JATORRIZKOAK - INTEGRALAK

PROPIETATEAK

$$\int [f(x) + g(x)]\, dx = \int f(x)\, dx + \int g(x)\, dx$$

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

BEREHALAKO INTEGRALAK ETA BEREHALAKO INTEGRALEN ADIERAZPEN KONPOSATUA

Berreketa baten integrala

$$\int 1\, dx = x + k$$

$$\int x^n\, dx = \frac{x^{n+1}}{n+1} + k, \text{ si } n \neq -1$$

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

$$\int f(x)^n \cdot f'(x)\, dx = \frac{f(x)^{n+1}}{n+1} + k, \text{ si } n \neq -1$$

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

Esponentzialak eta logaritmikoak

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

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

$$\int ln\, x\, dx = x\, ln\, x - x + k$$

$$\int log_a x\, dx = \frac{x\, ln\, x - x}{ln\, a} + k$$

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

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

$$\int ln\, f(x) \cdot f'(x)\, dx = x\, ln\, f(x) - f(x) + k$$

$$\int log_a f(x) \cdot f'(x)\, dx = \frac{x\, ln\, f(x) - f(x)}{ln\, a} + k$$

Trigonometrikoak

$$\int sen\, x\, dx = -cos\, x + k$$

$$\int cos\, x\, dx = sen\, x + k$$

$$\int tg\, x\, dx = -ln\, |cos\, x| + k$$

$$\int (1 + tg^2\, x)\, dx = \int \frac{1}{cos^2 x} dx = tg\, x + k$$

$$\int \frac{1}{1 + x^2}\, dx = arc\, tg\, x + k$$

$$\int \frac{1}{\sqrt{1 - x^2}}\, dx = arc\, sen\, x + k$$

$$\int \frac{-1}{\sqrt{1 - x^2}}\, dx = arc\, cos\, x + k$$

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

$$\int cos\, f(x) \cdot f'(x)\, dx = sen\, f(x) + k$$

$$\int tg\, f(x) \cdot f'(x)\, dx = -ln\, |cos\, f(x)| + k$$

$$\int [1 + tg^2\, f(x)] \cdot f'(x)\, dx = \int \frac{f'(x)}{cos^2 f(x)}\, dx = tg\, f(x) + k$$

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

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

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