INTEGRALI FONDAMENTALI

1.	$\int dx = x+c$	$\forall c \in \mathbb{R}$
2.	$\int a dx = ax+c$	$\forall a \in \mathbb{R}$, $\forall c \in \mathbb{R}$
3.	$\int a \cdot f(x)dx = a \cdot \int f(x)dx$	$\forall a \in \mathbb{R}$
4.	$\int x^{\alpha} dx = \frac{x^{\alpha+1}}{\alpha+1} + c$	$\forall \alpha \neq -1$, $\forall c \in \mathbb{R}$
5.	$\int \sqrt[n]{x^k} dx = \int x^{\frac{k}{n}} dx =$	*Si risolve come 4.*
6.	$\int \frac{a}{\sqrt[n]{x^k}} dx = a \cdot \int x^{-\frac{k}{n}} dx =$	*Si risolve come 4.*
7.	$\int \frac{1}{x} dx = \log\|x\|+c$	$\forall c \in \mathbb{R}$
8.	$\int \frac{1}{x \log a} dx = \log_a\|x\|+c$	$\forall c \in \mathbb{R}$
9.	$\int e^x dx = e^x+c$	$\forall c \in \mathbb{R}$
10.	$\int a^x dx = \frac{a^x}{\log a}+c$	$\forall c \in \mathbb{R}$
11.	$\int sen\,x dx = -\cos x+c$	$\forall c \in \mathbb{R}$
12.	$\int \cos x dx = sen\,x+c$	$\forall c \in \mathbb{R}$
13.	$\int \frac{1}{\cos^2 x} dx = \int (1+tg^2 x)dx = tg\,x+c$	$\forall c \in \mathbb{R}$
14.	$\int \frac{-1}{sen^2 x} dx = \int -(1+cotg^2 x)dx = cotg\,x+c$	$\forall c \in \mathbb{R}$
15.	$\int \frac{1}{\sqrt{1-x^2}} dx = arcsen\,x+c = -arc\cos x+c$	$\forall c \in \mathbb{R}$
16.	$\int \frac{1}{1+x^2} dx = arctg\,x+c = -arccotg\,x+c$	$\forall c \in \mathbb{R}$
17.	$\int senh\,x dx = \cosh x+c$	$\forall c \in \mathbb{R}$
18.	$\int \cosh x dx = senh\,x+c$	$\forall c \in \mathbb{R}$
19.	$\int \frac{1}{\cosh^2 x} dx = \int (1-tgh^2 x)dx = tgh\,x+c$	$\forall c \in \mathbb{R}$
20.	$\int \frac{-1}{senh^2 x} dx = \int (1-cotgh^2 x)dx = cotgh\,x+c$	$\forall c \in \mathbb{R}$
21.	$\int \frac{1}{\sqrt{x^2+1}} dx = settsenh\,x+c$	$\forall c \in \mathbb{R}$
22.	$\int \frac{1}{\sqrt{x^2-1}} dx = \log\left\|x+\sqrt{x^2-1}\right\|+c$	$\forall c \in \mathbb{R}$
23.	$\int \frac{1}{1-x^2} dx = \frac{1}{2}\log\left\|\frac{1+x}{1-x}\right\|+c$	$\forall c \in \mathbb{R}$

Operazione Somma algebrica: $\int [f(x) \pm g(x)]dx = \int f(x)dx \pm \int g(x)dx$	Integrazione per parti: $\int g \cdot df = f \cdot g - \int f \cdot dg$