BHARAT SCHOOL OF BANKING

PROBABILITY

1. A bag contains 12 white and 18 black balls. Two balls are drawn in succession without replacement. What is the probability that first is white and second is black?

A) 36/135
B) 36/145
C) 18/ 91
D) 30/91
E) None of these

2. Two dice are thrown simultaneously. What is the probability of getting two numbers whose product is even?

A) 3/16
B) 1/8
C) 3/4
D) 1/2
E) None of these

3. In a class, there are 15 boys and 10 girls. Three students are selected at random. The probability that 1 girl and 2 boys are selected is:

A) 21/46
B) 21/135
C) 42/135
D) Can't be determined
E) None of these

4. A card is drawn from a pack of 52 cards. The probability of getting a queen of club or a king of heart is?

A) 3/26
B) 3/52
C) 1/26
D) 1/4
E) None of these

5. A bag contains 4 white, 5 red and 6 blue balls. Three balls are drawn at random from the bag. The probability that all of them are blue, is:

A) 1/91
B) 2/91
C) 3/91
D) 4/91
E) None of these.

6. A bag contains 2 yellow, 3 green and 2 blue balls. Two balls are drawn at random. What is the probability that none of the balls drawn is blue?

A) 5/7
B) 1/21
C) 10/21
D) 2/9
E) None of these

7. Three coins are tossed. What is the probability of getting at most two tails?
A) 1/8
B) 5/8
C) 3/8
D) 7/8
E) None of these

8. One card is drawn at random from a pack of 52 cards. What is the probability that the card drawn is a face card (Jack, Queen and King only)?
A) 1/13
B) 2/13
C) 3/13
D) 3/52
E) None of these

9. P and Q sit in a ring arrangement with 10 persons. What is the probability that P and Q will sit together?
A) 2/11
B) 3//11
C) 4/11
D) 5/11
E) None of these

10. Two dice are thrown simultaneously. Find the probability of getting a multiple of 2 on one dice and multiple of 3 on the other dice.
A) 1/9
B) 11/36
C) 13/36
D) Data inadequate
E) None of these

Explanation:

1. The probability that first ball is white= 12c1/30c1= 2/5
Since, the ball is not replaced; hence the number of balls left in bag is 29.

Hence the probability the second ball is black= 18c1/29c1 =18/29
Required probability = 2/5*18/29 = 36/145

2. In a simultaneous throw of two dice, we have n(S) = (6 x 6) = 36.
Then, E = {(1, 2), (1, 4), (1, 6), (2, 1), (2, 2), (2, 3), (2, 4), (2, 5), (2, 6), (3, 2), (3, 4),
(3, 6), (4, 1), (4, 2), (4, 3), (4, 4), (4, 5), (4, 6), (5, 2), (5, 4), (5, 6), (6, 1),
(6, 2), (6, 3), (6, 4), (6, 5), (6, 6)}
n(E) = 27.
so probability = 27/36 = 3/4

3. Probability = 10c1*15c2/25c3
= 21/46

4. 2/52 = 1/26

5. 6c3/15c3 =4/91

6. 5c2/7c2 = 10/21

7. 7/8

8. 12/52 =3/13

9. n(S)= number of ways of sitting 12 persons at round table:
=(12-1)!=11!
Since two persons will be always together, then number of persons:
=10+1=11
So, 11 persons will be seated in (11-1)!=10! ways at round table and 2 particular persons will be seated in 2! ways.
n(A)= The number of ways in which two persons always sit together =10!×2
So probability = 10!*2!/11!= 2/11

10. 11/36