

# Homework 6: Bipartite Graphs and Geometry

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**Problem 1.**

- a) Show that in the problem 3b from the lesson the number of ways to achieve the desired result is always a power of 2.
- b) What is the biggest possible number of ways to do this, if there were 10 problems on the test?

**Problem 3** (From the lesson as a reminder).

On a test every student solved exactly 2 problems, and every problem was solved by exactly 2 students.

- b) The teacher wants to make every student present one problem they solved on the board. Show that it is possible to choose the problem each student presents so that every problem on the test gets presented exactly once.