$f: y = c \quad c \in \mathbb{R} \qquad f'(x) = 0$

$f: y = x \qquad f'(x) = 1$

$f: y = x^2 \qquad f'(x) = 2x$

$f: y = x^3 \qquad f'(x) = 3x^2$

$f: y = x^n \quad n \in \mathbb{R} \qquad f'(x) = n \cdot x^{n-1}$

$f: y = \frac{1}{x} = x^{-1} \qquad f'(x) = -\frac{1}{x^2} = -1 \cdot x^{-2}$

$f: y = \frac{1}{x^n} = x^{-n} \quad n \in \mathbb{N} \qquad f'(x) = -n \frac{1}{x^{n+1}} = -n \cdot x^{-n-1}$

$f: y = \sin x \qquad f'(x) = \cos x$

$f: y = \cos x \qquad f'(x) = -\sin x$

$f: y = \mathrm{tg}\, x \qquad f'(x) = \frac{1}{\cos^2 x}$

$f: y = \mathrm{cotg}\, x \qquad f'(x) = -\frac{1}{\sin^2 x}$

$f: y = \ln x \qquad f'(x) = \frac{1}{x}$

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

$(f-g)'(x) = f'(x) - g'(x)$

$(a \cdot f)'(x) = a \cdot f'(x), \quad a \in \mathbb{R}$

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

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

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

dosadíme g do f — vnější — vnitřní

$f: y = e^x \qquad f'(x) = e^x$

$f: y = a^x \qquad f'(x) = a^x \cdot \ln a$

$f: y = \ln x \qquad f'(x) = \frac{1}{x}$

$f: y = \log_a x \qquad f'(x) = \frac{1}{x \cdot \ln a}$