

## Dodatak: Neodredjeni integral

$\int 0 dx = C$	$\int \cos x dx = \sin x + C$
$\int dx = x + C$	$\int \sin x dx = -\cos x + C$
$\int x^n dx = \frac{x^{n+1}}{n+1} + C, n \neq -1$	$\int \frac{dx}{\cos^2 x} = \tan x + C$
$\int \frac{dx}{x} = \ln x  + C$	$\int \frac{dx}{\sin^2 x} = -\operatorname{ctgx} + C$
$\int e^x dx = e^x + C$	$\int \frac{dx}{\sqrt{1-x^2}} = \arcsin x + C$
$\int a^x dx = \frac{a^x}{\ln a} + C$	$\int \frac{dx}{1+x^2} = \arctan x + C$

$\int \frac{dx}{x^2+a^2} = \frac{1}{a} \arctan \frac{x}{a} + C$	$\int \frac{dx}{x^2-a^2} = \frac{1}{2a} \ln \left  \frac{x-a}{x+a} \right  + C$
$\int \frac{dx}{\sqrt{x^2 \pm a^2}} = \ln x + \sqrt{x^2 \pm a^2}  + C$	$\int \frac{dx}{\sqrt{a^2-x^2}} = \arcsin \frac{x}{a} + C$
$\int \frac{xdx}{x^2 \pm a^2} = \frac{1}{2} \ln x^2 \pm a^2  + C$	$\int \sqrt{a^2-x^2} dx = \frac{1}{2} (a^2 \arcsin \frac{x}{a} + x\sqrt{a^2-x^2}) + C$
$\int \frac{xdx}{\sqrt{x^2 \pm a^2}} = \sqrt{x^2 \pm a^2} + C$	$\int \sqrt{x^2 \pm a^2} dx = \frac{1}{2} (x\sqrt{x^2 \pm a^2} \pm a^2 \ln x + \sqrt{x^2 \pm a^2} ) + C$

$\int \sin mx \cos nxdx = \frac{-1}{2(m+n)} \cos(m+n)x - \frac{1}{2(m-n)} \cos(m-n)x + C, m \neq n$
$\int \sin mx \cos mxdx = -\frac{1}{4m} \cos(2mx) + C, m = n$
$\int \sin mx \sin nxdx = \frac{1}{2} \left( \frac{\sin(m-n)x}{m-n} - \frac{\sin(m+n)x}{m+n} \right) + C, m \neq n$
$\int \sin^2 mxdx = \frac{x}{2} - \frac{\sin(2mx)}{4m} + C, m = n$
$\int \cos mx \cos nxdx = \frac{1}{2} \left( \frac{\sin(m+n)x}{m+n} + \frac{\sin(m-n)x}{m-n} \right) + C, m \neq n$
$\int \cos^2 mxdx = \frac{x}{2} + \frac{\sin(2mx)}{4m} + C, m = n$
$\int \sin^m x \cos^n x dx = \frac{\sin^{m+1} x \cos^{n-1} x}{m+1} + \frac{n-1}{m+1} \int \sin^m x \cos^{n-2} x dx, m, n \in \mathbb{N}$
$\int \sin^m x \cos^n x dx = -\frac{\sin^{m+1} x \cos^{n+1} x}{n+1} + \frac{m+n+2}{n+1} \int \sin^m x \cos^{n+2} x dx, m > 0, n < 0$
$\int \sin^m x \cos^n x dx = \frac{\sin^{m+1} x \cos^{n+1} x}{m+1} + \frac{m+n+2}{m+1} \int \sin^{m+2} x \cos^n x dx, m < 0, n > 0$
$\int \sin^n x dx = -\frac{1}{n} \cos x \sin^{n-1} x + \frac{n-1}{n} \int \sin^{n-2} x dx + C, n \geq 2$
$\int \cos^n x dx = \frac{1}{n} \sin x \cos^{n-1} x + \frac{n-1}{n} \int \cos^{n-2} x dx + C, n \geq 2$
$\int \frac{dx}{\sin^n x} = -\frac{1}{n-1} \frac{\cos x}{\sin^{n-1} x} + \frac{n-2}{n-1} \int \frac{dx}{\sin^{n-2} x}, n \geq 2$
$\int \frac{dx}{\cos^n x} = \frac{1}{n-1} \frac{\sin x}{\cos^{n-1} x} + \frac{n-2}{n-1} \int \frac{dx}{\cos^{n-2} x}, n \geq 2$

$\int \sin^{2n+1} x dx = \int (1 - \cos^2 x)^n \sin x dx, \text{ smjena } \cos x = t.$
$\int \cos^{2n+1} x dx = \int (1 - \sin^2 x)^n \cos x dx, \text{ smjena } \sin x = t.$
$\int \sin^{2n} x dx = \int (\sin^2 x)^n dx, \text{ zamjena } \sin^2 x = \frac{1-\cos 2x}{2}.$
$\int \cos^{2n} x dx = \int (\cos^2 x)^n dx, \text{ zamjena } \cos^2 x = \frac{1+\cos 2x}{2}.$