Tabla de Primitivas

a) $\displaystyle\int f'(x)\,dx = f(x) + C$

b) $\displaystyle\int (\lambda f(x) + \mu g(x))\,dx = \lambda \int f(x)dx + \mu \int g(x)dx$

c) $\displaystyle\int x^m\,dx = \frac{x^{m+1}}{m+1} + C\,, \quad m \in \mathbb{R} \setminus \{-1\}$

d) $\displaystyle\int \frac{dx}{x} = \ln|x| + C$

e) $\displaystyle\int a^x\,dx = \frac{a^x}{\ln a} + C\,, \quad a \in \mathbb{R}^+ \setminus \{1\}$

f) $\displaystyle\int e^x\,dx = e^x + C$

g) $\displaystyle\int \operatorname{sen} x\,dx = -\cos x + C$

h) $\displaystyle\int \cos x\,dx = \operatorname{sen} x + C$

i) $\displaystyle\int \operatorname{tg} x\,dx = -\ln|\cos x| + C$

j) $\displaystyle\int \operatorname{cotg} x\,dx = \ln|\operatorname{sen} x| + C$

k) $\displaystyle\int \frac{dx}{\cos x} = \ln|\sec x + \operatorname{tg} x| + C$

l) $\displaystyle\int \frac{dx}{\operatorname{sen} x} = \ln|\operatorname{cosec} x - \operatorname{cotg} x| + C$

m) $\displaystyle\int \frac{dx}{\cos^2 x} = \operatorname{tg} x + C$

n) $\displaystyle\int \frac{dx}{\operatorname{sen}^2 x} = -\operatorname{cotg} x + C$

ñ) $\displaystyle\int \frac{dx}{\sqrt{a^2 - x^2}} = \operatorname{arc\,sen} \frac{x}{a} + C$

o) $\displaystyle\int \frac{dx}{a^2 + x^2} = \frac{1}{a} \operatorname{arc\,tg} \frac{x}{a} + C$

Recordando la derivada de la función compuesta *(Regla de la cadena)*:

$$(f \circ g)'(x) = f'[g(x)] \cdot g'(x)$$

se pueden resolver muchas primitivas:

Tipo potencial

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

Tipo exponencial

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

Tipo logarítmico

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

Tipo trigonométrico

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

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

$$\int \frac{f'(x)}{\cos^2[f(x)]} dx = \operatorname{tg}[f(x)] + C$$

$$\int \frac{f'(x)}{\sqrt{1-[f(x)]^2}} dx = \operatorname{arc\,sen}[f(x)] + C$$

$$\int \frac{f'(x)}{1+[f(x)]^2} dx = \operatorname{arc\,tg}[f(x)] + C$$