

1. Two Dice are rolled, answer the following questions:

- A) What is the probability that you get a 4 and a 5.
- B) What is the probability that you get a least one 4.
- C) What is the probability that you get a 5 given that at least one of the numbers is 4.
- D) What is the probability that the sum of the numbers is 5.
- E) What is the probability that the two numbers are equal.

2. There are 3 different math books and 4 different physics books and some one is picking two books randomly from these 7 books.

- A) What is the probability of getting one math book and one physics book
- B) What is the probability of getting two physics books.
- C) If instead we pick three books in total, what is the probability that at least one book is math.

3. Let $P(A)=0.6$, $P(B)=0.6$ and $P(A \cap B^c) = 0.24$ answer the following questions

- A) Is A and B disjoint.
- B) Is A and B independent.
- C) Find $P(A \cup B)$.
- D) Find $P(A|B)$

4. Every traffic lights has 60% change of showing green light. If a driver is going down a road that has 4 traffic lights.

- A) What is the probability that the driver has to stop every time.
- B) What is the probability that the driver has to stop twice.
- C) What is the probability that the driver has to stop at least once.

5. Let X be a random variable and $P(X=0)=0.4$, $P(X=1)=0.4$ and $P(X=2)=0.2$ find the expected value and the standard deviation.