

# NDMI028 - LAK

October 17, 2024 – Orthogonal complements

## In class problems

19. Do all maximal Even-Even-tons with  $n$  citizens have the same size?
20. Determine the maximum size of an Odd-Odd-ton with  $n$  citizens.
21. Do all maximal Odd-Odd-tons with  $n$  citizens have the same size?
22. State and prove a formula for the dimension of the cycle space of a disconnected graph, as a function of the number of connected components.
23. Prove that the cycle space of a planar 2-connected graph is generated by the set of its facial cycles, for any plane embedding of the graph.
24. Show that if  $n$  is odd, every equivalence class of Seidel's switching on  $n$  vertices contains exactly one Eulerian graph.