IMMEDIATI

$$\int dx = x + c$$

$$\int K\,dx = Kx + c$$

$$\int x\,dx = \frac{1}{2}x^2 + c$$

$$\int x^\alpha dx = \frac{1}{\alpha+1}x^{\alpha+1} + c$$

$$\int \frac{1}{x}dx = \ln|x| + c$$

$$\int \frac{1}{\sqrt{x}}dx = 2\sqrt{x} + c$$

$$\int e^x dx = e^x + c$$

$$\int a^x dx = \frac{a^x}{\ln a} + c$$

$$\int \operatorname{sen} x\,dx = -\cos x + c$$

$$\int \cos x\,dx = \operatorname{sen} x + c$$

$$\int \frac{1}{\cos^2 x}dx = \tan x + c$$

$$\int \frac{1}{\operatorname{sen}^2 x}dx = -\operatorname{cotg} x + c$$

$$\int \frac{1}{x^2+1}dx = \operatorname{arctg} x + c$$

$$\int \frac{1}{\sqrt{1-x^2}}dx = \operatorname{arcsen} x + c$$

$$\int f'(x)\cdot[f(x)]^\alpha dx = \frac{1}{\alpha+1}[f(x)]^{\alpha+1}$$

$$\int \frac{f'(x)}{f(x)}dx = \ln|f(x)| + c$$

$$\int \frac{f'(x)}{\sqrt{f(x)}}dx = 2\sqrt{f(x)} + c$$

$$\int f'(x)\,e^{f(x)}dx = e^{f(x)} + c$$

$$\int f'(x)\,a^{f(x)}dx = \frac{a^{f(x)}}{\ln a} + c$$

$$\int f'(x)\operatorname{sen}[f(x)]dx = -\cos f(x) + c$$

$$\int f'(x)\cos[f(x)]dx = \operatorname{sen} f(x) + c$$

$$\int \frac{f'(x)}{\cos^2 f(x)}dx = \tan f(x) + c$$

$$\int \frac{f'(x)}{\operatorname{sen}^2 f(x)}dx = -\operatorname{cotg} f(x) + c$$

$$\int \frac{f'(x)}{[f(x)]^2+1}dx = \operatorname{arctg}[f(x)] + c$$

$$\int \frac{f'(x)}{\sqrt{1-[f(x)]^2}}dx = \operatorname{arcsen}[f(x)] + c$$

PER SOSTITUZIONE

$$\int f(x)\,dx = \int f(g(t))\,g'(t)\,dt$$

PER PARTI

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

$$\int f(x)\cdot d\,g(x) = f(x)\cdot g(x) - \int g(x)\,d\,f(x)$$

FUNZIONI FRATTE

$$\int \frac{N(x)}{D(x)}dx = \int \frac{D(x)\cdot Q(x) + R(x)}{D(x)}dx =$$

$$= \int Q(x)\,dx + \int \frac{R(x)}{D(x)}$$

N → numeratore
D → denominatore
Q → quoziente
R → resto

$\frac{1}{\alpha+1}x^{\alpha+1}$

$\frac{1}{x^{1/2}}$ $x^{-\frac{1}{2}}$ $\frac{1}{-\frac{1}{2}+1}$ $2\sqrt{x}$

PROPRIETA'

$$\int_a^b f(x)\,dx = -\int_b^a f(x)\,dx$$

$$\int_a^b f(x)\,dx = \int_a^c f(x)\,dx + \int_c^b f(x)\,dx$$

$$\int_a^b \left[f(x)+g(x)\right]dx = \int_a^b f(x)\,dx + \int_a^b g(x)\,dx$$

CALCOLO

$$\int a\,dx = ax + c$$

$$\int x^\alpha dx = \alpha\, x^{\alpha-1} + c$$

$$\int x\,dx = \frac{x^2}{2} + c$$

$$\int \operatorname{sen} x\,dx = \cos x + c$$

$$\frac{1}{3}\int (1-\operatorname{sen}^2 x)\cdot \cos x$$

$$\frac{1}{3}\operatorname{sen} x + \frac{1}{3}\int (\operatorname{sen}^2 x)\cdot(\cos x -)$$

$$\frac{1}{3}\operatorname{sen} x + \frac{2}{3}\frac{1}{3}\operatorname{sen} x^3 \Big]$$

$$\frac{1}{3}\left(\operatorname{sen} x + \frac{2}{3}\operatorname{sen} x^3\right)$$

$$\int (1-\operatorname{sen}^2 x)\cdot \cos x$$

$$\frac{1}{3}\int \cos x + \frac{1}{32}\int (\operatorname{sen}^2 x)\cdot(\cos x -)$$

$$\frac{1}{3}\operatorname{sen} x + \frac{1}{3}\operatorname{sen} x^3 \Big]$$