

Math 201, Spring 2022

Problem Set # 1

Due January 26, 2022 at 11:59pm on gradescope

Question 1. Eight rooks are placed randomly on a chess board. What is the probability that none of the rooks can capture any of the other rooks? Translation for those who are not familiar with chess: pick 8 unit squares at random from an 8×8 grid. What is the probability that no two chosen squares share a row or a column?

Question 2. Show that it is not possible to choose a uniform positive integer at random. (In other words, we cannot define a probability measure on the positive integers that can be considered uniform.)

Hint: What would be the probability of choosing a particular number?