

Exemplary test 1

1. The capture of 50 fish was made in a pond, the fish were afterwards marked and released back. The next day, the new capture of 100 fish was made. 10 fish out of these 100 were marked. What is probability that this situation happens if there are exactly 500 fish in the pound?
2. You come to the doctor waiting room, where 30 people are already sitting. 15 people have flu, 5 have intestinal flu and the rest just came for a stamp. You sit next to the one person. If this person has flu, then the probability that you will be infected is 0,1. If this person has intestinal flu then the probability that you will be infected is 0,2. What is the probability that you that you will be infected when you leave the waiting room?
3. We model the future interest rate.

Interest rate	0,1	0,3	0,5	0,7	0,9	1,1	1,3
Probability	0,15	0,25	0,2	0,15	0,1	0,1	?

What is probability that the interest rate will be 1,3? What is the expected value of the interest rate?

1. 0.1473
2. 0.0833
3. 0.05; 0.56