

INTEGRALES

Propiedades

$$\int (f(x) + g(x)) dx = \int f(x) dx + \int g(x) dx$$

$$\int k \cdot f(x) dx = k \cdot \int f(x) dx$$

Inmediatas

$$\int dx = x + k$$

$$\int x^n dx = \frac{x^{n+1}}{n+1} + k$$

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

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

$$\int a^x dx = a^x \cdot \frac{1}{\ln a} + k$$

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

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

$$\int \frac{1}{\cos^2 x} dx = \operatorname{tag} x + k$$

$$\int \frac{1}{1+x^2} dx = \operatorname{arctag} x + k$$

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

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

$$\int (f(x))^n \cdot f'(x) \cdot dx = \frac{(f(x))^{n+1}}{n+1} + k$$

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

$$\int e^{f(x)} \cdot f'(x) \cdot dx = e^{f(x)} + k$$

$$\int a^{f(x)} \cdot f'(x) \cdot dx = a^{f(x)} \cdot \frac{1}{\ln a} + k$$

$$\int \operatorname{sen}(f(x)) \cdot f'(x) \cdot dx = -\cos(f(x)) + k$$

$$\int \cos(f(x)) \cdot f'(x) \cdot dx = \operatorname{sen}(f(x)) + k$$

$$\int \frac{f'(x)}{\cos^2(f(x))} dx = \operatorname{tag}(f(x)) + k$$

$$\int \frac{f'(x)}{1+(f(x))^2} dx = \operatorname{arctag} f(x) + k$$

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

$$\int \frac{-f'(x)}{\sqrt{1-(f(x))^2}} dx = \operatorname{arccos} f(x) + k$$

Integral por partes

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