

Derivatele funcțiilor elementare

Tabloul derivatelor funcțiilor elementare $f: D \rightarrow \mathbb{R}$

$f(x)$	f'	Domeniu de derivabilitate D
$c, c \in \mathbb{R}$	$f'(x) = 0$	\mathbb{R}
x	$f'(x) = 1$	\mathbb{R}
x^n	$f'(x) = (x^n)' = nx^{n-1}$	\mathbb{R}
$x^r, r \in \mathbb{R}$	$f'(x) = (x^r)' = rx^{r-1};$	$(0, \infty)$
$\sqrt[2n]{x}$	$f'(x) = (\sqrt[2n]{x})' = \frac{1}{2n \sqrt[2n]{x^{2n-1}}}$	$(0, \infty)$
$\sqrt[2n+1]{x}$	$f'(x) = (\sqrt[2n+1]{x})' = \frac{1}{(2n+1) \sqrt[2n+1]{x^{2n}}}$	\mathbb{R}^*
e^x	$f'(x) = (e^x)' = e^x$	\mathbb{R}
$a^x, a > 0, a \neq 1$	$f'(x) = (a^x)' = a^x \ln a$	\mathbb{R}
$\ln x$	$f'(x) = (\ln x)' = \frac{1}{x}$	$(0, \infty)$
$\log_a x, a > 0, a \neq 1$	$f'(x) = (\log_a x)' = \frac{1}{x \ln a}$	$(0, \infty)$
$\sin x$	$f'(x) = (\sin x)' = \cos x$	\mathbb{R}
$\cos x$	$f'(x) = (\cos x)' = -\sin x$	\mathbb{R}
$\operatorname{tg} x$	$f'(x) = (\operatorname{tg} x)' = \frac{1}{\cos^2 x}$	$\mathbb{R} - \left\{ \frac{\pi}{2} + k\pi \right\}$
$\operatorname{ctg} x$	$f'(x) = (\operatorname{ctg} x)' = -\frac{1}{\sin^2 x}$	$\mathbb{R} - \{k\pi\}$
$\arcsin x$	$f'(x) = (\arcsin x)' = \frac{1}{\sqrt{1-x^2}}$	$(-1, 1)$
$\arccos x$	$f'(x) = (\arccos x)' = -\frac{1}{\sqrt{1-x^2}}$	$(-1, 1)$
$\operatorname{arctg} x$	$f'(x) = (\operatorname{arctg} x)' = \frac{1}{1+x^2}$	\mathbb{R}
$\operatorname{arcctg} x$	$f'(x) = (\operatorname{arcctg} x)' = -\frac{1}{1+x^2}$	\mathbb{R}