DERIVACE

$(\text{číslo})' = 0$

$(x)' = 1$

$(x^n)' = n \cdot x^{n-1}$ (i pro odmocniny $\sqrt[n]{x^k} = x^{\frac{k}{n}}$)

$\frac{1}{x^k} = x^{-k}$

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

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

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

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

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

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

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

$(\operatorname{tg} x)' = \frac{1}{\cos^2 x}$

$(\operatorname{cotg} x)' = -\frac{1}{\sin^2 x}$

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

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

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

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

PRAVIDLA:

$(f+g-h)' = f'+g'-h'$

$(\text{číslo} \cdot f)' = \text{číslo} \cdot f'$

$(f \cdot g)' = f' \cdot g + f \cdot g'$

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

$(f(g))' = f'(g) \cdot g'$

ROVNICE TEČNY: (v bodě $T[x_0, y_0]$)

$y = f'(x_0) \cdot (x - x_0) + y_0$

ROVNICE NORMÁLY:

$y = -\frac{1}{f'(x_0)} \cdot (x - x_0) + y_0$