

# TAULA DE DERIVADES

$$y = k \rightarrow y' = 0$$

$$y = x \rightarrow y' = 1$$

$$y = x^n \rightarrow y' = nx^{n-1}$$

$$y = \sqrt{x} = x^{\frac{1}{2}} \rightarrow y' = \frac{1}{2\sqrt{x}}$$

$$y = \sqrt[n]{x} = x^{\frac{1}{n}} \rightarrow y' = \frac{1}{n\sqrt[n]{x^{n-1}}}$$

$$y = \sin x \rightarrow y' = \cos x$$

$$y = \cos x \rightarrow y' = -\sin x$$

$$y = \operatorname{tg} x \rightarrow y' = \frac{1}{\cos^2 x}$$

$$y = a^x \rightarrow y' = a^x \ln a$$

$$y = e^x \rightarrow y' = e^x$$

$$y = \log_a x \rightarrow y' = \frac{1}{x \ln a}$$

$$y = \ln x \rightarrow y' = \frac{1}{x}$$

$$y = \arcsin x \rightarrow y' = \frac{1}{\sqrt{1-x^2}}$$

$$y = \arccos x \rightarrow y' = \frac{-1}{\sqrt{1-x^2}}$$

$$y = \operatorname{arctg} x \rightarrow y' = \frac{1}{1+x^2}$$

## Regla de la cadena:

$$y = [f(x)]^n \rightarrow y' = n[f(x)]^{n-1} \cdot f'(x)$$

$$y = \sqrt{f(x)} = [f(x)]^{\frac{1}{2}} \rightarrow y' = \frac{1}{2\sqrt{f(x)}} \cdot f'(x)$$

$$y = \sqrt[n]{f(x)} = [f(x)]^{\frac{1}{n}} \rightarrow y' = \frac{1}{n\sqrt[n]{f(x)^{n-1}}} \cdot f'(x)$$

$$y = \sin[f(x)] \rightarrow y' = \cos[f(x)] \cdot f'(x)$$

$$y = \cos[f(x)] \rightarrow y' = -\sin[f(x)] \cdot f'(x)$$

$$y = \operatorname{tg}[f(x)] \rightarrow y' = \frac{1}{\cos^2[f(x)]} \cdot f'(x)$$

$$y = a^{f(x)} \rightarrow y' = a^{f(x)} \ln a \cdot f'(x)$$

$$y = e^{f(x)} \rightarrow y' = e^{f(x)} \cdot f'(x)$$

$$y = \log_a f(x) \rightarrow y' = \frac{1}{f(x) \ln a} \cdot f'(x)$$

$$y = \ln[f(x)] \rightarrow y' = \frac{1}{f(x)} \cdot f'(x)$$

$$y = \arcsin[f(x)] \rightarrow y' = \frac{1}{\sqrt{1-[f(x)]^2}} \cdot f'(x)$$

$$y = \arccos[f(x)] \rightarrow y' = \frac{-1}{\sqrt{1-[f(x)]^2}} \cdot f'(x)$$

$$y = \operatorname{arctg}[f(x)] \rightarrow y' = \frac{1}{1+[f(x)]^2} \cdot f'(x)$$

## Propietats :

$$y = k f(x) \rightarrow y' = k \cdot f'(x)$$

$$y = f(x) \pm g(x) \rightarrow y' = f'(x) \pm g'(x)$$

$$y = f(x) \cdot g(x) \rightarrow y' = f'(x) \cdot g(x) + f(x) \cdot g'(x)$$

$$y = \frac{f(x)}{g(x)} \rightarrow y' = \frac{f'(x) \cdot g(x) - f(x) \cdot g'(x)}{[g(x)]^2}$$

$$y = (f \circ g)(x) \rightarrow y' = f'(g(x)) \cdot g'(x)$$