Formulas 2 Mate 5

Function Support in KaTeX

Integrals, sums and limits - ShareLaTeX, Online LaTeX Editor

Fórmulas mate 5

Definiciones y propiedades

Se considera

- ullet f:R o R continua a trozos
- $\phi \in C_0^{\infty}$
- ullet $f',f^{(n)}$ no necesariamente existen. Pero si los funcionales notados como ellas.

$$egin{aligned} \langle f,\phi
angle &= \int_{-\infty}^{\infty} f(x)\phi(x)dx \ &\langle f',\phi
angle &= -\langle f,\phi'
angle \ &\langle f'',\phi
angle &= (-1)^2\langle f,\phi''
angle \ &\langle f^{(n)},\phi
angle &= (-1)^n\langle f,\phi^{(n)}
angle \ &\langle f,\alpha_1\phi_1+lpha_2\phi_2
angle &= lpha_1\langle f,\phi_1
angle + lpha_2\langle f,\phi_2
angle \ &\langle f',\phi
angle &= \langle u,\phi
angle \ &\langle u',\phi
angle &= \phi(0) \ &\langle \delta,\phi
angle &= \phi(0) \end{aligned}$$

Sean f1, f2 funciones generalizadas

$$\langle c_1 f_1 + c_2 f_2, \phi
angle = c_1 \langle f_1, \phi
angle + c_2 \langle f_2, \phi
angle$$

Sea $g \; \epsilon \; C^{\infty}$, f generalizada

$$\langle gf,\phi
angle = \langle f,g\phi
angle$$

$$\langle g\delta,\phi
angle = \langle g(0)\delta,\phi
angle$$

Sea f generalizada, $g \ \epsilon \ C^{\infty}$

$$\langle (gf)', \phi
angle = \langle gf' + g'f, \phi
angle$$