DERIVATE

Nr.	Funcţia	Derivata	$D_{f'}$	Funcţia compusă	Derivata
1.	c (constantă)	0	$\mathbb{R}$		
2.	x	1	$\mathbb{R}$	u	u'
3.	x^{α}	$\alpha \cdot x^{\alpha-1}$	$(0, +\infty)$	u^{α}	$\alpha \cdot u^{\alpha-1} \cdot u'$
4.	$\dfrac{1}{x}$	$-\dfrac{1}{x^2}$	$\mathbb{R}^*$	$\dfrac{1}{u}$	$-\dfrac{1}{u^2} \cdot u'$
5.	$\sqrt{x}$	$\dfrac{1}{2\sqrt{x}}$	$(0, +\infty)$	$\sqrt{u}$	$\dfrac{1}{2\sqrt{u}} \cdot u'$
6.	e^x	e^x	$\mathbb{R}$	e^u	$e^u \cdot u'$
7.	$a^x \, (a > 0, \, a \neq 1)$	$a^x \cdot \ln a$	$\mathbb{R}$	a^u	$a^u \cdot \ln a \cdot u'$
8.	$\ln x$	$\dfrac{1}{x}$	$(0, +\infty)$	$\ln u$	$\dfrac{1}{u} \cdot u'$
9.	$\log_a x \, (a > 0, \, a \neq 1)$	$\dfrac{1}{x \ln a}$	$(0, +\infty)$	$\log_a u$	$\dfrac{1}{u \ln a} \cdot u'$
10.	$\sin x$	$\cos x$	$\mathbb{R}$	$\sin u$	$\cos u \cdot u'$
11.	$\cos x$	$-\sin x$	$\mathbb{R}$	$\cos u$	$-\sin u \cdot u'$
12.	$\operatorname{tg} x$	$\dfrac{1}{\cos^2 x}$	$\cos x \neq 0$	$\operatorname{tg} u$	$\dfrac{1}{\cos^2 u} \cdot u'$
13.	$\operatorname{ctg} x$	$-\dfrac{1}{\sin^2 x}$	$\sin x \neq 0$	$\operatorname{ctg} u$	$-\dfrac{1}{\sin^2 u} \cdot u'$
14.	$\arcsin x$	$\dfrac{1}{\sqrt{1 - x^2}}$	$(-1, 1)$	$\arcsin u$	$\dfrac{1}{\sqrt{1 - u^2}} \cdot u'$
15.	$\arccos x$	$-\dfrac{1}{\sqrt{1 - x^2}}$	$(-1, 1)$	$\arccos u$	$-\dfrac{1}{\sqrt{1 - u^2}} \cdot u'$
16.	$\operatorname{arctg} x$	$\dfrac{1}{1 + x^2}$	$\mathbb{R}$	$\operatorname{arctg} u$	$\dfrac{1}{1 + u^2} \cdot u'$
17.	$\operatorname{arcctg} x$	$-\dfrac{1}{1 + x^2}$	$\mathbb{R}$	$\operatorname{arcctg} u$	$-\dfrac{1}{1 + u^2} \cdot u'$

Reguli de derivare

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

$$(k \cdot f)' = k \cdot f' \; (k \in \mathbb{R})$$

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

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

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

$$(f^{-1})'(y_0) = \frac{1}{f'(x_0)}, \; y_0 = f(x_0)$$

$$(f \cdot g)^{(n)} = \sum_{k=0}^{n} C_n^k f^{(n-k)} g^{(k)} \quad \text{(formula lui Leibniz)}$$