POCHODNE

Funkcja	**Pochodna**	**Uwagi**
c	**0**	**c<=>R**
x^a	ax^{a-1}	**a<=>R**
a^x	$a^x\ln a$	**a>0, x<=>R**
e^x	**ex**	**x<=>R**
$\log_a x$	$^1/_{x\ln a}$	**0<a≠1, x>0**
lnx	$^1/_x$	**x>0**
sinx	**cosx**	**x<=>R**
cosx	**-sinx**	**x<=>R**
tgx	$^1/_{\cos^2 x}$	**x≠90**
ctgx	$-(^1/_{\sin^2 x})$	**x≠180**
arcsinx	$^1/\sqrt{_{1-x^2}}$	**x<=>(-1;1)**
arccosx	$-(^1/\sqrt{_{1-x^2}})$	**x<=>(-1;1)**
arctg	$^1/_{1+x^2}$	**x<=>R**
arcctg	$-(^1/_{1+x^2})$	**x<=>R**

<=> - należy.

GRANICE POD. WYRAŻEŃ (x-_>0)

$\lim (x+1)^{\frac{1}{x}}$ **=e**	**x-->(+/-)∞**
$\lim \frac{sinx}{x}$ **= 1**	$\lim (1+\frac{1}{x})^x$ **= e**
$\lim \frac{tgx}{x}$ **= 1**	$\lim (1+\frac{a}{x})^x = e^a$
$\lim \frac{arcsinx}{x}$ **= 1**	
$\lim \frac{arctgx}{x}$ **= 1**	
$\lim \frac{e^x-1}{x}$ **= 1**	
$\lim \frac{\ln(x+1)}{x}$ **= 1**	
$\lim \frac{a^x-1}{x}$ **= lna**	
$\lim \frac{\log_a(1+x)}{x} = \frac{1}{lna}$	
$\mathrm{Lim} \frac{(x+1)^a-1}{x}$ **= a**	

$\int 0dx=C$	$\int e^{ax+b}\ dx = \frac{1}{a}e^{ax+b}$ +C, $a\neq0$
$\int dx=x+C$	$\int e^{x} = e^{x}$ +C
$\int xdx= \frac{1}{2}x^{2}$ +C	$\int \frac{dx}{1+x^{2}}$ dx = arctanx +C
$\int x^{n}$ dx= $\frac{1}{n+1}x^{n+1}$ +C, $n\neq0$	$\int \frac{dx}{1+(ax+b)^{2}}$ dx = $\frac{1}{a}$ arctan (ax+b)+C, $a\neq0$
$\int \frac{1}{x}$ dx=ln$\lvert x\rvert$+C	$\int \frac{dx}{a^{2}+x^{2}}$ dx = $\frac{1}{a}$ arctan $\frac{x}{a}$ +C, $a\neq0$
$\int \frac{1}{x^{2}}$ dx = - $\frac{1}{x}$ +C	$\int \frac{dx}{a^{2}-x^{2}}$ dx = $\frac{1}{2a}$ ln $\left\lvert\frac{a+x}{a-x}\right\rvert$ +C, a>0 i $\lvert x\rvert\neq0$
$\int \frac{f'(x)}{f(x)}$ dx = ln$\lvert f(x)\rvert$+C	$\int \frac{dx}{ax+b}$ dx = $\frac{1}{a}$ ln$\lvert ax+b\rvert$+C, $a\neq0$
$\int \sqrt{x}$ dx = $\frac{2}{3}$ x $\sqrt{x}$ +C	$\int \frac{dx}{(ax+b)^{2}}$ dx = - $\frac{1}{a(ax+b)}$ +C
$\int \frac{dx}{\sqrt{x}}$ dx = 2 $\sqrt{x}$ +C	$\int \frac{1}{\sin^{2}x}$ dx = -cotx +C
$\int$ (ax+b)dx = $\frac{a}{2}x^{2}$ +bx+C	$\int \frac{1}{\cos^{2}x}$ dx = tgx +C
$\int (ax+b)^{n}$ dx= $\frac{1}{a(n+1)}(ax+b)^{n+1}$ +C, $a\neq0$, $n\neq-1$	$\int$ sinxdx = -cosx +C
$\int \sqrt{ax+b}$ dx= $\frac{2}{3a}(ax+b)$ $\sqrt{ax+b}$ +C, $a\neq0$	$\int$ cosxdx = sinx +C
$\int \frac{1}{\sqrt{(ax+b)}}$ dx = - $\frac{2\sqrt{ax+b}}{a}$ +C, $a\neq0$	$\int$ sin(ax+b)dx = - $\frac{1}{a}$ cos(ax+b) +C, $a\neq0$
$\int \frac{dx}{\sqrt{1-(ax+b)^{2}}}$ dx = $\frac{1}{a}\arcsin(ax+b)+C$, $a\neq0$	$\int$ cos(ax+b)dx = $\frac{1}{a}$ sin(ax+b) +C, $a\neq0$
$\int \frac{dx}{\sqrt{1+(ax+b)^{2}}}$ dx = $\frac{1}{a}\ln((ax+b)+\sqrt{(ax+b)^{2}+1})$, $a\neq0$	$\int \frac{1}{\sin^{2}(ax+b)}$ dx = $\frac{-1}{a}$ cot(ax+b) +C , $a\neq0$
$\int \frac{1}{\sqrt{1-x^{2}}}$ dx =arcsinx+C, $a\neq0$	$\int \frac{1}{\cos^{2}(ax+b)}$ dx = $\frac{1}{a}$ tg(ax+b) +C , $a\neq0$
$\int \frac{1}{\sqrt{1+x^{2}}}$ dx =ln(x+ $\sqrt{x^{2}+1}$) +C	$\int$ arctgxdx= xarctgx - ln $\sqrt{x^{2}+1}$ +C
$\int \frac{1}{\sqrt{x^{2}-1}}$ dx =ln$\lvert$x+ $\sqrt{x^{2}-1}$ $\rvert$+C, $\lvert x\rvert>1$	$\int m^{ax+b}$ dx= $\frac{m^{ax+b}}{alnm}$ +C, $m\neq1$ i $a\neq0$
$\int \frac{1}{\sqrt{x^{2}-a^{2}}}$ dx =ln$\lvert$x+ $\sqrt{x^{2}-a^{2}}$ $\rvert$+C, $a\neq0$	$\int m^{x}$ dx= $\frac{m^{x}}{lnm}$ +C, $m\neq1$ i m>0
$\int \frac{1}{\sqrt{a^{2}-x^{2}}}$ dx =arcsin $\frac{x}{a}$ +C, a>00	$\int$lnxdx= xlnx -c +C