

## TABLA DE INTEGRALES

FUNCIONES ELEMENTALES	FUNCIONES COMPUESTAS
$\int k \cdot u \, dx = k \cdot \int u \, dx$	Estas dos propiedades significan la linealidad de la integral.  U y v son funciones que dependen de x
$\int u \pm v \, dx = \int u \, dx \pm \int v \, dx$	
$\int dx = x + k$	$\int u' \, dx = u + k$
$\int x^n \, dx = \frac{x^{n+1}}{n+1} + k \quad \text{si } n \neq -1$	$\int u^n \cdot u' \, dx = \frac{u^{n+1}}{n+1} + k \quad \text{si } n \neq -1$
$\int \frac{1}{x} \, dx = \ln x  + k$	$\int \frac{u'}{u} \, dx = \ln u  + k$
$\int e^x \, dx = e^x + k$	$\int e^u \cdot u' \, dx = e^u + k$
$\int a^x \, dx = \frac{a^x}{\ln a} + k$	$\int a^u \cdot u' \, dx = \frac{a^u}{\ln a} + k$
$\int \text{sen } x \, dx = -\text{cos } x + k$	$\int \text{sen } u \cdot u' \, dx = -\text{cos } u + k$
$\int \text{cos } x \, dx = \text{sen } x + k$	$\int \text{cos } u \cdot u' \, dx = \text{sen } u + k$
$\int \frac{1}{\cos^2 x} \, dx = \text{tg } x + k$	$\int \frac{u'}{\cos^2 u} \, dx = \text{tg } u + k$
$\int \frac{1}{1+x^2} \, dx = \text{arctg } x + k$	$\int \frac{u'}{1+u^2} \, dx = \text{arctg } u + k$
$\int \frac{1}{\sqrt{1-x^2}} \, dx = \text{arcsen } x + k$	$\int \frac{u'}{\sqrt{1-u^2}} \, dx = \text{arcsen } u + k$

### Fórmula de integración por partes:

$$\int u \, dv = u \cdot v - \int v \, du$$

### Regla de Barrow:

$$\int_a^b f'(x) \, dx = f(x) \Big|_a^b = f(b) - f(a)$$