DERIVUJTE FUNKCE:

$f(x)$	$f'(x)$
$a^5 + 5a^3x^2 - x^5\,,\ a \in \mathbf{R}$	$10a^3x - 5x^4$
$\frac{x}{(1-x)^2(1+x)^3}$	$\frac{1-x+4x^2}{(1-x)^3(1+x)^4}$
$\frac{x^p(1-x)^q}{1+x}\,,\ p, q \in \mathbf{R}$	$\frac{x^{p-1}(1-x)^{q-1}}{(1+x)^2}(p-(q+1)x-(p+q-1)x^2)$
$\frac{1}{x} + \frac{2}{x^2} + \frac{3}{x^3}$	$-\frac{1}{x^2} - \frac{4}{x^3} - \frac{9}{x^4}$
$\frac{2x}{1-x^2}$	$\frac{2(1+x^2)}{(1-x^2)^2}$
$x + \sqrt{x} + \sqrt[3]{x}$	$1 + \frac{1}{2\sqrt{x}} + \frac{1}{3\sqrt[3]{x^2}}$
$x\sqrt{1+x^2}$	$\frac{1+2x^2}{\sqrt{1+x^2}}$
$\arccos\frac{1}{x}$	$\frac{1}{\lvert x\rvert\sqrt{x^2-1}}$
$\frac{x}{\sqrt{a^2-x^2}}\ a \in \mathbf{R}$	$\frac{a^2}{\sqrt{(a^2-x^2)^3}}$
$\arcsin\left(\frac{1-x^2}{1+x^2}\right)$	$-2\frac{\operatorname{sgn}x}{1+x^2}$
$\cos 2x - 2\sin x$	$-2(\cos x)(1+2\sin x)$
$\sin\sin\sin x$	$(\cos x)(\cos\sin x)\cos\sin\sin x$
$\frac{\sin x - x\cos x}{\cos x + x\sin x}$	$\frac{x^2}{(\cos x + x\sin x)^2}$
$\operatorname{tg}\frac{x}{2} - \operatorname{cotg}\frac{x}{2}$	$\frac{2}{\sin^2 x}$
$(2-x^2)\cos x + 2x\sin x$	$x^2\sin x$
$\frac{\cos x}{2\sin^2 x}$	$-\frac{1+\cos^2 x}{2\sin^3 x}$
$\frac{1}{\cos^n x}\ n \in \mathbf{N}$	$\frac{n\sin x}{\cos^{n+1} x}$
$e^x(x^2-2x+2)$	x^2e^x
e^{-x^2}	$-2xe^{-x^2}$
$2^{\operatorname{tg}\frac{1}{x}}$	$-2^{\operatorname{tg}\frac{1}{x}}\frac{\ln 2}{x^2\cos^2(1/x)}$
$\frac{(\ln 3)\sin x + \cos x}{3^x}$	$-\frac{(1+\ln^2 3)\sin x}{3^x}$

$f(x)$	$f'(x)$
$\sqrt[x]{x}\,,\ x>0$	$x^{\frac{1}{x}-2}(1-\ln x)$
$\frac{1}{4}\ln\left(\frac{x^2-1}{x^2+1}\right)$	$\frac{x}{x^4-1}$
$\ln(x+\sqrt{1+x^2})$	$\frac{1}{\sqrt{1+x^2}}$
$\ln\sqrt{\frac{1-\sin x}{1+\sin x}}$	$\frac{-1}{\cos x}$
$\ln^3 x^2$	$\frac{6}{x}\ln^2 x^2$
$\frac{1}{2}\ln(1+x)-\frac{1}{4}\ln(1+x^2)-\frac{1}{2(1+x)}$	$\frac{1}{(1+x)^2(1+x^2)}$
$\sqrt{x+1}-\ln(1+\sqrt{x+1})$	$\frac{1}{2(1+\sqrt{1+x})}$
$\mathrm{arctg}\frac{x^2}{a}$	$\frac{2ax}{x^4+a^2}$
$x\mathrm{arctg}x-\frac{1}{2}\ln(1+x^2)-\frac{1}{2}\mathrm{arctg}^2x$	$\frac{x^2}{1+x^2}\mathrm{arctg}x$

URČETE DRUHOU DERIVACI FUNKCE:

$f(x)$	$f''(x)$
$x\sqrt{1+x^2}$	$\frac{x(3+2x^2)}{\sqrt{(1+x^2)^3}}$
$\mathrm{tg}x$	$\frac{2\sin x}{\cos^3 x}$
$x\ln x$	$\frac{1}{x}$
$\frac{x}{\sqrt{1-x^2}}$	$\frac{3x}{\sqrt{(1-x^2)^5}}$
e^{-x^2}	$2e^{-x^2}(2x^2-1)$