Reglas de cálculo de primitivas

Integrales inmediatas	Integrales funciones compuestas
Tipo potencial $\int x^\alpha \, dx = \frac{x^{\alpha+1}}{\alpha+1} + C, \quad \alpha \neq -1$	$\int g(x)^\alpha \, g'(x) \, dx = \frac{g(x)^{\alpha+1}}{\alpha+1} + C, \quad \alpha \neq -1$
Tipo logarítmico $\int \frac{1}{x} \, dx = \ln\|x\| + C$	$\int \frac{g'(x)}{g(x)} \, dx = \ln\|g(x)\| + C$
Tipo exponencial $\int e^x \, dx = e^x + C$ $\int a^x \, dx = \frac{a^x}{\ln a} + C$	$\int e^{g(x)} \, g'(x) \, dx = e^{g(x)} + C$ $\int a^{g(x)} \, g'(x) \, dx = \frac{a^{g(x)}}{\ln a} + C$
Tipo trigonométricas directas $\int \text{sen} x \, dx = -\text{cos} x + C$ $\int \text{cos} x \, dx = \text{sen} x + C$ $\int \frac{1}{\text{cos}^2 x} \, dx = \text{tg} x + C$ $\int \frac{1}{\text{sen}^2 x} \, dx = -\text{cotg} x + C$	$\int \text{sen}(g(x)) \, g'(x) \, dx = -\text{cos}(g(x)) + C$ $\int \text{cos}(g(x)) \, g'(x) \, dx = \text{sen}(g(x)) + C$ $\int \frac{1}{\text{cos}^2(g(x))} \, g'(x) \, dx = \text{tg}(g(x)) + C$ $\int \frac{1}{\text{sen}^2(g(x))} \, g'(x) \, dx = -\text{cotg}(g(x)) + C$
Tipo trigonométricas inversas $\int \frac{dx}{1+x^2} = \text{arctg}\, x + C$ $\int \frac{dx}{\sqrt{1-x^2}} = \text{arcsen}\, x + C$	$\int \frac{g'(x)}{1+g(x)^2} \, dx = \text{arctg}(g(x)) + C$ $\int \frac{g'(x)}{\sqrt{1-g(x)^2}} \, dx = \text{arcsen}\,(g(x)) + C$

Integración por cambio de variables

$$\int f(g(x))g'(x)dx = \left[\begin{array}{ccc} t & = & g(x) \\ dt & = & g'(x)dx \end{array} \right] = \int f(t)dt$$

Integración por partes

$$\int u(x)v'(x)dx \; = \; u(x)v(x) \; - \; \int v(x)u'(x)dx$$

Propiedades

1. Si $k \in \mathbb{R}$, entonces $\displaystyle\int k\, f(x)\, dx = k \int f(x)\, dx$.
2. $\displaystyle\int (f(x) \pm g(x))\, dx = \int f(x)\, dx \pm \int g(x)\, dx$