



lic aao probability questions pdf

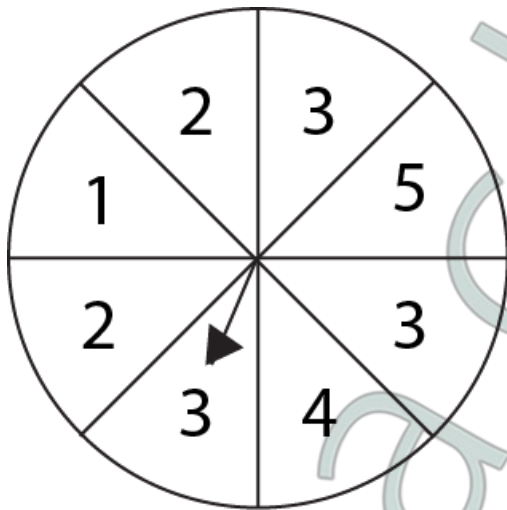
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Instructions

For the following questions answer them individually

Question 1

The circle given at right side is divided into eight sectors of equal area. What is the probability that the spinner will land on an even-numbered region in each of two consecutive spins ?



A $\frac{25}{10}$

B $\frac{3}{8}$

C $\frac{1}{4}$

D $\frac{9}{64}$

Answer: B

Question 2

A class of 30 students occupy a classroom containing 5 rows of seats, with 8 seats in each row. If the students seat themselves at random, the probability that the sixth seat in the fifth row will be empty is

A $\frac{1}{5}$

B $\frac{1}{3}$

C $\frac{1}{4}$

D $\frac{2}{5}$

Answer: C

Question 3

A bag contains 2 red marbles, 3 green marbles and 4 blue marbles. A marble is picked at random from the bag. What is the probability that the marble is not a blue marble ?

A $\frac{4}{9}$

B $\frac{5}{9}$

C $\frac{1}{9}$

D $\frac{2}{9}$

Answer: B

Explanation:

Without blue marbles, there are 2 red marbles and 3 green marbles. Therefore, there are 5 marbles in all to choose the required 1 from. Probability that the marble is of a blue marble = $\frac{{}^5C_1}{{}^9C_1}$

$$= \frac{5}{9}$$

Therefore, the correct option is option B.

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Question 4

Ravi rolled a dice twice. What is the probability that sum of both the outcome is less than 5?

A $\frac{1}{6}$

B $\frac{1}{4}$

C $\frac{1}{3}$

D $\frac{1}{2}$

E None of the above.

Answer: A

Explanation:

When a dice is rolled we get outcome from (1,2,3,4,5,6) so favourable cases (Sum = 2,3,4)

Favourable cases = (1,1) (1,2) (2,1) (1,3) (3,1) (2,2)

Total cases = $6 \times 6 = 36$

$$\text{So probability} = \frac{\text{Favourable cases}}{\text{Total cases}} = \frac{6}{36} = \frac{1}{6}$$

Question 5

Raghu tosses a coin 6 times. The probability that the number of times he gets heads will not be greater than the number of times he gets tails is

A $\frac{21}{64}$

B $\frac{3}{32}$

C $\frac{41}{64}$

D $\frac{21}{32}$

E $\frac{1}{2}$

Answer: D

Explanation:

Probability of getting a head = 0.5

Probability of getting a tail = 0.5

Number of heads \leq Number of tails.

Therefore, the number of heads can be 0, 1, 2 or 3.

Sample space = $2^6 = 64$.

0 heads can be obtained in ${}^6C_0 = 1$ way.

1 head can be obtained in ${}^6C_1 = 6$ ways.

2 heads can be obtained in ${}^6C_2 = \frac{30}{2} = 15$ ways.

3 heads can be obtained in ${}^6C_3 = 20$ ways.

Required probability = $(20+15+6+1)/64 = 42/64 = 21/32$.

Therefore, option D is the right answer.

Question 6

A fair dice is rolled twice. Find the probability that he gets at least one composite number.

A $\frac{5}{36}$

B $\frac{3}{4}$

C $\frac{5}{9}$

D $\frac{4}{9}$

E $\frac{5}{12}$

Answer: C

Explanation:

The probability that he gets at least one composite number = $1 - p(\text{no composite number})$

The numbers which are not composite = 1, 2, 3, 5

Hence, the probability that he gets them both the times = $\frac{4}{6} * \frac{4}{6} = \frac{4}{9}$

Required probability = $1 - \frac{4}{9} = \frac{5}{9}$

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Question 7

Raghu has gotten calls for interviews from top 4 management institutes of a country. The probability that he converts an interview of an institute is 50%. What is the probability of Raghu converting the interview of at least 1 management institute?

A 93.75%

B 92.25%

C 95.75%

D 96.25%

E 94.75%

Answer: A

Explanation:

Raghu can get selected in 1 college, 2 colleges, 3 colleges or all 4 colleges. Let us subtract the probability of Raghu not getting selected in any of the colleges from the total probability to get the required probability.

Probability of converting the interview of a college = 0.5

Therefore, probability of not converting the interview of a college = $1 - 0.5 = 0.5$

Probability of not converting any of the 4 colleges = $0.5 * 0.5 * 0.5 * 0.5 = 0.0625$ or 6.25%

Therefore, probability of converting at least 1 college = $100 - 6.25 = 93.75\%$.

Therefore, option A is the right answer.

Question 8

A circular disc of diameter 3.5 cm is thrown inside a circle of radius 7 cm. What is the probability that the disc will remain completely within the circle?

- A 10%
- B 25%
- C 20%
- D 50%
- E 35%

Answer: B

Explanation:

For the disc to remain completely within the circle, the centre of the disc must at-least be 3.5cm away from the circumference of the circle.

Radius of the outer circle = 7 cm

Radius of the inner circle = $7 - 3.5 = 3.5$ cm.

The centre of the circle must fall within the inner circle. Of the total area of the outer circle, only the inner circle is the area that the centre of the coin can fall within without violating the conditions.

Probability = Ratio of the areas of the 2 circles.

The radius of the outer circle is twice the radius of the inner circle.

$$\text{Ratio of areas} = \frac{\pi r^2}{\pi (2r)^2}$$

Therefore, the areas will be in the ratio 1 : 4.

Therefore, the required probability is 25%. Hence, option B is the right answer.

Question 9

In a box carrying one dozen of oranges one third have become bad.If 3 oranges taken out from the box random ,what is the probability that at least one orange out of the 3 oranges picked up is good ?

- A 1/55
- B 54/55
- C 45/55
- D 3/55
- E None of these

Answer: B

Explanation:

Total number of oranges in the box = 12

Number of ways of selecting 3 oranges out of 12 oranges, $n(S) = {}^{12}C_3$

$$= \frac{12 \times 11 \times 10}{1 \times 2 \times 3} = 220$$

Number of oranges which became bad = $\frac{12}{3} = 4$

Number of ways of selecting 3 oranges out of 4 bad oranges = ${}^4C_3 = {}^4C_1 = 4$

Number of desired selection of oranges, $n(E) = 220 - 4 = 216$

$$\therefore P(E) = \frac{n(E)}{n(S)}$$

$$= \frac{216}{220} = \frac{54}{55}$$

=> Ans - (B)

General Knowledge Questions & Answers (Download pdf)

Instructions

Study the information carefully to answer the following questions:

A bucket contains 8 red, 3 blue and 5 green marbles.

Question 10

If 3 marbles are drawn at random, what is the probability that none is red ?

- A $\frac{3}{8}$
- B $\frac{1}{16}$
- C $\frac{1}{10}$
- D $\frac{3}{16}$
- E None of these

Answer: C

Explanation:

Number of ways of drawing 3 marbles out of 16

$$n(S) = C_3^{16} = \frac{16 \times 15 \times 14}{1 \times 2 \times 3}$$
$$= 560$$

Out of the three drawn marbles, none is red, i.e., they will be either blue or green.

$$\Rightarrow n(E) = C_3^8 = \frac{8 \times 7 \times 6}{1 \times 2 \times 3}$$
$$= 56$$

$$\therefore \text{Required probability} = \frac{n(E)}{n(S)}$$
$$= \frac{56}{560} = \frac{1}{10}$$

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