

Homework 12A

This is a voluntary homework. Solving it, you can gain extra points to the exam. Hand in before the next lecture i.e. 13 Dec 16:15 (either on my desk in the classroom or send to my e-mail). You are eligible for getting points only if you hand in on time and only if it is solved (more or less) correctly.

Problem. Let $G = (V, E)$ be a graph and A_G its adjacency matrix. Show that

$$[A_G^k]_{ij} = \#\{\text{walks from vertex } i \text{ to vertex } j \text{ of length } k\}$$