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TABLA DE INTEGRALES INMEDIATAS

La integral de $\frac{1}{x}$

Para $x > 0$:

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

Para $x < 0$:

$$\int \frac{1}{x} dx = \int \frac{-dx}{-x} = \ln(-x) + C$$

siendo $-x > 0$.

Luego $\forall x \in \mathbb{R}, x \neq 0$:

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

Funciones simples	Funciones compuestas
$\int dx = x + C$	
$\int k dx = kx + C$	
$\int x^n dx = \frac{x^{n+1}}{n+1} + C$	$\int u^n \cdot u' \cdot dx = \frac{u^{n+1}}{n+1} + C$
$\int \frac{1}{x} dx = \ln x + C$	$\int \frac{u'}{u} dx = \ln u + C$
$\int e^x dx = e^x + C$	$\int e^u \cdot u' \cdot dx = e^u + C$
$\int a^x dx = \frac{a^x}{\ln a} + C$	$\int a^u \cdot u' dx = \frac{a^u}{\ln a} + C$
$\int \cos x dx = \text{sen } x + C$	$\int \cos u \cdot u' \cdot dx = \text{sen } u + C$
$\int \text{sen } x dx = -\text{cos } x + C$	$\int \text{sen } u \cdot u' \cdot dx = -\text{cos } u + C$
$\int \frac{1}{\cos^2 x} dx = \text{tg } x + C$	$\int \frac{1}{\cos^2 u} \cdot u' \cdot dx = \text{tg } u + C$
$\int (1 + \text{tg}^2 x) dx = \text{tg } x + C$	$\int (1 + \text{tg}^2 u) \cdot u' \cdot dx = \text{tg } u + C$
$\int \frac{-1}{\text{sen}^2 x} dx = \text{cotg } x + C$	$\int \frac{-1}{\text{sen}^2 u} \cdot u' \cdot dx = \text{cotg } u + C$
$\int \frac{1}{1+x^2} dx = \text{arc tg } x + C$	$\int \frac{1}{1+u^2} \cdot u' \cdot dx = \text{arc tg } u + C$
$\int \frac{-1}{1+x^2} dx = \text{arc cotg } x + C$	$\int \frac{-1}{1+u^2} \cdot u' \cdot dx = \text{arc cotg } u + C$
$\int \frac{1}{\sqrt{1-x^2}} dx = \text{arc sen } x + C$	$\int \frac{1}{\sqrt{1-u^2}} \cdot u' \cdot dx = \text{arc sen } u + C$
$\int \frac{-1}{\sqrt{1-x^2}} dx = \text{arc cos } x + C$	$\int \frac{-1}{\sqrt{1-u^2}} \cdot u' \cdot dx = \text{arc cos } u + C$