

MATH 113: DISCRETE STRUCTURES
HOMEWORK 28

Problem 1. Ten fair six-sided dice are rolled. Five of the dice are red and five are green.

- (a) Give a formula for the probability of rolling i sixes among the five red dice.
- (b) What is the probability that there are the same number of sixes among the red dice as among the green dice? Use a calculator to estimate this probability with a decimal number accurate to at least 3 significant digits.

Problem 2. Alex has a good day with probability 0.7. If a day is not good, then it is bad. At any given day, Alex has a good day independently of what happened in other days. Last week, Alex had strictly more than three good days. How likely is it that Alex had at least one bad day?