( g' \ln f + \frac{g}{f} f' \right)$$