

| Folia | Zadanie |
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| 5.2 | Prove, that the mapping $U \ni u \rightarrow C\ u\ \in \mathbb{R}_+$ is a norm on U equivalent to $\ \cdot\ $, if $C > 0$ and $(U, \ \cdot\)$ is a normed linear space. |
| 5.5 | $\dim(U) < +\infty \Rightarrow U^* = U'$ |
| 8.3 | Prove the norms $\ \cdot\ _m, \ \cdot\ _{0,m}$ equivalence on $H_0^m(\Omega)$. |
| 9.1 | Prove, that the mapping defined by (46) is continuous. |
| 9.12 | Prove that $y_1 \in GS_{nhom}$. |
| 11.7 | Prove the above Proposition 10. |
| 13.2 | Prove that the following mapping is linear. $B: C^m(\Omega) \ni u \rightarrow \sum_{0 \leq \alpha \leq m} a_\alpha D^\alpha u \in C(\Omega)$ (101) |
| 13.8 | Prove above theorem 21. |
| 14.19 | Prove that given the assumptions of Lax-Milgram lemma the mapping $\theta: H' \ni \phi \rightarrow u \in H$ such that $a(u, v) = \langle \phi, v \rangle \quad \forall v \in H$ is a Lipschitz continuous bijection and θ^{-1} is also continuous. |
| 14.21 | iii. Prove the symmetry of a assuming that $a_{ij} = a_{ji}$ almost everywhere in Ω as an Exercise . |