Tablas de integrales indefinidas inmediatas

Operaciones

Operación	Integral
$k \in R$; Producto de constante por función	$\int k \cdot f(x)\,dx = k \cdot \int f(x)\,dx$
Suma y resta de funciones	$\int (f(x) \pm g(x))dx = \int f(x)\,dx \pm \int g(x)\,dx$

Funciones elementales simples

Función	Integral
Función unidad: $f(x) = 1$	$\int dx = x + c$
Función constante: $k \in \mathbb{R}\,;f(x) = k$	$\int k\,dx = kx + c$
Función potencial: $\alpha \in \mathbb{R} - \{-1\}\,;\ f(x) = x^{\alpha}$	$\int x^{\alpha}\,dx = \frac{x^{\alpha+1}}{\alpha+1} + c$
$f(x) = \frac{1}{x}$	$\int \frac{1}{x}\,dx = L\lvert x\rvert + c$
Función inversa raíz cuadrada: $f(x) = \frac{1}{\sqrt{x}}$	$\int \frac{1}{\sqrt{x}}\,dx = 2\sqrt{x} + c$
Función exponencial: $a \in \mathbb{R}\,;a > 0\,;a \neq 1$ $f(x) = a^x$ $f(x) = e^x$	$\int a^x\,dx = \frac{a^x}{La} + c$ $\int e^x\,dx = e^x + c$
Función trigonométrica: $f(x) = sen\,x$ $f(x) = \cos x$ $f(x) = \frac{1}{cos^2 x} = sec^2 x = 1 + tg^2 x$	$\int sen\,x\,dx = -cos\,x\, + c$ $\int cos\,x\,dx = sen\,x + c$ $\int \frac{1}{cos^2 x}\,dx = tg\,x + c$
$f(x) = \frac{1}{\sqrt{1-x^2}}$	$\int \frac{1}{\sqrt{1-x^2}}\,dx = arcsenx + c$
$f(x) = \frac{-1}{\sqrt{1-x^2}}$	$\int \frac{-1}{\sqrt{1-x^2}}\,dx = arccosx + c$
$f(x) = \frac{1}{1+x^2}$	$\int \frac{1}{1+x^2}\,dx = arctgx + c$

Funciones elementales compuestas

Función	Integral
$\alpha \in \mathbb{R} - \{-1\}$; **Potencial** $g(x) = [f(x)]^{\alpha} \cdot f'(x)$	$\int [f(x)]^{\alpha} \cdot f'(x)\, dx = \frac{[f(x)]^{\alpha+1}}{\alpha+1} + c$
$g(x) = \frac{f'(x)}{f(x)}$	$\int \frac{1}{f(x)} \cdot f'(x) dx = L\lvert f(x)\rvert + c$
$g(x) = \frac{f'(x)}{\sqrt{f(x)}}$	$\int \frac{1}{\sqrt{f(x)}} \cdot f'(x)\, dx = 2 \cdot \sqrt{f(x)} + c$
Funciones exponenciales: $a \in \mathbb{R}\, ; a > 0\, ; a \neq 1$	$\int a^{f(x)} \cdot f'(x)\, dx = \frac{a^{f(x)}}{La} + c$ $\int e^{f(x)} \cdot f'(x)\, dx = e^{f(x)} + c$
Funciones trigonométricas:	$\int sen\, f(x) \cdot f'(x)\, dx = -cos\, f(x) + c$ $\int cos\, f(x) \cdot f'(x)\, dx = sen\, f(x) + c$ $\int \frac{1}{cos^2 f(x)} \cdot f'(x)\, dx = tg\, f(x) + c$ $\int \left(1 + tg^2 f(x)\right) \cdot f'(x)\, dx = tg\, f(x) + c$
$g(x) = \frac{f'(x)}{\sqrt{1 - [f(x)]^2}}$	$\int \frac{f'(x)}{\sqrt{1 - [f(x)]^2}}\, dx = arcsen(f(x)) + c$
$g(x) = \frac{-f'(x)}{\sqrt{1 - [f(x)]^2}}$	$\int \frac{-f'(x)}{\sqrt{1 - [f(x)]^2}}\, dx = arccos(f(x)) + c$
$g(x) = \frac{f'(x)}{1 + [f(x)]^2}$	$\int \frac{f'(x)}{1 + [f(x)]^2}\, dx = arctg(f(x)) + c$