



Algumas regras de derivação

(estão a ser omitidos os domínios das funções)

$$C' = 0, \quad C \text{ constante}$$

$$(fg)'(x) = f'(x)g(x) + f(x)g'(x)$$

$$(g \circ f)'(x) = g'(f(x))f'(x)$$

$$(e^x)' = e^x$$

$$(a^x)' = a^x \ln a$$

$$\text{sen}'x = \cos x$$

$$\text{tg}'x = \sec^2 x$$

$$\sec'x = \sec x \text{ tg } x$$

$$\text{sh}'x = \text{ch } x$$

$$\text{th}'x = \text{sech}^2 x$$

$$\text{sech}'x = -\text{sech } x \text{ th } x$$

$$\arcsen'x = \frac{1}{\sqrt{1-x^2}}$$

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

$$\text{arcsec}'x = \frac{1}{x\sqrt{x^2-1}}$$

$$\text{argsh}'x = \frac{1}{\sqrt{1+x^2}}$$

$$\text{argth}'x = \frac{1}{1-x^2}$$

$$\text{argsech}'x = \frac{-1}{x\sqrt{1-x^2}}$$

$$(x^\alpha)' = \alpha x^{\alpha-1}, \quad (\alpha \in \mathbb{R})$$

$$\left(\frac{f}{g}\right)'(x) = \frac{f'(x)g(x) - f(x)g'(x)}{g^2(x)}$$

$$(f^{-1})'(x) = \frac{1}{f'(f^{-1}(x))}$$

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

$$\log'_a x = \frac{1}{x \ln a}$$

$$\cos'x = -\text{sen } x$$

$$\cotg'x = -\text{cosec}^2 x$$

$$\text{cosec}'x = -\text{cosec } x \cotg x$$

$$\text{ch}'x = \text{sh } x$$

$$\text{coth}'x = -\text{cosech}^2 x$$

$$\text{cosech}'x = -\text{cosech } x \coth x$$

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

$$\text{arccotg}'x = \frac{-1}{1+x^2}$$

$$\text{arcosec}'x = \frac{-1}{x\sqrt{x^2-1}}$$

$$\text{argch}'x = \frac{1}{\sqrt{x^2-1}}$$

$$\text{argcoth}'x = \frac{1}{1-x^2}$$

$$\text{argcosech}'x = \frac{-1}{x\sqrt{1+x^2}}$$