TÁBOA DE INTEGRAIS

Función simple	Función composta
$\int x^n dx = \frac{1}{n+1} x^{n+1} + c \left(n \neq -1\right)$	$\int u^n u' dx = \frac{1}{n+1} u^{n+1} + c \left(n \neq -1\right)$
$\int \frac{1}{x} dx = \ln\lvert x\rvert + C$	$\int \frac{u'}{u} dx = \ln\lvert u\rvert + C$
$\int \frac{1}{\sqrt{x}} dx = 2\sqrt{x} + C$	$\int \frac{u'}{\sqrt{u}} dx = 2\sqrt{u} + C$
$\int e^x dx = e^x + C$	$\int e^u u' dx = e^u + C$
$\int a^x dx = \frac{a^x}{\ln a} + C$	$\int a^u u' dx = \frac{a^u}{\ln a} + C$
$\int sen\, x\, dx = -\cos x + C$	$\int u' sen\, u\, dx = -\cos u + C$
$\int \cos x\, dx = sen\, x + C$	$\int u' \cos u\, dx = sen\, u + C$
$\int \tan x\, dx = -\ln\lvert\cos x\rvert + c$	$\int u' \tan u\, dx = -\ln\lvert\cos u\rvert + c$
$\int cotan\, x\, dx = \ln\lvert sen\, x\rvert + C$	$\int u' cotan\, u\, dx = \ln\lvert sen\, u\rvert + C$
$\int sec^2 x\, dx = \tan x + C$	$\int u' sec^2 u\, dx = \tan u + C$
$\int cosec^2 x\, dx = -cotan\, x + C$	$\int u' cosec^2 u\, dx = -cotan\, u + C$
$\int \frac{1}{1+x^2} dx = \arctan x + C$	$\int \frac{u'}{1+u^2} dx = \arctan u + C$
$\int \frac{1}{\sqrt{1-x^2}} dx = arcsen\, x + C$	$\int \frac{u'}{\sqrt{1-u^2}} dx = arcsen\, u + C$

Propiedades da integral indefinida

1. $\int k\,f(x)\,dx = k\int f(x)\,dx$ para todo $k \in \mathbb{R}$

2. $\int (f(x) \pm g(x))\,dx = \int f(x)\,dx \pm \int g(x)\,dx$

Propiedades da integral definida

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

4. $\int_a^a f(x)\,dx = 0$

5. $\int_a^b k\,dx = k(b-a)$ para todo $k \in \mathbb{R}$

6. $\int_a^b (f(x) \pm g(x))\,dx = \int_a^b f(x)\,dx \pm \int_a^b g(x)\,dx$

7. $\int_a^b kf(x)\,dx = k\int_a^b f(x)\,dx$ para todo $k \in \mathbb{R}$

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

9. Se $f(x) \geq 0$ en $[a,b]$ entón $\int_a^b f(x)\,dx \geq 0$

10. Se $f(x) \leq g(x)$ en $[a,b]$ entón $\int_a^b f(x)\,dx \leq \int_a^b g(x)\,dx$

11. Se $m \leq f(x) \leq M$ en $[a,b]$ entón $m(b-a) \leq \int_a^b f(x)\,dx \leq M(b-a)$

12. $\left|\int_a^b f(x)\,dx\right| \leq \int_a^b |f(x)|\,dx$