Universidade do Minho

MIEInf
DMat

Cálculo

Formulário 3 — 2019'20

Primitivas Imediatas

($u\colon I \longrightarrow \mathbb{R}$ é uma função derivável num intervalo I e $\mathcal{C}$ denota uma constante real arbitrária)

$$\int a\, dx = ax + \mathcal{C}$$

$$\int \frac{u'}{u}\, dx = \ln|u| + \mathcal{C}$$

$$\int u' \cos u\; dx = \operatorname{sen} u + \mathcal{C}$$

$$\int u' \operatorname{tg} u\; dx = -\ln|\cos u| + \mathcal{C}$$

$$\int \frac{u'}{\cos^2 u}\, dx = \operatorname{tg} u + \mathcal{C}$$

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

$$\int \frac{u'}{1+u^2}\, dx = \operatorname{arctg} u + \mathcal{C}$$

$$\int u' \operatorname{ch} u\; dx = \operatorname{sh} u + \mathcal{C}$$

$$\int u' \operatorname{th} u\; dx = \ln(\operatorname{ch} u) + \mathcal{C}$$

$$\int \frac{u'}{\operatorname{ch}^2 u}\, dx = \operatorname{th} u + \mathcal{C}$$

$$\int \frac{u'}{\sqrt{u^2+1}}\, dx = \operatorname{argsh} u + \mathcal{C}$$

$$\int \frac{u'}{1-u^2}\, dx = \operatorname{argth} u + \mathcal{C}$$

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

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

$$\int u' \operatorname{sen} u\; dx = -\cos u + \mathcal{C}$$

$$\int u' \operatorname{cotg} u\; dx = \ln|\operatorname{sen} u| + \mathcal{C}$$

$$\int \frac{u'}{\operatorname{sen}^2 u}\, dx = -\operatorname{cotg} u + \mathcal{C}$$

$$\int \frac{-u'}{\sqrt{1-u^2}}\, dx = \arccos u + \mathcal{C}$$

$$\int \frac{-u'}{1+u^2}\, dx = \operatorname{arccotg} u + \mathcal{C}$$

$$\int u' \operatorname{sh} u\; dx = \operatorname{ch} u + \mathcal{C}$$

$$\int u' \coth u\; dx = \ln|\operatorname{sh} u| + \mathcal{C}$$

$$\int \frac{u'}{\operatorname{sh}^2 u}\, dx = -\coth u + \mathcal{C}$$

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

$$\int \frac{u'}{1-u^2}\, dx = \operatorname{argcoth} u + \mathcal{C}$$