

Adicione formule

$\sin^2 x + \cos^2 x = 1$	$\operatorname{tg} x \cdot \operatorname{ctg} x = 1$	$\sin(x \pm y) = \sin x \cos y \pm \cos x \sin y$
$\operatorname{tg}(x \pm y) = \frac{\operatorname{tg} x \pm \operatorname{tg} y}{1 \mp \operatorname{tg} x \cdot \operatorname{tg} y}$	$\cos(x \pm y) = \cos x \cos y \mp \sin x \sin y$	$\operatorname{ctg}(x \pm y) = \frac{\operatorname{ctg} x \cdot \operatorname{ctg} y \mp 1}{\operatorname{ctg} y \pm \operatorname{ctg} x}$
$\sin x = 2 \sin \frac{x}{2} \cos \frac{x}{2}$	$\cos x = \cos^2 \frac{x}{2} - \sin^2 \frac{x}{2}$	$\operatorname{tg} x = \frac{2 \operatorname{tg} \frac{x}{2}}{1 - \operatorname{tg}^2 \frac{x}{2}}$
$\operatorname{ctg} x = \frac{\operatorname{ctg}^2 \frac{x}{2} - 1}{2 \operatorname{ctg} \frac{x}{2}}$	$\sin^2 x = \frac{1 - \cos(2x)}{2}$	$\cos^2 x = \frac{1 + \cos(2x)}{2}$
$\operatorname{tg}^2 x = \frac{1 - \cos(2x)}{1 + \cos(2x)}$	$\operatorname{ctg}^2 x = \frac{1 + \cos(2x)}{1 - \cos(2x)}$	$\sin x + \sin y = 2 \sin \frac{x+y}{2} \cos \frac{x-y}{2}$
$\sin x - \sin y = 2 \cos \frac{x+y}{2} \sin \frac{x-y}{2}$	$\cos x + \cos y = 2 \cos \frac{x+y}{2} \cos \frac{x-y}{2}$	$\cos x - \cos y = -2 \sin \frac{x+y}{2} \sin \frac{x-y}{2}$

Nizovi i limesi nizova

Aritmetički i geometrijski niz	
Za aritmetički niz $a_n = a_1 + (n-1)d, n \in \mathbb{N}$ važi $\sum_{k=1}^n a_k = \frac{n}{2}(a_1 + a_n) = na_1 + \frac{n(n-1)}{2}d.$	Za geometrijski niz $b_n = b_1 q^{n-1}, n \in \mathbb{N}$ važi $\sum_{k=1}^n b_k = \begin{cases} b_1 \frac{1-q^n}{1-q}, & q \neq 1 \\ nb_1, & q = 1 \end{cases}$ $\sum_{k=1}^{\infty} b_k = \begin{cases} b_1 \frac{1}{1-q}, & q < 1 \\ \text{divergira}, & q \geq 1 \end{cases}$

Tablica limesa nizova		
$\lim_{n \rightarrow \infty} q^n = \begin{cases} 0, & q < 1 \\ 1, & q = 1 \\ \infty, & q > 1 \\ \text{divergira}, & q \leq -1 \end{cases}$	$\lim_{n \rightarrow \infty} \frac{1}{n^\alpha} = \begin{cases} 0, & \alpha > 0 \\ 1, & \alpha = 1 \\ \infty, & \alpha < 0 \end{cases}$	$\lim_{n \rightarrow \infty} n^\alpha = \begin{cases} 0, & \alpha < 0 \\ 1, & \alpha = 1 \\ \infty, & \alpha > 0 \end{cases}$
$\lim_{n \rightarrow \infty} n^b q^n = 0; q < 1, b \in \mathbb{R}.$	$\lim_{n \rightarrow \infty} \sqrt[n]{a} = 1; a > 0.$	$\lim_{n \rightarrow \infty} \sqrt[n]{n} = 1.$
$\lim_{n \rightarrow \infty} \frac{n^\alpha}{n!} = 0; \alpha \in \mathbb{R}.$	$\lim_{n \rightarrow \infty} \frac{a^n}{n!} = 0; a \in \mathbb{R}.$	$\lim_{n \rightarrow \infty} \left(1 + \frac{1}{n}\right)^n = e.$
$\lim_{n \rightarrow \infty} a_n = \pm \infty \Rightarrow \lim_{n \rightarrow \infty} \left(1 + \frac{1}{a_n}\right)^{a_n} = e.$		

Tablica limesa funkcija

$\lim_{x \rightarrow \pm \infty} \frac{p_n x^n + p_{n-1} x^{n-1} + \dots + p_1 x + p_0}{q_m x^m + q_{m-1} x^{m-1} + \dots + q_1 x + q_0} = \begin{cases} 0, & n < m \\ \frac{p_n}{q_n}, & n = m \\ \pm \infty, & n > m \end{cases}$	$\lim_{x \rightarrow \pm \infty} \left(1 + \frac{1}{x}\right)^x = e.$	$\lim_{x \rightarrow 0} (1+x)^{\frac{1}{x}} = e.$
$\lim_{x \rightarrow \infty} x^\alpha = \begin{cases} 0, & \alpha < 0 \\ 1, & \alpha = 0 \\ \infty, & \alpha > 0 \end{cases}$	$\lim_{x \rightarrow \infty} \frac{1}{x^\alpha} = \begin{cases} 0, & \alpha > 0 \\ 1, & \alpha = 0 \\ \infty, & \alpha < 0 \end{cases}$	$\lim_{x \rightarrow 0} \frac{\sin x}{x} = 1.$
$\lim_{x \rightarrow 0} \frac{e^x - 1}{x} = 1.$	$\lim_{x \rightarrow 0} \frac{\ln(1+x)}{x} = 1.$	$\lim_{x \rightarrow 0} \frac{(1+x)^\alpha - 1}{x} = \alpha; \alpha \in \mathbb{R}.$

Tablica izvoda funkcija

$f(x) = \alpha \mapsto f'(x) = 0, \quad \alpha \in \mathbb{R}.$	$f(x) = x^\alpha \mapsto f'(x) = \alpha x^{\alpha-1}, \quad \alpha \in \mathbb{R}.$	$f(x) = e^x \mapsto f'(x) = e^x.$
$f(x) = a^x \mapsto f'(x) = \ln a \cdot a^x, \quad a > 0.$	$f(x) = \ln x \mapsto f'(x) = \frac{1}{x}.$	$f(x) = \log_a x \mapsto f'(x) = \frac{1}{\ln a \cdot x}, \quad a > 0.$
$f(x) = \sin x \mapsto f'(x) = \cos x.$	$f(x) = \cos x \mapsto f'(x) = -\sin x.$	$f(x) = \operatorname{tg} x \mapsto f'(x) = \frac{1}{\cos^2 x}.$
$f(x) = \operatorname{ctg} x \mapsto f'(x) = -\frac{1}{\sin^2 x}.$	$f(x) = \arcsin x \mapsto f'(x) = \frac{1}{\sqrt{1-x^2}}.$	$f(x) = \arccos x \mapsto f'(x) = -\frac{1}{\sqrt{1-x^2}}.$
$f(x) = \operatorname{arctg} x \mapsto f'(x) = \frac{1}{1+x^2}.$	$f(x) = \operatorname{arcctg} x \mapsto f'(x) = -\frac{1}{1+x^2}.$	

Tablica razvoja funkcija u Maklorenov red

$e^x = \sum_{n=0}^{\infty} \frac{x^n}{n!}, x \in \mathbb{R}.$	$\sin x = \sum_{n=0}^{\infty} (-1)^n \frac{x^{2n+1}}{(2n+1)!}, x \in \mathbb{R}.$	$\cos x = \sum_{n=0}^{\infty} (-1)^n \frac{x^{2n}}{(2n)!}, x \in \mathbb{R}.$
$\ln(1+x) = \sum_{n=1}^{\infty} (-1)^{n-1} \frac{x^n}{n}, x \in (-1, 1].$	$\ln(1-x) = -\sum_{n=1}^{\infty} \frac{x^n}{n}, x \in [-1, 1).$	$(1+x)^m = \sum_{n=0}^m \binom{m}{n} x^n, x \in \mathbb{R}, m \in \mathbb{N}.$
$(1+x)^m = \sum_{n=1}^{\infty} \binom{m}{n} x^n, x \in (-1, 1), m \notin \mathbb{N}.$	$\frac{1}{1-x} = \sum_{n=0}^{\infty} x^n, x \in (-1, 1).$	

gde je za $m \notin \mathbb{N}$ i $n \in \mathbb{N}$, $\binom{m}{0} = 1$, $\binom{m}{n} = \frac{m(m-1)(m-2)\dots(m-n+1)}{n!}$

Tablica integrala

$\int 0 \cdot dx = c.$	$\int dx = x + c.$
$\int x^\alpha dx = \frac{x^{\alpha+1}}{\alpha+1} + c, \quad \alpha \in \mathbb{R} \setminus \{-1\}.$	$\int \frac{1}{x} dx = \ln x + c.$
$\int e^x dx = e^x + c.$	$\int a^x dx = \frac{a^x}{\ln a} + c, \quad a > 0, a \neq 1.$
$\int \sin x dx = -\cos x + c.$	$\int \cos x dx = \sin x + c.$
$\int \operatorname{tg} x dx = -\ln \cos x + c.$	$\int \operatorname{ctg} x dx = \ln \sin x + c.$
$\int \frac{1}{\cos^2 x} dx = \operatorname{tg} x + c.$	$\int \frac{1}{\sin^2 x} dx = -\operatorname{ctg} x + c.$
$\int \operatorname{sh} x dx = \operatorname{ch} x + c.$	$\int \operatorname{ch} x dx = \operatorname{sh} x + c.$
$\int \operatorname{th} x dx = \ln \operatorname{ch} x + c.$	$\int \operatorname{cth} x dx = \ln \operatorname{sh} x + c.$
$\int \frac{1}{\operatorname{ch}^2 x} dx = \operatorname{th} x + c.$	$\int \frac{1}{\operatorname{sh}^2 x} dx = -\operatorname{cth} x + c.$
$\int \frac{1}{a^2+x^2} dx = \frac{1}{a} \operatorname{arctg} \frac{x}{a} + c, \quad a \neq 0.$	$\int \frac{1}{a^2-x^2} dx = \frac{1}{2a} \ln \left \frac{a+x}{a-x} \right + c = \frac{1}{a} \operatorname{arth} \frac{x}{a} + c, \quad a \neq 0.$
$\int \frac{1}{\sqrt{x^2+a^2}} dx = \ln x + \sqrt{x^2+a^2} + c = \operatorname{arsh} \frac{x}{a}, \quad a \neq 0.$	$\int \frac{1}{\sqrt{x^2-a^2}} dx = \ln x + \sqrt{x^2-a^2} + c = \operatorname{arch} \frac{x}{a}, \quad a \neq 0.$
$\int \frac{1}{\sqrt{a^2-x^2}} dx = \arcsin \frac{x}{a} + c, \quad a \neq 0.$	