

Class: X
Subject: Math's
Topic: Probability
No. of Questions: 20
Duration: 60 Min
Maximum Marks: 60

Q1. When two dice are thrown, the probability of getting a number always greater than 4 on the second dice is.

- A. $\frac{1}{6}$
- B. $\frac{1}{3}$
- C. $\frac{1}{36}$
- D. $\frac{5}{36}$

Sol: B

It is independent of what is obtained on first dice. It will be $2/6=1/3$

Q2. A die is thrown once. The probability of getting a number 3 and 4 is _____.

- A. $\frac{1}{3}$
- B. $\frac{2}{3}$
- C. 0
- D. 1

Sol: C

Both cannot be obtained simultaneously

Q3. Two dice are thrown simultaneously. The probability of getting a multiple of 2 on one die and a multiple of 3 on the other is_____.

- A. $\frac{5}{36}$
- B. $\frac{5}{12}$
- C. $\frac{11}{36}$
- D. $\frac{1}{12}$

Sol: C

Favorable outcomes (2,3) (2,6) (4,3) (4,6) (6,6) (3,2) (3,4) (3,6) (6,2) (6,4) total of 11
Favorable outcomes= $11/36$

Q4. From a normal pack of cards, a card is drawn at random. The probability of getting a jack or a king is _____.

- A. $\frac{2}{52}$
- B. $\frac{1}{52}$
- C. $\frac{2}{13}$
- D. $\frac{5}{13}$

Sol: C

4kings and 4 aces i.e. 8 Probability will be $8/52=2/13$

Q5. Two dice are thrown simultaneously. The probability of getting a doublet or a total of 4 is _____.

- A. $\frac{2}{9}$
- B. $\frac{3}{7}$
- C. $\frac{4}{9}$
- D. $\frac{5}{9}$

Sol: A

There are 6 doubles and (1,3) and (3,1) result into sum 4 (Remember (2,2) already considered. Don't count it twice)

Total favorable events=8 Probability= $\frac{8}{36}=\frac{2}{9}$

Q6. A bag contains 12 balls of two different colors, out of which x are white. One ball is drawn at random. If 6 more white balls are put in the bag, the probability of drawing a white ball now will be double that of the previous probability of drawing a white ball. Then, the value of x is _____.

- A. 3
- B. 4
- C. 5
- D. 6

Sol: A

1st Case x are white 12-x are non-white $P(\text{white}) = \frac{x}{12}$ **2nd Case**

x+6 are white $P(\text{white}) = \frac{(x+6)}{18}$ According to question $\frac{(x+6)}{18} = 2\left(\frac{x}{12}\right)$ Solve to get

x=3

Q7. In a single throw of a die, the probability of getting a multiple of 3 is _____.

- A. $\frac{1}{2}$
- B. $\frac{1}{3}$
- C. $\frac{1}{6}$
- D. $\frac{3}{4}$

Sol: B

3,6 are favorable events. Probability is $\frac{1}{3}$

Q8. Cards marked with the numbers 3, 4, 5,, 50 are placed in a box and mixed thoroughly. One card is drawn at random from the box. The probability that number on the drawn card is a number which is a perfect square is _____.

- A. $\frac{6}{47}$
- B. $\frac{7}{47}$
- C. $\frac{6}{48}$
- D. $\frac{7}{48}$

Sol: C

Perfect squares will be 4,9,16,25,36,49 Probability $\frac{6}{48}=\frac{1}{8}$

Q9. A bag contains 6 blue and 4 green marbles. If a marble is drawn at random from the bag, the probability that the marble drawn is not green, is

- A. $\frac{2}{5}$
- B. $\frac{1}{5}$
- C. $\frac{4}{5}$
- D. None of these

Sol: D

Probability of green marble is $\frac{2}{5}$. Not green marble is $\frac{3}{5}$

Q10. A card is drawn from a packet of 100 cards numbered 1 to 100. The probability of drawing a number which is a cube is _____.

- A. $1/10$
- B. $9/100$
- C. $1/20$
- D. $1/25$

Sol: D

4 cubes exist from 1 to 100. Probability is $4/100$ i.e. $1/25$

Q11. The king, queen and jack of clubs are removed from a deck of 52 playing cards and then well-shuffled. One card is selected from the remaining cards. The probability of getting a club is _____.

- A. $\frac{13}{49}$
- B. $\frac{10}{49}$
- C. $\frac{3}{49}$
- D. $\frac{1}{49}$

Sol: B

Remaining clubs 10 Remaining cards 49 Probability= $10/49$

Q12 Three letters, to each of which corresponds an addressed envelope are placed in the envelopes at random. The probability that all letters are placed in the right envelopes is _____.

- A. $\frac{1}{3}$
- B. 1
- C. $1/6$

D. 0

Sol: C

Total possibilities are 6 Only one way to put cards right. Probability is $1/6$

Q13. Two dice are thrown at a time. The probability that the difference of the numbers shown on the dice is 1 is _____

- A. $\frac{5}{18}$
- B. $\frac{1}{36}$
- C. $\frac{1}{6}$
- D. $\frac{1}{18}$

Sol: A

Find pairs corresponding to consecutive numbers on both dice (order will not matter i.e. both 3,4 and 4,3 will be Counted separately).

Q14. 1000 tickets of a lottery were sold and there are 5 prizes on these tickets. If Ruche purchased one lottery ticket, the probability of winning prize is _____.

- A. $\frac{1}{200}$
- B. $\frac{1}{100}$
- C. $\frac{1}{300}$
- D. $\frac{1}{400}$

Sol: A

Probability will be $5/1000$

Q15. A bag contains three green, four blue and two orange marbles. If a marble is picked at random, then the probability that it is not an orange marble is _____.

- A. $\frac{1}{4}$
- B. $\frac{1}{3}$
- C. $\frac{4}{9}$
- D. $\frac{7}{9}$

Sol: D

Probability of orange marble = $\frac{2}{9}$ Probability not an orange marble is $1 - \frac{2}{9} = \frac{7}{9}$

Q16. One card is drawn from a well-shuffled deck of 55 cards. The probability of drawing an ace is _____.

- A. $\frac{1}{12}$
- B. $\frac{1}{13}$
- C. $\frac{1}{50}$
- D. None of these

Sol: D

There are 4 aces so probability will be $\frac{4}{55}$

Q17. The probability for a leap year to have 53 Sundays is _____.

- A. $\frac{1}{366}$
- B. $\frac{1}{52}$
- C. $\frac{2}{7}$
- D. $\frac{1}{7}$

Sol: C

52 weeks are there Remaining two days can be as follows SM MT TW with Theft Tisa
Says out of SM and Says are favorable outcomes
Probability will be $2/7$

Q18. Ram and sham are friends. The probability that both will have the same birth day is

- A. none of these
- B. $2/365$
- C. $1/365$
- D. $364/365$

Sol: C

Favorable Outcomes 365 (Any day can be chosen) Total Possibilities 365×365 (As for both of them will have 365 choices) Probability = $1/365$

Q19. A letter of English alphabets is chosen at random. The probability that the letter chosen is a consonant is

- A. $5/26$
- B. $21/26$
- C. $22/6$
- D. $1/26$

Sol: B

There are 21 consonants and 5 vowels
So probability of consonant is $21/26$

Q20. Cards marked with numbers 1, 2, 3... 25 are placed in a box and mixed thoroughly and one card is drawn at random from the box. The probability that the number on the card is a multiple of 3 or 5 is

- A. $13/25$
- B. $12/25$
- C. $8/25$
- D. $3/5$

Sol: B

Multiples of 3 will be 8 Multiples of 5 will be 5 But 15 is common in both So favorable cases is 12 Probability is $12/25$

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