TABLA DE INTEGRALES INMEDIATAS / COMPOSICIÓN DE FUNCIONES

$p \neq 1$	$\int x^p\,dx = \frac{x^{p+1}}{p+1} + C$	$\int u^p(x)u'(x)\,dx = \frac{u^{p+1}(x)}{p+1} + C$
	$\int \frac{1}{x}\,dx = \ln\|x\| + C$	$\int \frac{u'(x)}{u(x)}\,dx = \ln\|u(x)\| + C$
	$\int e^x\,dx = e^x + C$	$\int e^{u(x)}u'(x)\,dx = e^{u(x)} + C$
	$\int a^x\,dx = \frac{a^x}{\ln(a)} + C$	$\int a^{u(x)}u'(x)\,dx = \frac{a^{u(x)}}{\ln(a)} + C$
	$\int \operatorname{sen}(x)\,dx = -\cos(x) + C$	$\int \operatorname{sen}(u(x))u'(x)\,dx = -\cos(u(x)) + C$
	$\int \cos(x)\,dx = \operatorname{sen}(x) + C$	$\int \cos(u(x))u'(x)\,dx = \operatorname{sen}(u(x)) + C$
	$\int \operatorname{senh}(x)\,dx = \cosh(x) + C$	$\int \operatorname{senh}(u(x))u'(x)\,dx = \cosh(u(x)) + C$
	$\int \cosh(x)\,dx = \operatorname{senh}(x) + C$	$\int \cosh(u(x))u'(x)\,dx = \operatorname{senh}(u(x)) + C$
	$\int \frac{1}{\cos^2(x)}\,dx = \tan(x) + C$	$\int \frac{1}{\cos^2(u(x))}u'(x)\,dx = \tan(u(x)) + C$
	$\int \frac{-1}{\operatorname{sen}^2(x)}\,dx = \cot(x) + C$	$\int \frac{-1}{\operatorname{sen}^2(u(x))}u'(x)\,dx = \cot(u(x)) + C$
	$\int \frac{1}{\cosh^2(x)}\,dx = \tanh(x) + C$	$\int \frac{1}{\cosh^2(u(x))}u'(x)\,dx = \tanh(u(x)) + C$
	$\int \frac{1}{\sqrt{1-x^2}}\,dx = \operatorname{arc\,sen}(x) + C$	$\int \frac{1}{\sqrt{1-u^2(x)}}u'(x)\,dx = \operatorname{arc\,sen}(u(x)) + C$
	$\int \frac{-1}{\sqrt{1-x^2}}\,dx = \operatorname{arc\,cos}(x) + C$	$\int \frac{-1}{\sqrt{1-u^2(x)}}u'(x)\,dx = \operatorname{arc\,cos}(u(x)) + C$
	$\int \frac{1}{1+x^2}\,dx = \arctan(x) + C$	$\int \frac{1}{1+u^2(x)}u'(x)\,dx = \arctan(u(x)) + C$
	$\int \frac{1}{\sqrt{x^2+1}}\,dx = \operatorname{argsenh}(x) + C$	$\int \frac{1}{\sqrt{u^2(x)+1}}u'(x)\,dx = \operatorname{argsenh}(u(x)) + C$
	$\int \frac{1}{\sqrt{x^2-1}}\,dx = \operatorname{argcosh}(x) + C$	$\int \frac{1}{\sqrt{u^2(x)-1}}u'(x)\,dx = \operatorname{argcosh}(u(x)) + C$
Si $\|x\| < 1$	$\int \frac{1}{1-x^2}\,dx = \operatorname{argtanh}(x) + C$	$\int \frac{1}{1-u^2(x)}u'(x)\,dx = \operatorname{argtanh}(u(x)) + C$
Si $\|x\| > 1$	$\int \frac{1}{1-x^2}\,dx = \operatorname{argcotanh}(x) + C$	$\int \frac{1}{1-u^2(x)}u'(x)\,dx = \operatorname{argcotanh}(u(x)) + C$

CAMBIO DE VARIABLE

$$\int f(x)\,dx = \int f(g(t))g'(t)\,dt$$

INTEGRACIÓN POR PARTES

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

INTEGRACIÓN DE FUNCIONES TRIGONOMÉTRICAS E HIPERBÓLICAS

En la mayoría de estas integrales deben tenerse en cuenta las distintas relaciones trigonométricas e hiperbólicas. Las principales son:

$$\operatorname{sen}^2(x) = \frac{1-\cos(2x)}{2} \qquad \cos^2(x) = \frac{1+\cos(2x)}{2}$$

$$\operatorname{senh}^2(x) = \frac{\cosh(2x)-1}{2} \qquad \cosh^2(x) = \frac{\cosh(2x)+1}{2}$$

$$\operatorname{sen}^2(x)+\cos^2(x) = 1 \qquad \cosh^2(x)-\operatorname{senh}^2(x) = 1.$$

INTEGRACIÓN DE FUNCIONES IRRACIONALES

- $\int R(x, \sqrt{a^2-x^2})\,dx \Longrightarrow x = a\operatorname{sen}(t) \longrightarrow dx = a\cos(t)\,dt$

- $\int R(x, \sqrt{a^2+x^2})\,dx \Longrightarrow x = a\operatorname{senh}(t) \longrightarrow dx = a\cosh(t)\,dt$

- $\int R(x, \sqrt{x^2-a^2})\,dx \Longrightarrow x = a\cosh(t) \longrightarrow dx = a\operatorname{senh}(t)\,dt$