

## Probability

### COINS

1. When 2 coins are tossed together, what is the probability of getting  
**{HH, TT, TH, HT}**
  - A. At Least 1 head
  - B. At Least 2 heads
  - C. At Most 1 head
  - D. At Most 2 heads
  - E. Exactly 1 head
  - F. Exactly 2 heads
2. When 3 coins are tossed together. What is the probability of getting  
**{HHH, TTH, THT, HTT, TTT, HHT, HTH, THH}**
  - A. At Least 1 Head
  - B. At Least 2 Heads
  - C. At Least 3 Heads
  - D. At Most 1 Head
  - E. At Most 2 Heads
  - F. At Most 3 Heads
  - G. Exactly 1 Head
  - H. Exactly 2 Heads
  - I. Exactly 3 Heads
  - J. None is Head
3. When 5 unbiased coins are tossed, what is the probability that they get
  - A. Exactly 3 heads
  - B. At Least 3 heads
  - C. At Most 3 heads

### DICE

4. When a dice is rolled. What is the probability of getting (1,2,3,4,5,6)
  - a) a prime number
  - b) even number
  - c) number less than four
  - d) multiple of 3
  - e)  $\geq 2$
5. Two dice are thrown simultaneously. Find the probability of:
  - (a) getting a sum of 8
  - (b) getting sum  $\leq 3$
  - (c) getting sum  $\leq 10$
  - (d) getting a total of at least 10
  - (e) getting sum of at most 4
  - (f) getting sum divisible by 5
  - (g) getting a multiple of 3 as the sum
  - (h) getting a doublet
  - (i) getting 6 as a product
  - (j) getting an even number as the sum
  - (k) getting a prime number as the sum
  - (l) getting a multiple of 2 on one die and a multiple of 3 on the other die
  - (m) getting difference of the numbers as

### **CARDS**

6. From a pack of 52 cards, if one card is selected at a time, what is the probability that it is
- |                           |                              |
|---------------------------|------------------------------|
| A. Face card              | I. Honor card of black color |
| B. Face card of red color | J. King of red color         |
| C. Face card of heart     | K. Number 2 of black color   |
| D. Queen                  | L. Ace of spade              |
| E. King of diamond        |                              |
| F. Honor card             |                              |
| G. Number 10              |                              |
| H. Number 6 of spade      |                              |
7. What is the probability of getting a number as
- a) Five of Spades or five of Clubs?
- b) Queen of the club or a king of heart?
8. What is the probability of drawing a card from a deck which is either a king or a Diamond card?
9. From a pack of 52 cards, two cards are drawn together at random. What is the probability of both the cards being kings?
10. Two cards are drawn together from a pack of 52 cards. The probability that one is a spade and one is a heart, is.
11. Two cards are drawn at random from a pack of 52 cards. What is the probability that either both are Red or both are queens?

### **BALLS**

12. A bag contains 4 black, 5 yellow and 6 green balls. Three balls are drawn at random from the bag. What is the probability that
- A. all of them are yellow?
- B. 3 balls of different color balls?
- C. 3 balls are not the same color?
- D. at least 1 is a black ball?
- E. None of the balls drawn is green?
13. There are 10 prizes and 25 blanks in a lottery. If John has taken a lottery, what is the probability for him to get a prize?
14. There are two bags A and B. Bag A contains 2 white and 3 black balls. Bag B contains 3 white and 4 black balls. A bag is chosen at random. What is the probability that the ball drawn is white?
15. A speaks the truth 3 out of 4 times, and B 5 out of 6 times : what is the probability that they will contradict each other in stating the same fact?