TABLA DE INTEGRALES INMEDIATAS

NOTA: u y v representan expresiones que son funciones de x

PROPIEDADES BÁSICAS	
$\int ku\,dx = k\int u\,dx$	$\int (u \pm v)\,dx = \int u\,dx \pm \int v\,dx$
Integración por partes: $\int u\,dv = uv - \int v\,du$	Cambio de variable: $\int f(u)u'\,dx = \int f(t)dt$, llamando $t = u(x)$

INTEGRALES INMEDIATAS	Ejemplos
Potenciales	
$\int dx = x + C$	$\int 5dx = 5\int dx = 5x + C$
$\int u'u^n dx = \frac{u^{n+1}}{n+1} + C \qquad (n \neq -1)$	$\int x^3 dx = \frac{x^4}{4} + C$; $\int 3(3x+1)^2 dx = \frac{(3x+1)^3}{3} + C$
$\int \frac{u'}{2\sqrt{u}} dx = \sqrt{u} + C$	$\int \frac{3x^2}{2\sqrt{x^3+1}} dx = \sqrt{x^3+1} + C$
Exponenciales y logarítmicas	
$\int u'e^u dx = e^u + C$	$\int 4x^3 e^{x^4+3} dx = e^{x^4+3} + C$
$\int u'a^u dx = \frac{a^u}{\ln a} + C$	$\int 7\cdot 2^{7x} dx = \frac{2^{7x}}{\ln 2} + C$
$\int \frac{u'}{u} dx = \ln\|u\| + C$	$\int \frac{3x^2}{x^3+1} dx = \ln\|x^3+1\| + C$
Trigonométricas	
$\int u' \operatorname{sen} u\,dx = -\cos u + C$	$\int 2x \operatorname{sen}(x^2+5)dx = -\cos(x^2+5) + C$
$\int u' \cos u\,dx = \operatorname{sen} u + C$	$\int 3x^2 \cos(x^3-1)dx = \operatorname{sen}(x^3-1) + C$
$\int u' \operatorname{tg} u\,dx = -\ln\|\cos u\| + C$	$\int (2x+1) \operatorname{tg}(x^2+x)dx = -\ln\|\cos(x^2+x)\| + C$
$\int u' \operatorname{cotg} u\,dx = \ln\|\operatorname{sen} u\| + C$	$\int 2x \operatorname{cotg} x^2 dx = \ln\|\operatorname{sen} x^2\| + C$
$\int \frac{u'}{\cos^2 u} dx = \operatorname{tg} u + C$	$\int \frac{3}{\cos^2 3x} dx = \operatorname{tg} 3x + C$
$\int u' \sec^2 u\,dx = \operatorname{tg} u + C$	$\int (3x^2+1)\sec^2(x^3+x+1)\,dx = \operatorname{tg}(x^3+x+1) + C$
$\int u'(1+\operatorname{tg}^2 u)dx = \operatorname{tg} u + C$	$\int 2(1+\operatorname{tg}^2 2x)dx = \operatorname{tg} 2x + C$
$\int \frac{u'}{\operatorname{sen}^2 u} dx = -\operatorname{cotg} u + C$	$\int \frac{2x}{\operatorname{sen}^2 x^2} dx = -\operatorname{cotg} x^2 + C$
$\int u' \operatorname{cosec}^2 u\,dx = -\operatorname{cotg} u + C$	$\int (4x^3+1)\operatorname{cosec}^2(x^4+x)\,dx = -\operatorname{cotg}(x^4+x) + C$
$\int u'(1+\operatorname{cotg}^2 u)dx = -\operatorname{cotg} u + C$	$\int 3(1+\operatorname{cotg}^2 3x)dx = -\operatorname{cotg} 3x + C$
$\int \frac{u'}{\sqrt{1-u^{2)}}} dx = \operatorname{arcsen} u + C$	$\int \frac{2dx}{\sqrt{1-4x^2}} = \operatorname{arcsen} 2x + C$
$\int \frac{u'}{1+u^2} dx = \operatorname{arctg} u + C$	$\int \frac{e^x}{1+e^{2x}} dx = \operatorname{arctg} e^x + C$