

Homework of Week 1

Deadline: 9:00am, September 23rd (Thursday), 2021

1. Calculate the probability that the sum of n independent dice is divisible by 6. (Hint: you may complete the partial solution in the lecture notes.)
2. Formally define the event that a random variable X is greater than Y .
3. Show whether or not the linearity of expectation remains true for any linear combination of countably many random variables.
4. Do Bernoulli experiment for 20 trials, using a new 1-Yuan coin. Record the result in a string $s_1s_2 \cdots s_{20}$, where s_i is 1 if the i^{th} trial gets Head, and otherwise is 0.