

Tavola degli integrali di funzioni elementari

$f(x)$	$\int f(x) dx$
x^α	$\frac{x^{\alpha+1}}{\alpha+1} + c, \quad \alpha \neq -1$
$\frac{1}{x}$	$\log x + c$
$\sin x$	$-\cos x + c$
$\cos x$	$\sin x + c$
e^x	$e^x + c$
$\sinh x$	$\cosh x + c$
$\cosh x$	$\sinh x + c$
$\frac{1}{1+x^2}$	$\arctan x + c$
$\frac{1}{\sqrt{1-x^2}}$	$\arcsin x + c$
$\frac{1}{\sqrt{1+x^2}}$	$\log(x + \sqrt{x^2+1}) + c = \text{sett} \sinh x + c$
$\frac{1}{\sqrt{x^2-1}}$	$\log(x + \sqrt{x^2-1}) + c = \text{sett} \cosh x + c$

Regole di integrazione

$$\int (\alpha f(x) + \beta g(x)) dx = \alpha \int f(x) dx + \beta \int g(x) dx$$

$$\int f(x)g'(x) dx = f(x)g(x) - \int f'(x)g(x) dx$$

$$\int \frac{\varphi'(x)}{\varphi(x)} dx = \log |\varphi(x)| + c$$

$$\int f(\varphi(x))\varphi'(x) dx = \int f(y) dy \quad \text{con } y = \varphi(x)$$