

**Cálculo para Engenharia**

Formulário 2

2022'23

Omite-se o domínio das funções e considera-se a uma constante.

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

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

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

$$a' = 0$$

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

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

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

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

$$\text{senh}'x = \cosh x$$

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

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

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

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

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

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

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

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

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

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

$$(x^a)' = ax^{a-1}$$

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

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

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

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

$$\cosh'x = \text{senh} x$$

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

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

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

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

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

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

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

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