

# Probability

Dec 2023

1. A fair dice is thrown two times. Find the probability distribution of the number of sixes. Also determine the number of sixes.
2. A card from a pack of 52 cards is lost. From the remaining cards of the pack, two cards are drawn randomly one-by-one without replacement and are found to be both kings. Find the probability of the lost card being a king.
3. If the probability of an  $E$  happening is 0.023, then  $P(\overline{E})$
4. Read the following passage and answer the questions given at the end:

## Diwali Fair

A game in a booth at a Diwali Fair involves using a spinner first. Then if the spinner stops on an even number, the player is allowed to pick a marble from a bag. The spinner and the marbles in the bag are represented in Figure 1. Prizes are given, when a black marble is picked. Shweta plays the game once.

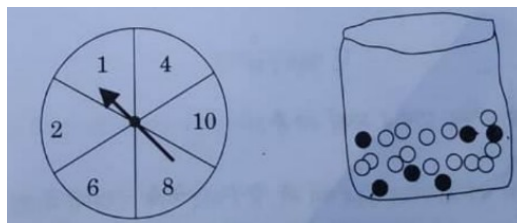


Figure 1: A bag contains of marbles

- (a) What is the probability that she will be allowed to pick a marble from the bag ?

- (b) Suppose she is allowed to pick a marble from the bag, what is the probability of getting a prize, when it is given that the contains 20 balls out of which 6 are black ?