ALAPDERIVÁLTAK

A ’ az x szerinti deriválást jelenti

$C' = 0$

$x' = 1$

$(k \cdot x)' = k$

$(x^k)' = k \cdot x^{k-1}$

$(\sqrt{x})' = \frac{1}{2\sqrt{x}}$

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

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

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

$[\ln(x)]' = \frac{1}{x}$

$[\sin(x)]' = \cos(x)$

$[\cos(x)]' = -\sin(x)$

$[\mathrm{tg}(x)]' = \frac{1}{[\cos(x)]^2} = 1 + [\mathrm{tg}(x)]^2$

$[\mathrm{ctg}(x)]' = \frac{-1}{[\sin(x)]^2}$

$[\mathrm{arc\ sin}(x)]' = \frac{1}{\sqrt{1-x^2}}$

$[\mathrm{arc\ cos}(x)]' = \frac{-1}{\sqrt{1-x^2}}$

$[\mathrm{arc\ tg}(x)]' = \frac{1}{1+x^2}$

$[\mathrm{arc\ ctg}(x)]' = \frac{-1}{1+x^2}$

DERIVÁLÁSI SZABÁLYOK

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

$[C \cdot f(x)]' = C \cdot [f(x)]'$

$[f(x) \cdot g(x)]' = [f(x)]' \cdot g(x) + f(x) \cdot [g(x)]'$

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

$\{f[g(x)]\}' = f'[g(x)] \cdot [g(x)]'$