

NDA 1 2025

LIVE

MATHS

PROBABILITY - 2

MCQS



NAVJYOTI SIR

Crack
EXAMS



24 Feb 2025 Live Classes Schedule

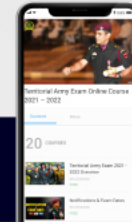
9:00AM	24 FEBRUARY 2025 DAILY DEFENCE UPDATES	DIVYANSHU SIR
10:00AM	24 FEBRUARY 2025 DAILY CURRENT AFFAIRS	RUBY MA'AM

NDA 1 2025 LIVE CLASSES

✓ 10:00AM	MATHS - PROBABILITY - CLASS 2	NAVJYOTI SIR
✓ 11:30AM	GK - BIOSPHERE RESERVES & NATIONAL PARKS	RUBY MA'AM
✓ 1:00PM	CHEMISTRY - CLASS 1	SHIVANGI MA'AM
✓ 4:30PM	ENGLISH - COMPLETION OF SENTENCE - CLASS 1	ANURADHA MA'AM

CDS 1 2025 LIVE CLASSES

✓ 11:30AM	GK - BIOSPHERE RESERVES & NATIONAL PARKS	RUBY MA'AM
✓ 1:00PM	CHEMISTRY - CLASS 1	SHIVANGI MA'AM
✓ 4:30PM	ENGLISH - COMPLETION OF SENTENCE - CLASS 1	ANURADHA MA'AM



Three distinct natural numbers are chosen at random from 1 to 10. What is the probability that they are consecutive?

(a) 1/12

- 1 2 3

(b) 3/40

- 2 3 4

(c) 1/15

3 4 5

(d) 7/120

.
.
.
.
- 8 9 10

$$\frac{8}{{}^{10}C_3}$$

$$= \frac{\cancel{8} \times \cancel{3} \times \cancel{2}}{\cancel{10} \times \cancel{9} \times \cancel{8}} = \frac{1}{\underbrace{15}}$$

Three distinct natural numbers are chosen at random from 1 to 10. What is the probability that they are consecutive?

(a) $1/12$

(b) $3/40$

(c) $1/15$

(d) $7/120$

Ans: (c)

A, B, C are three mutually exclusive and exhaustive events associated with a random experiment. If $3P(B) = 4P(A)$ and $3P(C) = 2P(B)$, then what is $P(A)$ equal to?

(a) $7/29$

$$3P(B) = 4x$$

$$3P(C) = 2P(B)$$

(b) $8/29$

$$P(B) = \frac{4}{3}x$$

$$P(C) = 2 \left(\frac{4}{3}x \right) \left(\frac{1}{3} \right) = \frac{8}{9}x$$

(c) $9/29$

(d) $10/29$

$$P(A) + P(B) + P(C) = 1 \quad (\text{As } A, B \text{ and } C \text{ are mutually exhaustive events})$$

$$x + \frac{4}{3}x + \frac{8}{9}x = 1$$

$$x = \frac{9}{9+12+8} = \frac{9}{29}$$

A, B, C are three mutually exclusive and exhaustive events associated with a random experiment. If $3P(B) = 4P(A)$ and $3P(C) = 2P(B)$, then what is $P(A)$ equal to?

(a) $7/29$

(b) $8/29$

(c) $9/29$

(d) $10/29$

Ans: (c)

A die has two faces with number 4, three faces with number 5 and one face with number 6. If the die is rolled once, then what is the probability of getting 4 or 5?

(a) $1/3$

(b) $2/3$

(c) $5/6$

(d) $1/2$

44 555 6

$$\frac{5}{6}$$

A die has two faces with number 4, three faces with number 5 and one face with number 6. If the die is rolled once, then what is the probability of getting 4 or 5?

(a) $1/3$

(b) $2/3$

(c) $5/6$

(d) $1/2$

Ans: (c)

A box contains 2 black, 4 yellow and 6 white balls. Three balls are drawn in succession with replacement. What is the probability that all three are of the same colour?

(a) $1/6$

(b) $1/36$

(c) $1/12$

(d) $5/12$

2B 4Y 6W

$$\frac{2}{12} \times \frac{2}{12} \times \frac{2}{12} + \frac{4}{12} \times \frac{4}{12} \times \frac{4}{12} + \frac{6}{12} \times \frac{6}{12} \times \frac{6}{12}$$

$$\left(\frac{1}{6}\right)^3 + \left(\frac{1}{3}\right)^3 + \left(\frac{1}{2}\right)^3$$

$$\frac{1 + 8 + 27}{6^3} = \frac{36}{216} = \frac{6^2}{6^3} = \frac{1}{6}$$

A box contains 2 black, 4 yellow and 6 white balls. Three balls are drawn in succession with replacement. What is the probability that all three are of the same colour?

- (a) $1/6$
- (b) $1/36$
- (c) $1/12$
- (d) $5/12$

Ans: (a)

A can hit a target 5 times in 6 shots, B can hit 4 times in 5 shots and C can hit 3 times in 4 shots. What is the probability that A and C may hit but B may lose?

(a) $1/8$

(b) $1/6$

(c) $1/4$

(d) $1/3$

$$\frac{5}{\cancel{6}_2} \times \frac{\cancel{3}}{4} \times \left(1 - \frac{4}{5}\right)$$

$$\frac{5}{8} \times \frac{1}{5} = \frac{1}{8}$$

A can hit a target 5 times in 6 shots, B can hit 4 times in 5 shots and C can hit 3 times in 4 shots. What is the probability that A and C may hit but B may lose?

- (a) $1/8$
- (b) $1/6$
- (c) $1/4$
- (d) $1/3$

Ans: (a)

The letters of the word ZOOLOGY are arranged in all possible ways. What is the probability that the consonants and vowels occur alternatively?

- (a) 6/35
- (b) 3/35
- (c) 2/35
- (d) 1/35

Z O O L O G Y

$$\frac{\left(\frac{4! \times 3!}{3!} \right)}{\left(\frac{7!}{3!} \right)} = \frac{4! \times 3!}{7!} = \frac{\cancel{3} \times 2}{7 \times \cancel{6} \times 5} = \frac{1}{35}$$

The letters of the word ZOOLOGY are arranged in all possible ways. What is the probability that the consonants and vowels occur alternatively?

(a) $6/35$

(b) $3/35$

(c) $2/35$

(d) $1/35$

Ans: (d)

A natural number x is chosen at random from the first 100 natural numbers. What is the probability that $x^2 + x > 50$?

- (a) 93/100
- (b) 47/50
- (c) 24/25
- (d) 23/25

$$x^2 + x > 50 \Rightarrow x(x+1) > 50 \rightarrow 1 - P(x(x+1) < 50)$$

<u>1</u> × 2	_____	(2)
<u>2</u> × 3	_____	(6)
<u>3</u> × 4	_____	(12)
<u>4</u> × 5	_____	(20)
<u>5</u> × 6	_____	(30)
<u>6</u> × 7	_____	(42)
<u>7</u> × 8	_____	56

$$\frac{6}{100} = \frac{3}{50}$$

$$1 - \frac{3}{50} = \frac{47}{50}$$

 7 × 8 _____ 56 → greater than 50

A natural number x is chosen at random from the first 100 natural numbers. What is the probability that $x^2 + x > 50$?

(a) $93/100$

(b) $47/50$

(c) $24/25$

(d) $23/25$

Ans: (b)

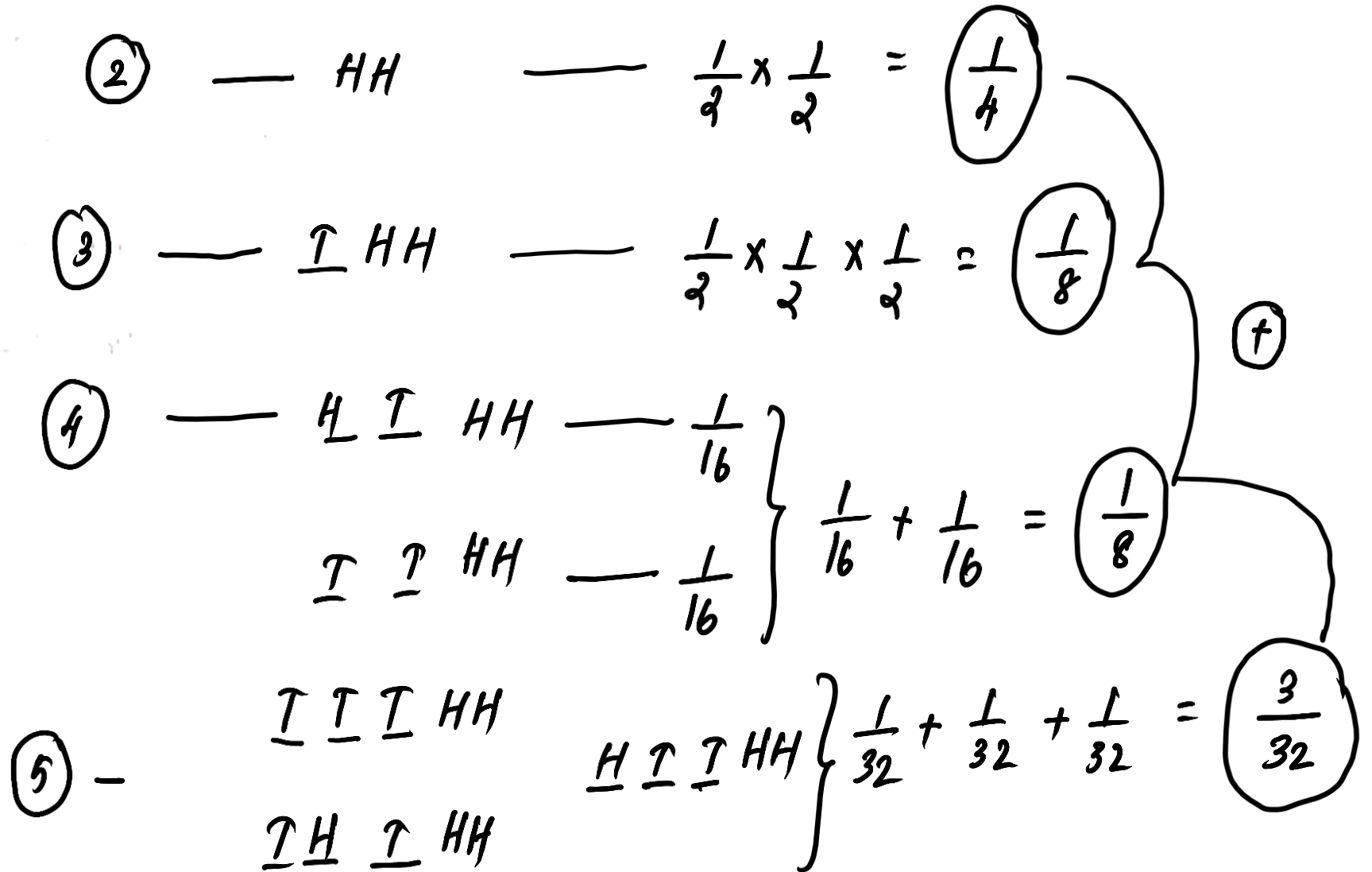
A fair coin is tossed till two heads occur in succession. What is the probability that the number of tosses required is less than 6?

(a) 5/64

(b) 15/32

(c) 31/64

(d) 19/32



NDA 1 2025 LIVE CLASS - MATHS - REVISION

$$\frac{1}{4} + \frac{1}{8} + \frac{1}{8} + \frac{3}{32}$$

$$= \frac{8 + 4 + 4 + 3}{32}$$

$$= \frac{19}{32}$$

A fair coin is tossed till two heads occur in succession. What is the probability that the number of tosses required is less than 6?

- (a) $5/64$
- (b) $15/32$
- (c) $31/64$
- (d) $19/32$

Ans: (d)

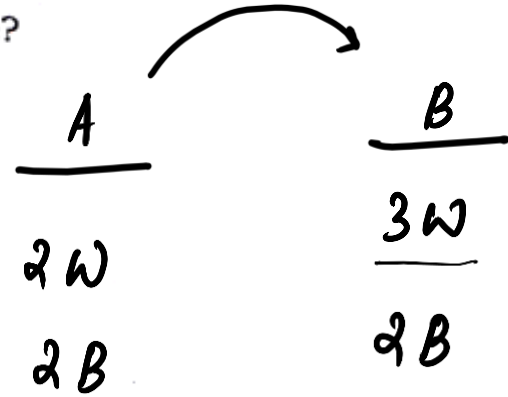
Urn A contains 2 white and 2 black balls while urn B contains 3 white and 2 black balls. One ball is transferred from urn A to urn B and then a ball is drawn out of urn B. What is the probability that the ball is white?

(a) $11/20$

(b) $7/12$

(c) $3/5$

(d) 1



$$\left(\frac{1}{2} \times \frac{3}{6} \right) + \frac{1}{2} \times \frac{4}{6}$$

$$\frac{3}{12} + \frac{4}{12} = \frac{7}{12}$$

Urn A contains 2 white and 2 black balls while urn B contains 3 white and 2 black balls. One ball is transferred from urn A to urn B and then a ball is drawn out of urn B . What is the probability that the ball is white?

(a) $11/20$

(b) $7/12$

(c) $3/5$

(d) 1

Ans: (b)

For two events A and B ,
 $P(A) = P(A|B) = 0.25$ and $P(B|A) = 0.5$.
 Which of the following are correct?

I. A and B are independent.

II. $P(A^c \cup B^c) = 0.875$

III. $P(A^c \cap B^c) = 0.375$

Select the answer using the code given below.

(a) I and II only

(b) II and III only

(c) I and III only

(d) I, II and III

$$\textcircled{1} \quad P(A|B) = P(A)$$

$$\frac{P(A \cap B)}{P(B)} = P(A) \Rightarrow \frac{P(A \cap B)}{P(A) \cdot P(B)} = 1$$

(Independent events)

$$\textcircled{2} \quad P(A^c \cup B^c) = P(A \cap B)^c \quad (\text{De-Moivre's Law})$$

$$= 1 - P(A \cap B)$$

$$P(A|B) = 0.25 \quad \left\{ \begin{array}{l} \frac{P(B \cap A)}{P(A)} = 0.5 \end{array} \right.$$

$$\frac{P(B \cap A)}{P(A)} = 0.5$$

$$P(A \cap B) = 0.5 \times 0.25$$

$$= \underline{0.125}$$

$$P(B \cap A) = P(A \cap B)$$

$$\textcircled{i} \quad 1 - 0.125 = \underline{0.875}$$

$$\textcircled{ii} \quad P(A^c \cap B^c) = P(A \cup B)^c = 1 - P(A \cup B)$$

$$P(A^c \cap B^c) = \underline{P(A \cup B)^c}$$

$$P(A \cup B) = P(A) + \underline{P(B)} - P(A \cap B)$$

$$P(A|B) = 0.25$$

$$\frac{P(A \cap B)}{P(B)} = 0.25$$

$$P(A|B) = 0.25$$

$$\frac{P(A \cap B)}{P(B)} = 0.25$$

$$\frac{0.125}{P(B)} = 0.25 \Rightarrow P(B) = \frac{0.125}{0.25} = \underline{0.5}$$

$$P(A \cup B) = 0.25 + 0.5 - 0.125$$

$$= 0.750 - 0.125$$

$$= 0.625$$

$$P(A^c \cap B^c) = 1 - P(A \cup B)$$

$$= 1 - 0.625$$

$$= \underline{0.375}$$

For two events A and B ,
 $P(A) = P(A|B) = 0.25$ and $P(B|A) = 0.5$.
Which of the following are correct?

I. A and B are independent.

II. $P(A^c \cup B^c) = 0.875$

III. $P(A^c \cap B^c) = 0.375$

Select the answer using the code given below.

(a) I and II only

(b) II and III only

(c) I and III only

(d) I, II and III

Ans: (d)

- Two perfect dice are thrown. What is the probability that the sum of the numbers on the faces is neither 9 nor 10?

	Sum 9	OR	10	
(a) $1/36$	(4, 5)		(5, 5)	} (7)
(b) $5/36$	(5, 4)		(6, 4)	
(c) $7/36$	(6, 3)		(4, 6)	
	(3, 6)			
(d) $29/36$				

$$\text{Sum neither 9 nor 10} = 1 - \frac{7}{36} = \frac{29}{36}$$

. Two perfect dice are thrown. What is the probability that the sum of the numbers on the faces is neither 9 nor 10?

(a) $1/36$

(b) $5/36$

(c) $7/36$

(d) $29/36$

Ans: (d)

The occurrence of a disease in an industry is such that the workers have 20% chance of suffering from it. What is the probability that out of 6 workers chosen at random, 4 or more will suffer from the disease?

$$p = 20\% = \frac{1}{5}$$

$$q = 80\% = \frac{4}{5}$$

(a) 53/3125

$$P(X \geq 4) = {}^6C_4 \left(\frac{1}{5}\right)^4 \left(\frac{4}{5}\right)^2 + {}^6C_5 \left(\frac{1}{5}\right)^5 \left(\frac{4}{5}\right) + {}^6C_6 \left(\frac{1}{5}\right)^6 \left(\frac{4}{5}\right)^0$$

(b) 63/3125

$$n = 6$$

$$= \frac{6 \times 5}{2} \left(\frac{16}{5^6}\right) + 6 \left(\frac{4}{5^6}\right) + 1 \cdot \left(\frac{1}{5^6}\right) \quad \frac{625}{25} \quad \frac{3125}{3125}$$

(c) 73/3125

(d) 83/3125

$$= \frac{240 + 24 + 1}{56} = \frac{265}{56} = \frac{53}{55} = \frac{53}{3125}$$

The occurrence of a disease in an industry is such that the workers have 20% chance of suffering from it. What is the probability that out of 6 workers chosen at random, 4 or more will suffer from the disease?

(a) $\frac{53}{3125}$

(b) $\frac{63}{3125}$

(c) $\frac{73}{3125}$

(d) $\frac{83}{3125}$

Ans: (a)

Three perfect dice are rolled. Under the condition that no two show the same face, what is the probability that one of the faces shown is an ace (one)?

(a) $5/9$

(b) $2/3$

(c) $1/3$

(d) $1/2$

$$\underline{6} \quad \underline{5} \quad \underline{4} = 6 \times 5 \times 4 = \underline{120} \text{ (Total)}$$

$$\underline{1} \quad \underline{5} \quad \underline{4} = 5 \times 4 = 20$$

$$3 \times 20 = \underline{60}$$

$$\frac{60}{120} = \underline{\underline{\frac{1}{2}}}$$

Three perfect dice are rolled. Under the condition that no two show the same face, what is the probability that one of the faces shown is an ace (one)?

(a) $5/9$

(b) $2/3$

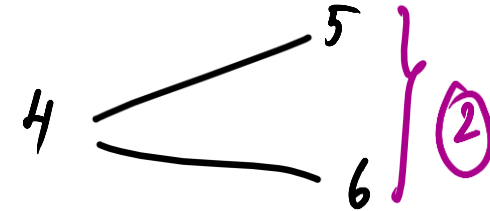
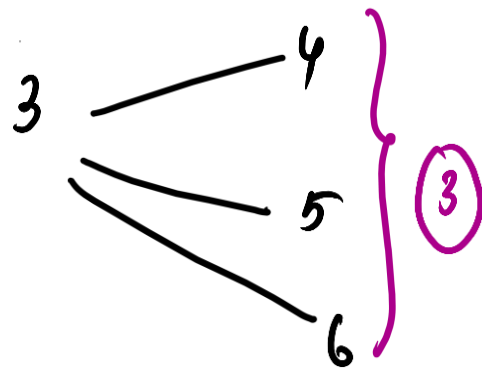
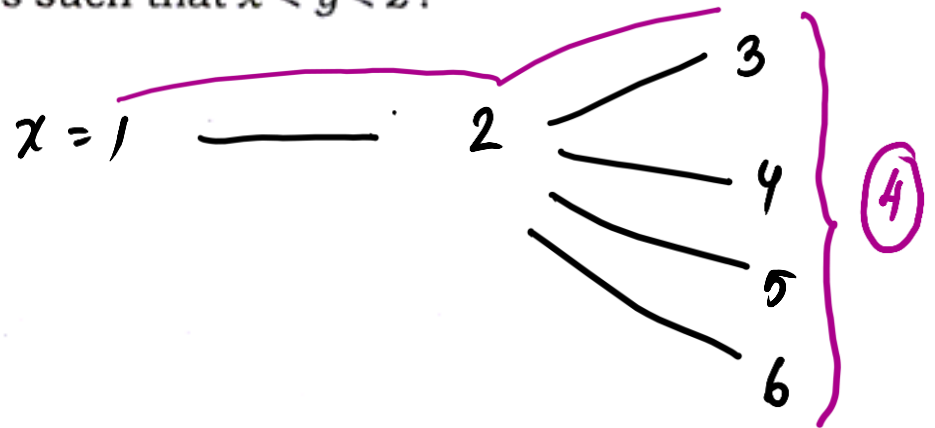
(c) $1/3$

(d) $1/2$

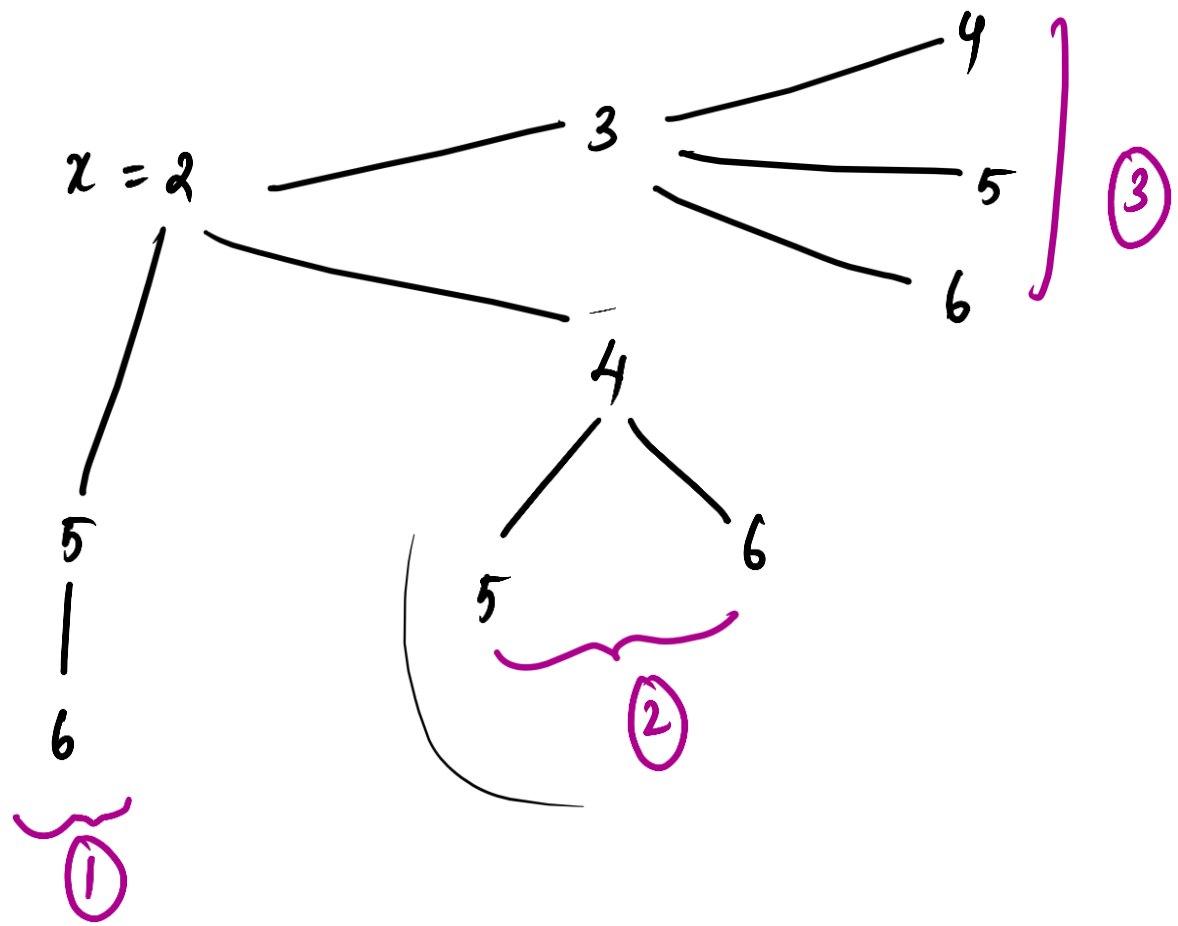
Ans: (d)

Three perfect dice D_1 , D_2 and D_3 are rolled. Let x , y and z represent the numbers on D_1 , D_2 and D_3 respectively. What is the number of possible outcomes such that $x < y < z$?

- (a) 20
- (b) 18
- (c) 14
- (d) 10



$$4 + 3 + 2 + 1 = 10$$



$$\begin{aligned} (x=1) & \quad 4+3+2+1 = 10 \\ (x=2) & \quad 3+2+1 = 6 \\ (x=3) & \quad 2+1 = 3 \\ (x=4) & \quad 1 = 1 \end{aligned} \left. \vphantom{\begin{aligned} (x=1) \\ (x=2) \\ (x=3) \\ (x=4) \end{aligned}} \right\} \frac{10+6+3+1}{\text{---}} = \textcircled{20}$$

Three perfect dice D_1 , D_2 and D_3 are rolled. Let x , y and z represent the numbers on D_1 , D_2 and D_3 respectively. What is the number of possible outcomes such that $x < y < z$?

- (a) 20
- (b) 18
- (c) 14
- (d) 10

Ans: (a)

Q) In an examination, the probability of a candidate solving a question is $\frac{1}{2}$. Out of given 5 questions in the examination, what is the probability that the candidate was able to solve at least 2 questions?

(a) $\frac{1}{64}$

(b) $\frac{3}{16}$

(c) $\frac{1}{2}$

(d) $\frac{13}{16}$

$$P(X \geq 2) = \underline{P(X=2)} + \underline{P(X=3)} + \underline{P(X=4)} + \underline{P(X=5)}$$

$$p = \frac{1}{2} ; q = \frac{1}{2} ; n = 5$$

$${}^5C_2 \left(\frac{1}{2}\right)^2 \left(\frac{1}{2}\right)^3 + {}^5C_3 \left(\frac{1}{2}\right)^3 \left(\frac{1}{2}\right)^2 + {}^5C_4 \left(\frac{1}{2}\right)^4 \left(\frac{1}{2}\right)^1 + {}^5C_5 \left(\frac{1}{2}\right)^5 \left(\frac{1}{2}\right)^0$$

$${}^5C_2 \left(\frac{1}{2}\right)^2 \left(\frac{1}{2}\right)^3 + {}^5C_3 \left(\frac{1}{2}\right)^3 \left(\frac{1}{2}\right)^2 + {}^5C_4 \left(\frac{1}{2}\right)^4 \left(\frac{1}{2}\right)^1 + {}^5C_5 \left(\frac{1}{2}\right)^5 \left(\frac{1}{2}\right)^0$$

$$= \left(\frac{1}{2}\right)^5 \left[{}^5C_2 + {}^5C_3 + {}^5C_4 + {}^5C_5 \right]$$

$$= \frac{1}{32} \left[10 + 10 + 5 + 1 \right]$$

$$= \frac{26}{32} = \frac{13}{16}$$

$${}^nC_r = {}^nC_{n-r}$$

$${}^nC_n = {}^nC_0 = \underline{1}$$

$${}^nC_1 = {}^nC_{n-1} = \underline{n}$$

Q) In an examination, the probability of a candidate solving a question is $\frac{1}{2}$. Out of given 5 questions in the examination, what is the probability that the candidate was able to solve at least 2 questions?

(a) $\frac{1}{64}$

(b) $\frac{3}{16}$

(c) $\frac{1}{2}$

(d) $\frac{13}{16}$

Ans: (b)

Q) Three digits are chosen at random from 1, 2, 3, 4, 5, 6, 7, 8 and 9 without repeating any digit. What is the probability that the product is odd ?

(a) $\frac{2}{3}$

(b) $\frac{7}{48}$

(c) $\frac{5}{42}$

(d) $\frac{5}{108}$

Q) Three digits are chosen at random from 1, 2, 3, 4, 5, 6, 7, 8 and 9 without repeating any digit. What is the probability that the product is odd ?

(a) $\frac{2}{3}$

(b) $\frac{7}{48}$

(c) $\frac{5}{42}$

(d) $\frac{5}{108}$

Ans: (c)

Q) If $x \in [0, 5]$, then what is the probability that $x^2 - 3x + 2 \geq 0$?

(a) $\frac{4}{5}$

(b) $\frac{1}{5}$

(c) $\frac{2}{5}$

(d) $\frac{3}{5}$

Q) If $x \in [0, 5]$, then what is the probability that $x^2 - 3x + 2 \geq 0$?

(a) $\frac{4}{5}$

(b) $\frac{1}{5}$

(c) $\frac{2}{5}$

(d) $\frac{3}{5}$

Ans: (a)

Q) If $P(A \cup B) = \frac{5}{6}$, $P(A \cap B) = \frac{1}{3}$ and $P(\bar{A}) = \frac{1}{2}$, then which of the

following is/are correct?

1. A and B are independent events.
2. A and B are mutually exclusive events.

Select the correct answer using the code given below.

- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2

Q) If $P(A \cup B) = \frac{5}{6}$, $P(A \cap B) = \frac{1}{3}$ and $P(\bar{A}) = \frac{1}{2}$, then which of the following is/are correct?

1. A and B are independent events.
2. A and B are mutually exclusive events.

Select the correct answer using the code given below.

- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2

Ans: (a)

Q) A problem is given to three students A , B and C , whose probabilities of solving the problem independently are $\frac{1}{2}$, $\frac{3}{4}$ and p , respectively. If the probability that the problem can be solved is $\frac{29}{32}$, then what is the value of p ?

(a) $\frac{2}{5}$

(b) $\frac{2}{3}$

(c) $\frac{1}{3}$

(d) $\frac{1}{4}$

Q) A problem is given to three students A , B and C , whose probabilities of solving the problem independently are $\frac{1}{2}$, $\frac{3}{4}$ and p , respectively. If the probability that the problem can be solved is $\frac{29}{32}$, then what is the value of p ?

(a) $\frac{2}{5}$

(b) $\frac{2}{3}$

(c) $\frac{1}{3}$

(d) $\frac{1}{4}$

Ans: (d)

Q) For two events, A and B, it is given that $P(A) = \frac{3}{5}$, $P(B) = \frac{3}{10}$, and $P(A | B) = \frac{2}{3}$. If \bar{A} and \bar{B} are the complementary events of A and B, then $P(\bar{A} | \bar{B})$ equal to?

(a) $\frac{3}{7}$

(b) $\frac{3}{4}$

(c) $\frac{1}{3}$

(d) $\frac{4}{7}$

Q) For two events, A and B, it is given that $P(A) = \frac{3}{5}$, $P(B) = \frac{3}{10}$, and $P(A | B) = \frac{2}{3}$. If \bar{A} and \bar{B} are the complementary events of A and B, then $P(\bar{A} | \bar{B})$ equal to?

(a) $\frac{3}{7}$

(b) $\frac{3}{4}$

(c) $\frac{1}{3}$

(d) $\frac{4}{7}$

Ans: (a)

Q) A bag contains 20 books out of which 5 are defective. If 3 of the books are selected at random and removed from the bag in succession without replacement, then what is the probability that all three books are defective?

(a) 0.009

(b) 0.016

(c) 0.026

(d) 0.047

Q) A bag contains 20 books out of which 5 are defective. If 3 of the books are selected at random and removed from the bag in succession without replacement, then what is the probability that all three books are defective?

- (a) 0.009 (b) 0.016
(c) 0.026 (d) 0.047

Ans: (a)

Q) There are 3 coins in a box. One is a two-headed coin; another is a fair coin; and third is biased coin that comes up heads 75% of time. When one of the three coins is selected at random and flipped, it shows heads. What is the probability that it was the two-headed coin?

(a) $\frac{2}{9}$

(b) $\frac{1}{3}$

(c) $\frac{4}{9}$

(d) $\frac{5}{9}$

Q) There are 3 coins in a box. One is a two-headed coin; another is a fair coin; and third is biased coin that comes up heads 75% of time. When one of the three coins is selected at random and flipped, it shows heads. What is the probability that it was the two-headed coin?

(a) $\frac{2}{9}$

(b) $\frac{1}{3}$

(c) $\frac{4}{9}$

(d) $\frac{5}{9}$

Ans: (c)

Q) In a college, 25% of the boys and 10% of the girls offer Mathematics. The girls constitute 60% of the total number of students. If a student is selected at random and is found to be studying Mathematics. The probability that the student is a girl, is

(a) $\frac{1}{6}$
(c) $\frac{5}{8}$

(b) $\frac{3}{8}$
(d) $\frac{5}{6}$

Q) In a college, 25% of the boys and 10% of the girls offer Mathematics. The girls constitute 60% of the total number of students. If a student is selected at random and is found to be studying Mathematics. The probability that the student is a girl, is

(a) $\frac{1}{6}$
(c) $\frac{5}{8}$

(b) $\frac{3}{8}$
(d) $\frac{5}{6}$

Ans: (b)

Q) If A and B are any two events, then $P(\bar{A} \cap B)$ is equal to

- (a) $P(\bar{A}) P(\bar{B})$ (b) $1 - P(A) - P(B)$
(c) $P(A) + P(B) - P(A \cap B)$ (d) $P(B) - P(A \cap B)$

Q) If A and B are any two events, then $P(\bar{A} \cap B)$ is equal to

- (a) $P(\bar{A})P(\bar{B})$ (b) $1 - P(A) - P(B)$
(c) $P(A) + P(B) - P(A \cap B)$ (d) $P(B) - P(A \cap B)$

Ans: (d)

Q) For two dependent events A and B, it is given that $P(A) = 0.2$ and $P(B) = 0.5$. If $A \subseteq B$, then the values of conditional probabilities $P(A|B)$ and $P(B|A)$ are respectively

(a) $\frac{2}{5}, \frac{3}{5}$

(b) $\frac{2}{5}, 1$

(c) $1, \frac{2}{5}$

(d) Information is insufficient

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Ans: (b)

Q) In a class of 125 students 70 passed in Mathematics, 55 passed in Statistics and 30 passed in both. What is the probability that a student selected at random from the class has passed in only one subject?

- (a) $\frac{13}{25}$ (b) $\frac{3}{25}$ (c) $\frac{17}{25}$ (d) $\frac{8}{25}$

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Ans: (a)

Q) What is the probability that the roots of the equation $x^2 + x + n = 0$ are real, where $n \in N$ and $n < 4$?

- (a) 0
- (b) $\frac{1}{4}$
- (c) $\frac{1}{3}$
- (d) $\frac{1}{2}$

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(c) $\frac{1}{3}$ (d) $\frac{1}{2}$

Ans: (a)

Q) Let A , B and C be three mutually exclusive and exhaustive events associated with a random experiment. If $P(B) = 1.5 P(A)$ and $P(C) = 0.5 P(B)$, then $P(A)$ is equal to

- (a) $\frac{3}{4}$ (b) $\frac{4}{13}$ (c) $\frac{2}{3}$ (d) $\frac{1}{2}$

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(b) $\frac{4}{13}$

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Ans: (b)

Q) An experiment consists of flipping a coin and then flipping it a second time if head occurs. If a tail occurs on the first flip, then a six-faced die is tossed once. Assuming that the outcomes are equally likely, what is the probability of getting one head and one tail?

(a) $\frac{1}{4}$

(b) $\frac{1}{36}$

(c) $\frac{1}{6}$

(d) $\frac{1}{8}$

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Ans: (d)

Q) Consider the following statements :

1. If A and B are exhaustive events, then their union is the sample space.
2. If A and B are exhaustive events, then their intersection must be an empty event.

Which of the above statements is/are correct ?

- | | |
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| (a) 1 only | (b) 2 only |
| (c) Both 1 and 2 | (d) Neither 1 nor 2 |

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Ans: (b)

Q) If three natural numbers from 1 to 100 are selected randomly, then probability that all are divisible by both 2 and 3, is

(a) $\frac{4}{105}$

(b) $\frac{4}{33}$

(c) $\frac{4}{35}$

(d) $\frac{4}{1155}$

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Ans: (d)

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