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## MATHS

## BOOKS - JBD PUBLICATION

## PROBABILITY

Exercise

1. Three fair coins are tossed. The probability
of getting exactly one head is,
A. $\frac{1}{2}$
B. $\frac{1}{8}$
C. $\frac{3}{8}$
D. 1

## Answer:

## D Watch Video Solution

2. A bag contains 5 white, 4 black and 6 red balls. A ball is drawn at random. The probability that the balls drawn is not white is:
A. $\frac{1}{3}$
B. $\frac{4}{15}$
C. $\frac{2}{5}$
D. $\frac{2}{3}$

Answer:

## D Watch Video Solution

3. Given $P(A)=\frac{3}{5}$ and $P(B)=\frac{1}{5}$. Find the
$P(A \cup B)$ if A and B are mutually exclusive events.
A. $\frac{3}{25}$
B. $\frac{2}{5}$
C. $\frac{4}{5}$
D. $\frac{1}{5}$

## Answer:

## D Watch Video Solution

4. A fair die is tossed. Find the probability of getting a number greater than 2.
5. Probability that a leap year selected at
random will contain 53 wednesdays is:

> A. $\frac{1}{7}$
> B. $\frac{7}{366}$
> C. $\frac{7}{365}$
> D. $\frac{2}{7}$

Answer:

- Watch Video Solution

6. A card is drawn at random from a pack of 52
cards. Put the probability that a card drawn is
a red card

$$
\begin{aligned}
& \text { A. } \frac{1}{3} \\
& \text { B. } \frac{1}{2} \\
& \text { C. } \frac{15}{26} \\
& \text { D. } \frac{7}{13}
\end{aligned}
$$

## Answer:

7. The probability of getting sum 10 in a single thrown of two dice is
A. $\frac{1}{3}$
B. $\frac{1}{4}$
C. $\frac{1}{12}$
D. $\frac{1}{15}$

Answer:
8. A card is drawn from a pack of 100 cards numbered 1 to 100 . The probability of drawing a number which is a square is.

> A. $\frac{1}{5}$
> B. $\frac{2}{5}$
> C. $\frac{1}{10}$
D. None of these

## Answer:

9. If $A$ and $B$ are events such that $P(A)=0.42$,
$P(B)=0.48$ and $P(A \cap B)=0.16$, then $P(A$ or $B)$
is equal to
A. 0.2
B. 0.96
C. 0.86
D. 0.74

Answer:

D Watch Video Solution
10. Two dice are thrown, the probability that
the sum of the points on two dice will 3 or 5 or

11 is:
A. $\frac{1}{9}$
B. $\frac{2}{9}$
C. $\frac{19}{36}$
D. $\frac{5}{36}$

Answer:
11. The numer of elements in a sample space, when a die rolled are:
A. 6
B. 8
C. 5
D. 56

Answer:

- Watch Video Solution

12. Probability of a sure event is:
A. 0
B. 1
C. $\phi$
D. None of these

Answer:

- Watch Video Solution

13. Probabilityi of an impossible event is:

## D Watch Video Solution

14. Six boys and six girls sit in a row randomly.

The probability that the six girls sit together or the the boys and girls sit alternatly, is
A. $\frac{1}{332}$
B. $\frac{1}{232}$
C. $\frac{1}{132}$
D. None of these

## Answer:

## D Watch Video Solution

15. If $A$ and $B$ are mutually exclusive events
then:

$$
\begin{aligned}
& \text { A. } P(A) \leq P(\bar{B}) \\
& \text { B. } P(A) \geq P(\bar{B}) \\
& \text { C. } P(A)<P(\bar{B})
\end{aligned}
$$

D. None of these

## Answer:

## - Watch Video Solution

16. A single letter is selected at random from
the word PROBABILITY the probability that it is
a vowel is:
A. $\frac{1}{11}$
B. $\frac{4}{11}$
C. $\frac{3}{11}$
D. None of these

## Answer:

## - Watch Video Solution

17. If $P(A \cup B)=P(A \cap B)$ for any two events $A$ and $B$ then.
A. $P(A)=P(B)$
B. $P(A)>P(B)$
C. $P(A)<P(B)$
D. None of these

## Answer:

## - Watch Video Solution

18. Four persons are selected at random out of

3 men, 2 women and 4 children. The probability that there are exactly 2 children in the selection is:
A. $\frac{11}{21}$
B. $\frac{10}{21}$
C. $\frac{8}{21}$

## D. None of these

## Answer:

## D Watch Video Solution

19. Seven perons are to be seated in a row. The probability that two particular persons sit next to each other is:

> A. $\frac{1}{2}$
> B. $\frac{1}{3}$
C. $\frac{2}{7}$
D. None of these

## Answer:

## D Watch Video Solution

20. One card is drawn from a pack of 52 cards.

The probability that it is the card of a king or
an ace is:
A. $\frac{1}{26}$
B. $\frac{3}{26}$
C. $\frac{4}{13}$
D. None of these

## Answer:

## D Watch Video Solution

21. Two dice are thrown together, the probability that at least one will show its digit greater than 3 is
A. $\frac{1}{4}$
B. $\frac{3}{4}$
C. $\frac{2}{5}$
D. None of these

Answer:

## D Watch Video Solution

22. Two dice are thrown simultaneously. The probability of obtainng a total score of 5 is,
A. $\frac{1}{9}$
B. $\frac{2}{9}$
C. $\frac{4}{9}$
D. None of these

Answer:

## D Watch Video Solution

23. A die is rolled then the probability that a number 1 or 6 may appear is:
A. $\frac{1}{2}$
B. $\frac{2}{5}$
C. $\frac{1}{3}$
D. None of these

Answer:

## D Watch Video Solution

24. In a single toss of three coins, the probability of getting head and tail alternatively is:
A. $\frac{1}{2}$
B. $\frac{1}{4}$
C. $\frac{1}{8}$
D. None of these

## Answer:

## D Watch Video Solution

25. The probability of getting at least one tail in 4 tosses of a coin is:
A. $\frac{15}{16}$
B. $\frac{13}{16}$
C. $\frac{9}{16}$
D. None of these

Answer:

- Watch Video Solution

26. The probability of occurrence of an event $A$ is 0.5 and that of $B$ is 0.3 . If $A$ and $B$ are
mutually exclusive events, then the probability of netiher $A$ nor $B$ is:
A. 0.2
B. 0.3
C. 0.4
D. None of these

Answer:
( Watch Video Solution
27. If $A$ and $B$ are two events, the probability
that exactly one of them occurs is given by
A. $P(A)+P(B)$
B. $P(A)+P(B)-P(A \cap B)$
C. $P(A)+P(B)-2 P(A \cap B)$
D. None of these

Answer:

D Watch Video Solution
28.

If
$P(A)=P(B)=x$
and
$P(A \cap B)=P(\bar{A} \cap \bar{B})=\frac{1}{3}$, then the value of $x$ is:

> A. $\frac{1}{2}$
> B. $\frac{1}{3}$
> C. $\frac{1}{4}$
D. None of these

## Answer:

## D Watch Video Solution

29. 12 tickets are numbered from 1 to 12 one
ticket is drawn at random, then the probability
of the number to be divisible by 2 or 3 is:
A. $\frac{3}{4}$
B. $\frac{2}{3}$
C. $\frac{7}{12}$
D. None of these

Answer:

D Watch Video Solution
30. Two cards are drawn at random from a well
shuffled deck of 52 cards. The probability of getting at least a spade or a king is:

> A. $\frac{1}{26}$
> B. $\frac{1}{13}$
> C. $\frac{4}{51}$
D. None of these

## Answer:

D Watch Video Solution

1. A committee of two persons is selected from two men and two women. What is the probability that the committee will have no man?

## D Watch Video Solution

2. A committee of two persons is selected from
two men and two women. What is the
probability that the committee will have one man?

D Watch Video Solution
3. Three coins are tossed once. Find the probability of getting two heads.

D Watch Video Solution
4. Three coins are tossed once. Find the probability of getting at least two heads.

## D Watch Video Solution

5. A coin is tossed. If the outcome is a head, a
die is thrown. If the die shows up an even
number, the die is thrown again. What is the sample space for the experiment?
6. 2 boys and 2 girls are in room $X$, and 1 boy and 3 girls in room Y. Specify the sample space for the experiment in which a room is selected and then a person.

## D Watch Video Solution

7. An experiment consists of tossing a coin and then throwing it second time if a head occurs.

If a tail occurs on the first toss, then a die is rolled once. Find the sample space.

## - Watch Video Solution

8. A box contains 1 red and 3 identical white balls. Two balls are drawn at random in succession (one after the other) without replacement. Write the sample space for this experiment.

## D Watch Video Solution

9. The numbers $1,2,3$ and 4 are written separatley on four slips of paper. The slips are put in a box and mixed throughly. A person draws two slips from the box, one after the other without replacement. Describe the sample space for the experiment.

## D Watch Video Solution

10. A coin is tossed twice. If the second toss
results in a head, then a die is rolled. Write the
sample space of the experiment.

## - Watch Video Solution

11. A die is rolled. Let E be the event "die shows

4" and $F$ be the event "die shows even number". Are E and F mutually exclusive?

## D Watch Video Solution

12. Two dice are thrown. The events $A, B, C$ are
as follows:

A: getting an even number on the first die.
$B$ : getting an odd number on the first die.
$C$ : getting the sum of the number on the dice

## $\leq 5$.

Describe the events
(i) $A^{\prime}$ (ii) not $B$ (iii) $A$ or $B$ (iv) $A$ and $B$ (v) $A$ but $\operatorname{not} \mathrm{C}(\mathrm{vi}) A \cap B^{\prime} \cap C^{\prime}=\phi$.

## D Watch Video Solution

13. Two dice are thrown. The events $A, B$ and $C$ are as follows:
$A=$ Getting an odd number on the first die.
$B=$ Getting a total of 7 on the two dice.

C= `Getting a sum ge 8 on the two dice.

Describe events not $B$ ?

D Watch Video Solution
14. Which of the following is not a probability of the occurrence of an event?
$\frac{2}{3}$.

- Watch Video Solution

15. Which of the following is not a probability of the occurrence of an event?

0

## D Watch Video Solution

16. Which of the following is not a probability of the occurrence of an event?
$-\frac{2}{3} ?$
17. Which of the following is not a probability of the occurrence of an event?

3
$\overline{2}$.

- Watch Video Solution

18. If $\frac{2}{11}$ is the probabilit of an event, what is
the probability of the event not A .

- Watch Video Solution

19. A letter is chosen at random, from the word 'ASSASSINATION'. Find the probability that letter is
a vowel

## D Watch Video Solution

20. A letter is chosen at random from the word

ASSASSINATION. Find the probability that a letter is
(i) vowel.
(ii) a consonant.

- Watch Video Solution

21. A coin is tossed twice, what is the probability that:
one head and one tail occurs?

D Watch Video Solution
22. A coin is tossed twice, what is the probability that:
no head occurs?

- Watch Video Solution

23. A coin is tossed twice, what is the probability that atleast one tail occurs ?

D Watch Video Solution
24. Three coins are tossed once. Find the probability of getting at least two heads.

## D Watch Video Solution

25. Three coins are tossed once. Find the probability of getting
(i) 2 heads
(ii) at least 2 heads
(iii) atmost 2 heads
(iv) no head
(v) no tail
(vi) at most 2 tails.
(vii) exactly two tails

## D Watch Video Solution

26. Three coins are tossed. Find the probability of : exactly 2 tails
27. A die is thrown, find the probability of following events:

A prime number will appear.

## D Watch Video Solution

28. A die is thrown, find the probability of following events:

A number greater than or equal to 3 will appear.
29. A die is thrown, find the probability of following events:

A number less than or equal to one will appear.

## - Watch Video Solution

30. A die is thrown, find the probability of following events:

A number more than 6 will appear.
31. A die is thrown, find the probability of following events:

A number less than 6 will appear.

## - Watch Video Solution

32. A fair coin marked 1 on one face and 6 on
the other and a fair die are both tossed. Find
the probability that sum of numbers that
turns up is
(i) 3 (ii) 12 .

D Watch Video Solution
33. A fair coin marked 1 on one face and 6 on
the other and a fair die are both tossed. Find
the probability that sum of numbers that turns up is
(i) 3 (ii) 12 .

D Watch Video Solution
34. A fair coin with 1 marked on one face and 6
on the other and a fair die are both tossed,
find the probability that the sum of numbers that turn up is
greater than 5

## - Watch Video Solution

35. A fair coin with 1 marked on one face and 6
on the other and a fair die are both tossed,
find the probability that the sum of numbers
that turn up is
less than 6.

D Watch Video Solution
36. A fair coin with 1 marked on one face and 6
on the other and a fair die are both tossed,
find the probability that the sum of numbers
that turn up is

3 or 12

- Watch Video Solution

37. Given $P(A)=\frac{3}{5}$ and $P(B)=\frac{1}{5}$, find $P(A$ or $B)$ and $A \& B$ are mutually exclusive events.

## - Watch Video Solution

38. Given $P(A)=\frac{3}{5}$ and $P(B)=\frac{1}{5}$, find:
$P$ (neither $A$ nor $B$ ) if $A$ and $B$ are mutually exclusive.

## - Watch Video Solution

39. $A$ and $B$ are events such that $P(A)=0.42$, $P(B)=0.48$ and $P(A$ or $B)=0.16$.

Determine
$P($ not $A)$

## D Watch Video Solution

40. $A$ and $B$ are events such that $P(A)=0.42$,
$P(B)=0.48$ and $P(A$ or $B)=0.16$.

Determine
$P($ not $B)$

- Watch Video Solution

41. A and B are events such that $P(A)=0.42$,
$P(B)=0.48$ and $P(A \cap B)=0.16$.

## Determine

$P(A \cup B)$

- Watch Video Solution

42. $A$ and $B$ are events such that $P(A)=0.42$,
$P(B)=0.48$ and $P(A$ or $B)=0.16$.

Determine
43. $A$ and $B$ are events such that $P(A)=0.42$, $P(B)=0.48$ and $P(A$ or $B)=0.16$.

Determine $P($ not $B)$

## - Watch Video Solution

44. $A$ and $B$ are two events such that $P(A)=0.54$,
$\mathrm{P}(\mathrm{B})=0.69$ and $P(A \cap B)=0.35$

Find:
$P(A \cup B)$

## - Watch Video Solution

45. $A$ and $B$ are two events such that $P(A)=0.54$,
$\mathrm{P}(\mathrm{B})=0.69$ and $P(A \cap B)=0.35$

Find:
$P\left(A^{\prime} \cap B^{\prime}\right)$
46. $A$ and $B$ are two events such that $P(A)=0.54$, $\mathrm{P}(\mathrm{B})=0.69$ and $P(A \cap B)=0.35$

Find:
$P\left(A \cap B^{\prime}\right)$

## D Watch Video Solution

47. $A$ and $B$ are two events such that $P(A)=0.54$,
$\mathrm{P}(\mathrm{B})=0.69$ and $P(A \cap B)=0.35$

Find:
$P\left(B \cap A^{\prime}\right)$
48. Find the probability that when a hand of 7
cards is drawn from a well shuffled deck of 52 cards it contains :
(i) all Kings (ii) exactly three Kings (iii) at least three Kings.

## D Watch Video Solution

49. Find the probability that when a hand of 7
cards is drawn from a well shuffled deck of 52
cards it contains :
(i) all Kings (ii) exactly three Kings (iii) at least three Kings.

## D Watch Video Solution

50. Find the probability that when a hand of 7 cards is drawn from a well shuffled deck of 52
cards it contains :
(i) all Kings (ii) exactly three Kings (iii) at least three Kings.
51. Findthe probability of getting king card when a card is drawn frm well shuffled pack 52 cards.

## D Watch Video Solution

52. Two cards are drawn simultaneously from a pack of 52 well shuffled cards. Find the probability that
both cards are aces.
53. Two cards are drawn simultaneously from a pack of 52 well shuffled cards. Find the probability that
one card is of diamond and the other is a spade.

## - Watch Video Solution

54. Two cards are drawn simultaneously from a pack of 52 well shuffled cards. Find the
probability that
both cards are red.

## D Watch Video Solution

55. Two cards are drawn simultaneously from a pack of 52 well shuffled cards. Find the probability that
one card is red and one is black.

D Watch Video Solution
56. In a lottery, there are 35 tickets in all, 10 bearing prize numbers and 25 are blanks. A lady draws 2 tickets at random. What is the probability that she will win one prize?

## D Watch Video Solution

57. In a lottery, there are 35 tickets in all, 10 bearing prize numbers and 25 are blanks. A lady draws 2 tickets at random. What is the
probability that she will win
two prizes?

D Watch Video Solution
58. In a lottery, there are 35 tickets in all, 10 bearing prize numbers and 25 are blanks. A lady draws 2 tickets at random. What is the probability that she will win no prize?
59. In a relay race, there are five teams, $A, B, C$,

D and E .
What is the probability that $\mathrm{A}, \mathrm{B}, \mathrm{C}$ finish first, second and third respectively?

## - Watch Video Solution

60. In a relay race, there are five teams, $A, B, C$,

D and E .
What is the probability that $A, B$ and $C$ are first
three to finish (in any order)?
61. Two students Anil and Ashima appeared in an examination. The probabilities that Anil will qualify the examination is 0.05 and that Ashima will qualify the examination is 0.10 . The probabilities that both will qualify the examination is 0.02 . Find the probability that
a) Both Anil and Ashima will not qualify the examination.
b) Atleast one of them will not qualify the examination.
62. Two students Anil and Ashima appeared in an examination. The probability that Anil will qualify the examination is 0.05 and that Ashima will qualify the examination is 0.10 . The probability that both will qualify the examination is 0.02 . Find the probability that : at least one of them will not qualify the examination.

## - Watch Video Solution

63. Two students Anil and Ashima appeared in
an examination. The probability that Anil will qualify the examination is 0.05 and that Ashima will qualify the examination is 0.10 . The probability that both will qualify the examination is 0.02 . Find the probability that : only one of them will qualify the examination.

## D Watch Video Solution

64. The probability that a student will pass the final examination in both English and Hindi is
0.5 and the probability of passing neither is
0.1. if the probability of passing the English examination is 0.75 , what is the probability of passing the Hindi examination?

## - Watch Video Solution

65. An integer is chosen from the first 200 integers. Find the probability that it is divisible by 6 or 8 .
66. A die is rolled twice. Find the probability
that the sum of the numbers on the dice is divisible by 3 or 4.

## D Watch Video Solution

67. A card is drawn from a well shuffled pack of

52 cards. Find the probability that is it:
a king or an ace.

- Watch Video Solution

68. A card is drawn from a well shuffled pack of 52 cards. Find the probability that is it:
a spade or a club.

## D Watch Video Solution

69. A card is drawn from a well shuffled pack of

52 cards. Find the probability that is it:
a king or a red card.
70. A card is drawn from a well shuffled pack of 52 cards. Find the probability that is it: neither a heart nor a king.

## - Watch Video Solution

71. In a town of 6000 people, 1200 are over 50
years in age and 2000 are females. It is known
that $30 \%$ of the females are over 50 years in age. What is the probability that randomly
chosen individual from the town is either female or over 50 years in age?

- Watch Video Solution

