



Cálculo para Engenharia

Formulário 2

2022'23

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

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

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

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

$$a' = 0$$

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

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

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

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

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

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

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

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

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

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

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

$$\operatorname{artanh}' x = \frac{1}{1-x^2}$$

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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