Trigonometriska formler

$$\sin(\frac{\pi}{2} \pm x) = \cos x \qquad \sin^2 \frac{x}{2} = \frac{1-\cos x}{2}$$

$$\cos(\frac{\pi}{2} \pm x) = \mp \sin x \qquad \cos^2 \frac{x}{2} = \frac{1+\cos x}{2}$$

$$\sin(x \pm y) = \sin x \cos y \pm \cos x \sin y \qquad \sin x \pm \sin y = 2\sin\frac{x \pm y}{2}\cos\frac{x \mp y}{2}$$

$$\cos(x \pm y) = \cos x \cos y \mp \sin x \sin y \qquad \cos x - \cos y = -2\sin\frac{x+y}{2}\sin\frac{x-y}{2}$$

$$\tan(x \pm y) = \frac{\tan x \pm \tan y}{1 \mp \tan x \tan y} \qquad \cos x + \cos y = 2\cos\frac{x+y}{2}\cos\frac{x-y}{2}$$

$$\cot(x \pm y) = \frac{\cot x \cot y \mp 1}{\pm \cot x + \cot y} \qquad 2\sin x \sin y = \cos(x-y) - \cos(x+y)$$

$$\sin 2x = 2\sin x \cos x \qquad 2\cos x \cos y = \cos(x-y) + \cos(x+y)$$

$$\cos 2x = \cos^2 x - \sin^2 x = 2\cos^2 x - 1 = 1 - 2\sin^2 x \qquad 2\sin x \cos y = \sin(x-y) + \sin(x+y)$$

Eulers formler

$$\cos\theta = \frac{e^{i\theta} + e^{-i\theta}}{2} \qquad \sin\theta = \frac{e^{i\theta} - e^{-i\theta}}{2i}$$

Standardgränsvärden

$$\lim_{x\to 0^+} x^\alpha \log_a x = 0 \ (a>1,\ \alpha>0) \qquad \lim_{x\to\infty} \frac{a^x}{x^\alpha} = \infty \ (a>1)$$

$$\lim_{x\to 0} \frac{\sin x}{x} = 1 \qquad \lim_{x\to\infty} \frac{x^\alpha}{\log_a x} = \infty \ (a>1,\ \alpha>0)$$

$$\lim_{x\to 0} \frac{\ln(1+x)}{x} = 1 \qquad \lim_{n\to\infty} \frac{a^n}{n!} = 0$$

$$\lim_{x\to 0} \frac{e^x - 1}{x} = 1 \qquad \lim_{x\to\pm\infty} \left(1 + \frac{1}{x}\right)^x = e$$

Derivator

$f(x)$	$f'(x)$
$\sin x$	$\cos x$
$\cos x$	$-\sin x$
$\tan x$	$1 + \tan^2 x = \frac{1}{\cos^2 x}$
$\cot x$	$-1 - \cot^2 x = -\frac{1}{\sin^2 x}$
$\arcsin x$	$\frac{1}{\sqrt{1-x^2}}$
$\arccos x$	$-\frac{1}{\sqrt{1-x^2}}$
$\arctan x$	$\frac{1}{1+x^2}$
$\operatorname{arccot} x$	$-\frac{1}{1+x^2}$
$\ln\left\lvert x + \sqrt{x^2+\alpha}\right\rvert$	$\frac{1}{\sqrt{x^2+\alpha}}$
$\frac{1}{2}x\sqrt{x^2+\alpha} + \frac{\alpha}{2}\ln\left\lvert x + \sqrt{x^2+\alpha}\right\rvert$	$\sqrt{x^2+\alpha}$