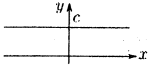

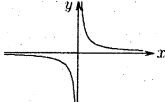
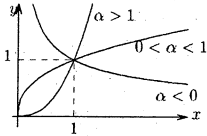
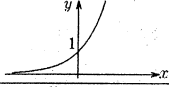
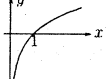
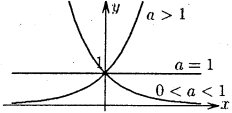
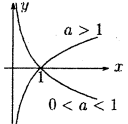
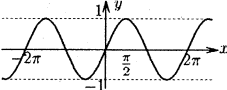
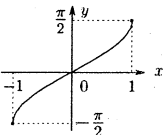
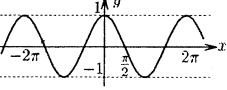
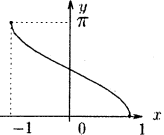


## Elemi függvények deriváltja

$\mathcal{D}_f$ és $\mathcal{D}_{f'}$	$f(x)$	$f'(x)$	$f$ képe
$\mathbb{R}$	$c$ <small><math>(c \in \mathbb{R})</math></small>	$0$	
$\mathbb{R} \setminus \{0\}$	$x^n$ <small><math>(n \in \mathbb{Z})</math></small>	$nx^{n-1}$	
$\mathcal{D}_f = [0, +\infty)$ $\mathcal{D}_{f'} = (0, +\infty)$	$\sqrt{x}$	$\frac{1}{2\sqrt{x}}$	
$\mathbb{R} \setminus \{0\}$	$\frac{1}{x}$	$-\frac{1}{x^2}$	
$(0, +\infty)$	$x^\alpha$ <small><math>(\alpha \in \mathbb{R})</math></small>	$\alpha x^{\alpha-1}$	
$\mathbb{R}$	$e^x$	$e^x$	
$(0, +\infty)$	$\ln x$	$\frac{1}{x}$	
$\mathbb{R}$	$a^x$ <small><math>(a \in (0, +\infty))</math></small>	$a^x \ln a$	
$(0, +\infty)$	$\log_a x$ <small><math>(a \in \mathbb{R}^+ \setminus \{1\})</math></small>	$\frac{1}{x \ln a}$	
$\mathbb{R}$	$\sin x$	$\cos x$	
$\mathcal{D}_f = [-1, 1]$ $\mathcal{D}_{f'} = (-1, 1)$	$\arcsin x$	$\frac{1}{\sqrt{1-x^2}}$	
$\mathbb{R}$	$\cos x$	$-\sin x$	
$\mathcal{D}_f = [-1, 1]$ $\mathcal{D}_{f'} = (-1, 1)$	$\arccos x$	$-\frac{1}{\sqrt{1-x^2}}$	

$\mathbb{R} \setminus \{\frac{\pi}{2} + k\pi \mid k \in \mathbb{Z}\}$	$\operatorname{tg} x$	$\frac{1}{\cos^2 x}$	
$\mathbb{R}$	$\operatorname{arctg} x$	$\frac{1}{1+x^2}$	
$\mathbb{R} \setminus \{k\pi \mid k \in \mathbb{Z}\}$	$\operatorname{ctg} x$	$-\frac{1}{\sin^2 x}$	
$\mathbb{R}$	$\operatorname{arctg} x$	$-\frac{1}{1+x^2}$	
$\mathbb{R}$	$\operatorname{sh} x$ ( $:= \frac{e^x - e^{-x}}{2}$ )	$\operatorname{ch} x$	
$\mathbb{R}$	$\operatorname{arsh} x$ ( $= \ln(x + \sqrt{x^2 + 1})$ )	$\frac{1}{\sqrt{x^2 + 1}}$	
$\mathbb{R}$	$\operatorname{ch} x$ ( $:= \frac{e^x + e^{-x}}{2}$ )	$\operatorname{sh} x$	
$\mathcal{D}_f = [1, +\infty)$ $\mathcal{D}_{f'} = (1, +\infty)$	$\operatorname{arch} x$ ( $= \ln(x + \sqrt{x^2 - 1})$ )	$\frac{1}{\sqrt{x^2 - 1}}$	
$\mathbb{R}$	$\operatorname{th} x$ ( $:= \frac{\operatorname{sh} x}{\operatorname{ch} x}$ )	$\frac{1}{\operatorname{ch}^2 x}$	
$(-1, 1)$	$\operatorname{arth} x$ ( $= \frac{1}{2} \ln \frac{1+x}{1-x}$ )	$\frac{1}{1-x^2}$	
$\mathbb{R} \setminus \{0\}$	$\operatorname{cth} x$ ( $:= \frac{\operatorname{ch} x}{\operatorname{sh} x}$ )	$-\frac{1}{\operatorname{sh}^2 x}$	
$(-\infty, -1) \cup (1, +\infty)$	$\operatorname{arcth} x$ ( $= \frac{1}{2} \ln \frac{x+1}{x-1}$ )	$\frac{1}{1-x^2}$	