$f(x)$	$f'(x)$	
x^n	nx^{n-1}	
$\sqrt{x}$	$\frac{1}{2\sqrt{x}}$	
$\frac{1}{x}$	$-\frac{1}{x^2}$	
e^x	e^x	
a^x	$a^x \ln a$	
$\ln x$	$\frac{1}{x}$	
$\log_a x$	$\frac{1}{x \ln a}$	
$\sin x$	$\cos x$	
$\cos x$	$-\sin x$	
$\operatorname{tg} x$	$\frac{1}{\cos^2 x}$	
$\operatorname{ctg} x$	$-\frac{1}{\sin^2 x}$	
$\operatorname{sh} x$	$\operatorname{ch} x$	
$\operatorname{ch} x$	$\operatorname{sh} x$	
$\operatorname{th} x$	$\frac{1}{\operatorname{ch}^2 x}$	
$\operatorname{cth} x$	$-\frac{1}{\operatorname{sh}^2 x}$	
$\arcsin x$	$\frac{1}{\sqrt{1-x^2}}$	
$\arccos x$	$-\frac{1}{\sqrt{1-x^2}}$	
$\operatorname{arctg} x$	$\frac{1}{1+x^2}$	
$\operatorname{arcctg} x$	$-\frac{1}{1+x^2}$	
$\operatorname{arsh} x$	$\frac{1}{\sqrt{1+x^2}}$	
$\operatorname{arch} x$	$\frac{1}{\sqrt{x^2-1}}$	
$\operatorname{arth} x$	$\frac{1}{1-x^2}$	$\lvert x\rvert < 1$
$\operatorname{arcth} x$	$\frac{1}{1-x^2}$	$\lvert x\rvert > 1$

Egy $f\colon [-\pi, \pi] \to \mathbb{R}$ integrálható függvény Fourier-sora:

$$a_0 + \sum_{k=1}^{\infty} (a_k \cos(kx) + b_k \sin(kx))$$

$$a_0 = \frac{1}{2\pi} \int_{-\pi}^{\pi} f(x)\,\mathrm{d}x$$

$$a_k = \frac{1}{\pi} \int_{-\pi}^{\pi} f(x) \cos(kx)\,\mathrm{d}x$$

$$b_k = \frac{1}{\pi} \int_{-\pi}^{\pi} f(x) \sin(kx)\,\mathrm{d}x$$

Trigonometrikus azonosságok

$$\sin^2 x + \cos^2 x = 1$$

$$\sin(x \pm y) = \sin x \cos y \pm \cos x \sin y$$

$$\cos(x \pm y) = \cos x \cos y \mp \sin x \sin y$$

Hiperbolikus függvények

$$\operatorname{sh} x = \frac{e^x - e^{-x}}{2}$$

$$\operatorname{ch} x = \frac{e^x + e^{-x}}{2}$$

$$\operatorname{th} x = \frac{\operatorname{sh} x}{\operatorname{ch} x}$$

$$\operatorname{ch}^2 x - \operatorname{sh}^2 x = 1$$

Deriválási szabályok

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

$$(cf)'(x) = cf'(x), \quad c \in \mathbb{R}$$

$$(fg)'(x) = f'(x)g(x) + f(x)g'(x)$$

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

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

Integrálási szabályok

$$\int f(x) \pm g(x)\,\mathrm{d}x = \int f(x)\,\mathrm{d}x \pm \int g(x)\,\mathrm{d}x$$

$$\int cf(x)\,\mathrm{d}x = c \int f(x)\,\mathrm{d}x, \quad c \in \mathbb{R}$$

$$\int f(x)g'(x)\,\mathrm{d}x = f(x)g(x) - \int f'(x)g(x)\,\mathrm{d}x$$

$$\int f(ax+b)\,\mathrm{d}x = \frac{1}{a}F(ax+b) + C, \quad a, b \in \mathbb{R}, F'(x) = f(x)$$

Maclaurin-sorok

$$e^x = \sum_{n=0}^{\infty} \frac{x^n}{n!} = 1 + x + \frac{x^2}{2} + \dots \ (x \in \mathbb{R})$$

$$\sin x = \sum_{n=0}^{\infty} (-1)^n \frac{x^{2n+1}}{(2n+1)!} = x - \frac{x^3}{6} + \frac{x^5}{120} - \dots \ (x \in \mathbb{R})$$

$$\cos x = \sum_{n=0}^{\infty} (-1)^n \frac{x^{2n}}{(2n)!} = 1 - \frac{x^2}{2} + \frac{x^4}{24} - \dots \ (x \in \mathbb{R})$$

$$\frac{1}{1-x} = \sum_{n=0}^{\infty} x^n = 1 + x + x^2 + \dots \ (|x| < 1)$$

$$(1+x)^\alpha = \sum_{n=0}^{\infty} \binom{\alpha}{n} x^n = 1 + \alpha x + \frac{\alpha(\alpha-1)}{2} x^2 + \dots \ (|x| < 1),$$

$$\text{ahol } \binom{\alpha}{n} = \frac{\alpha(\alpha-1)\dots(\alpha-n+1)}{n!}$$