Tablica derivacija

$f(x)$	$\frac{df(x)}{dx}$	$f(x)$	$\frac{df(x)}{dx}$
C (konstanta)	0	$\sin x$	$\cos x$
x	1	$\cos x$	$-\sin x$
$x^n,\ n\in\mathbb{R}$	nx^{n-1}	$\tan x$	$\frac{1}{\cos^2 x}$
$\frac{1}{x}$	$-\frac{1}{x^2}$	$\cot x$	$-\frac{1}{\sin^2 x}$
$\frac{1}{x^n}$	$-\frac{n}{x^{n+1}}$	$\arcsin x,\ \lvert x\rvert<1$	$\frac{1}{\sqrt{1-x^2}}$
$\sqrt{x}$	$\frac{1}{2\sqrt{x}}$	$\arccos x,\ \lvert x\rvert<1$	$-\frac{1}{\sqrt{1-x^2}}$
$\sqrt[n]{x}$, $n\in\mathbb{R}, n\neq 0, x>0$	$\frac{1}{n\sqrt[n]{x^{n-1}}}$	$\arctan x$	$\frac{1}{1+x^2}$
e^x	e^x	$\operatorname{arc\,cot} x$	$-\frac{1}{1+x^2}$
$e^{bx},\ b\in\mathbb{R}$	be^{bx}		
$a^x,\ a>0$	$a^x\ln a$		
$a^{bx},\ b\in\mathbb{R}, a>0$	$ba^{bx}\ln a$		
$\ln x$	$\frac{1}{x}$		
$\log_a x$, $a>0, a\neq 1, x>0$	$\frac{1}{x}\log_a e=\frac{1}{x\ln a}$		

Pravila deriviranja

1. Derivacija konstante
   $C'=0$
2. Derivacija umnoška funkcije i konstantnog faktora
   $$\left(Cf(x)\right)'=Cf'(x)$$
3. Derivacija zbroja
   $$\left(f(x)\pm g(x)\right)'=f'(x)\pm g'(x)$$
4. Derivacija umnoška
   $$\left(f(x)g(x)\right)'=f'(x)g(x)+f(x)g'(x)$$
5. Derivacija razlomka
   $$\left(\frac{f(x)}{g(x)}\right)'=\frac{g(x)f'(x)-f(x)g'(x)}{\left(g(x)\right)^2}$$
6. Derivacija složene funkcije
   $$\left(f\left(g(x)\right)\right)'=f'\left(g(x)\right)g'(x)$$

Tablica integrala

$\int dx = x + C$	$\int \frac{dx}{a^2 + x^2} = \frac{1}{a} \arctan \frac{x}{a} + C$
$\int x^n dx = \frac{x^{n+1}}{n+1} + C,\ n \neq -1$	$\int \frac{dx}{a^2 - x^2} = \frac{1}{2a} \ln \left\lvert \frac{a+x}{a-x} \right\rvert + C$
$\int \frac{dx}{x} = \ln \lvert x \rvert + C$	$\int \frac{dx}{\sqrt{a^2 + x^2}} = \ln \left(x + \sqrt{a^2 + x^2} \right) + C$
$\int e^x dx = e^x + C$	$\int \frac{dx}{\sqrt{a^2 - x^2}} = \arcsin \frac{x}{a} + C$
$\int a^x dx = \frac{a^x}{\ln a} + C,\ a > 0, a \neq 1$	$\int \frac{dx}{\sqrt{x^2 - a^2}} = \ln \left(x + \sqrt{x^2 - a^2} \right) + C$
$\int \sin x dx = -\cos x + C$	$\int \frac{dx}{ax + b} = \frac{1}{a} \ln (ax + b) + C$
$\int \cos x dx = \sin x + C$	

Pravila integriranja

1. Integriranje i diferenciranje

$$\int f(x) dx = F(x) + C$$

$$F'(x) = f(x)$$

2. Konstantni faktor

$$\int af(x) dx = a \int f(x) dx$$

3. Integral sume i razlike

$$\int \left(f(x) \pm g(x) \right) dx = \int f(x) dx \pm \int g(x) dx$$

4. Parcijalno integriranje

$$\int f(x) g'(x) dx = f(x) g(x) - \int f(x)' g(x) dx$$

5. Pravilo supstitucije

$$x = u(t)$$

$$\int f(x) dx = \int f(u(t)) u'(t) dt$$