Universidade do Minho
Escola de Ciências

Departamento de Matemática e Aplicações

# Cálculo

Licenciatura em Engenharia Informática

## Primitivas Imediatas

Na lista de primitivas que se segue, $f : I \longrightarrow \mathbb{R}$ é uma função derivável no intervalo $I$ e $\mathcal{C}$ denota uma constante real arbitrária.

$$\int a\,dx = ax + \mathcal{C} \quad (a \in \mathbb{R})$$

$$\int \frac{f'(x)}{f(x)}\,dx = \ln|f(x)| + \mathcal{C}$$

$$\int f'(x)\cos(f(x))\,dx = \operatorname{sen}(f(x)) + \mathcal{C}$$

$$\int f'(x)\sec^2(f(x))\,dx = \operatorname{tg}(f(x)) + \mathcal{C}$$

$$\int f'(x)\operatorname{tg}(f(x))\,dx = -\ln|\cos(f(x))| + \mathcal{C}$$

$$\int f'(x)\operatorname{ch}(f(x))\,dx = \operatorname{sh}(f(x)) + \mathcal{C}$$

$$\int f'(x)\operatorname{sech}^2(f(x))\,dx = \operatorname{th}(f(x)) + \mathcal{C}$$

$$\int f'(x)\operatorname{th}(f(x))\,dx = \ln(\cosh(f(x))) + \mathcal{C}$$

$$\int \frac{f'(x)}{\sqrt{1-f^2(x)}}\,dx = \operatorname{arcsen}(f(x)) + \mathcal{C}$$

$$\int \frac{f'(x)}{\sqrt{f^2(x)+1}}\,dx = \operatorname{argsh}(f(x)) + \mathcal{C}$$

$$\int f'(x)\,f^{\alpha}(x)\,dx = \frac{f^{\alpha+1}(x)}{\alpha+1} + \mathcal{C} \quad (\alpha \neq -1)$$

$$\int a^{f(x)}\,f'(x)\,dx = \frac{a^{f(x)}}{\ln a} + \mathcal{C} \quad (a \in \mathbb{R}^+ \setminus \{1\})$$

$$\int f'(x)\operatorname{sen}(f(x))\,dx = -\cos(f(x)) + \mathcal{C}$$

$$\int f'(x)\operatorname{cosec}^2(f(x))\,dx = -\operatorname{cotg}(f(x)) + \mathcal{C}$$

$$\int f'(x)\operatorname{cotg}(f(x))\,dx = \ln|\operatorname{sen}(f(x))| + \mathcal{C}$$

$$\int f'(x)\operatorname{sh}(f(x))\,dx = \operatorname{ch}(f(x)) + \mathcal{C}$$

$$\int f'(x)\operatorname{cosech}^2(f(x))\,dx = -\operatorname{coth}(f(x)) + \mathcal{C}$$

$$\int f'(x)\operatorname{coth}(f(x))\,dx = \ln|\operatorname{sh}(f(x))| + \mathcal{C}$$

$$\int \frac{f'(x)}{1+f^2(x)}\,dx = \operatorname{arctg}(f(x)) + \mathcal{C}$$

$$\int \frac{f'(x)}{\sqrt{f^2(x)-1}}\,dx = \operatorname{argch}(f(x)) + \mathcal{C}$$