Exercise 1.1. We roll a fair die twice. Describe a sample space Ω and a probability measure P to model this experiment. Let A be the event that the second roll is larger than the first. Find the probability $P(A)$ that the event A occurs.

Exercise 1.5. In one type of state lottery 5 distinct numbers are picked from $1, 2, 3, \ldots, 40$ uniformly at random.

(a) Describe a sample space Ω and a probability measure P to model this experiment.

(b) What is the probability that out of the five picked numbers exactly three will be even?