1. Two dies are rolled at once. Find out the probability for sum of numbers being even and one of the die shows  6.

Ans: 1/6

1. Two dies are rolled at once. Find out the probability for sum of numbers being less than 7

Ans: 5/12

1. You toss a fair coin three times: Given that you have observed *at least* one heads, what is the probability that you observe at least two heads?

Ans: 4/7

1. In my town, it's rainy one third of the days. Given that it is rainy, there will be heavy traffic with probability 1/2, and given that it is not rainy, there will be heavy traffic with probability 1/4. If it's rainy and there is heavy traffic, I arrive late for work with probability 1/2. On the other hand, the probability of being late is  1/8 if it is not rainy and there is no heavy traffic. In other situations (rainy and no traffic, not rainy and traffic) the probability of being late is 0.25, 0.25. You pick a random day.What is the probability that it's not raining and there is heavy traffic and I am not late?
2. What is the probability that it's not raining and there is heavy traffic and I am not late?

Ans: 1/8

1. What is the probability that I am late?

Ans: 11/48

1. Given that I arrived late at work, what is the probability that it rained that day?

Ans: 6/11

5.      A box contains three coins: two regular coins and one fake two-headed coin (P(Heads)=1), you pick a coin at random and toss it.

   (a)  What is the probability that it lands heads up?

Ans: 2/3

  (b)  You pick a coin at random and toss it and get heads. What is the probability that it is the two-headed coin?

Ans: 1/2

6.      Suppose that, of all the customers at a coffee shop,

   (a) 70% purchase a cup of coffee

   (b)  40% purchase a piece of cake

   6.3. 20% purchase both a cup of coffee and a piece of cake.

Given that a randomly chosen customer has purchased a piece of cake, what is the probability that he/she has also purchased a cup of coffee?

Ans: 1/2

11.   A is known to tell the truth in 5 cases out of 6 and he states that a white ball was drawn from a bag containing 8 blacks and 1 white ball. Find the probability that the white ball was drawn.

12.   A speaks the truth 4 out of 5 times. A die is tossed. A reports that it is a 6. What are the chances that there actually was a 6?