





MATHS

BOOKS - MBD

Probability











4. Complete the following statements: The sum of the probabilities of all the elementary events of an experiment is

Watch Video Solution

6. Which of the following experiments have equally likely outcomes? Explain: A driver attempts to start a car. The car starts or does not start.

Watch Video Solution

7. Which of the following experiments have equally likely outcomes? Explain: A player

attempts to shoot a basketball. She/he shoots

or misses the shot.



8. Which of the following experiments have equally likely outcomes? Explain: A player attempts to shoot a basketball. She/he shoots or misses the shot.

9. Which of the following experiments have equally likely outcomes? Explain: A baby is born. It is a boy or a girl.



10. Why is tossing a coin considered to be a

fair way of deciding which team should get the

ball at the beginning of a football game.



11. Which of the following cannot be the

probability of an event?

A. a.
$$\frac{2}{3}$$

- B. b. -1.5
- C. c. 15 %
- $\mathsf{D.\,d.\,0.7}$

Answer:

12. If P(E) = 0.05, which is the probability of not

E.

Watch Video Solution

13. A bag contains lemon flavoured candies only. Malini takes out one candy without looking into the bag. What is the probability that she takes out : an orange flavoured candy? **14.** A bag contains lemon flavoured candies only. Malini takes out one candy without looking into the bag. What is the probability that she takes out : a lemon flavoured candy?

Watch Video Solution

15. It is given that in a group of 3 stundents, the probability of 2 students not having the same birthday is 0.992. What is the probability that the 2 students have the same birthday?



A ball is drawn at random from the bag. What

is the probability that is the ball drawn is :

red?

Watch Video Solution

17. A bag contains 3 red balls and 5 black balls.

A ball is drawn at random from the bag. What

is the probability that is the ball drawn is : not

red?



18. A box contains 5 red marbles, 8 white marbles and 4 green marbles. One marble is taken out of the box at random. What is the probability that the marble taken out will be : red ?



19. A box contains 5 red marbles, 8 white marbles and 4 green marbles. One marble is taken out of the box at random. What is the probabililty that the marble taken out will be : white ?

Watch Video Solution

20. A box contains 5 red marbles, 8 white marbles and 4 green marbles. One marble is taken out of the box at random. What is the

probabililty that the marble taken out will be :

not green?



21. A piggy bank contains hundred 50p coins, fifty Rs 1 coins, twenty Rs 2 coins and ten Rs 5 coins. If it is equally likely that one of the coins will fall out when the bank is turned upside down, what is the probability that the coin : will be a 50 p coin ?

22. A piggy bank contains hundred 50p coins, fifty Rs 1 coins, twenty Rs 2 coins and ten Rs 5 coins. If it is equally likely that one of the coins will fall out when the bank is turned upside down, what is the probability that the coin : will not be a Rs 5 coin ?

Watch Video Solution

23. Gopi buys a fish from a shop for his aquarium. The shopkeeper takes out one fish

at random from a tank containing 5 male fish and 8 female fish. What is the probability that the fish taken out is a male fish?

Watch Video Solution

24. A game of chance consists of spinning an arrow which comes to rest pointing at one of the numbers 1, 2, 3, 4, 5, 6, 7, 8 and these are equally likely outcomes. What is the probability that it will point at : 8 ?







25. A game of chance consists of spinning an arrow which comes to rest pointing at one of the numbers 1, 2, 3, 4, 5, 6, 7, 8 and these are equally likely outcomes. What is the probability that it will point at : an odd number ?



26. A game of chance consists of spinning an arrow which comes to rest pointing at one of the numbers 1, 2, 3, 4, 5, 6, 7, 8 and these are equally likely outcomes. What is the probability that it will point at : a number greater than 2 ?





27. A game of chance consists of spinning an arrow which comes to rest pointing at one of the numbers 1, 2, 3, 4, 5, 6, 7, 8 and these are equally likely outcomes. What is the probability that it will point at : a number less than 9 ?





28. A die is thrown once. Find the probability

of getting : a prime number

Watch Video Solution

29. A die is thrown once. Find the probability

of getting : a number lying between 2 and 6,

30. A die is thrown once. Find the probability

of getting : an odd number.

Watch Video Solution

31. One card is drawn from a well-shuffled deck

of 52 cards. Find the probability of getting : a

king of red colour

32. One card is drawn from a well-shuffled deck

of 52 cards. Find the probability of getting : a

face card



33. One card is drawn from a well-shuffled deck

of 52 cards. Find the probability of getting : a

red face card

34. One card is drawn from a well-shuffled deck

of 52 cards. Find the probability of getting :

the jack of hearts

Watch Video Solution

35. One card is drawn from a well-shuffled deck

of 52 cards. Find the probability of getting : a

spade

36. One card is drawn from a well-shuffled deck

of 52 cards. Find the probability of getting :

the queen of diamonds.

Watch Video Solution

37. Five cards - the ten, jack, queen, king and ace of diamonds, are well-shuffled with their face downwards. One card is then picked up at random : What is the probability that the card is queen ?

38. Five cards - the ten, jack, queen, king and ace of diamonds, are well-shuffled with their face downwards. One card is then picked up at random : If the queen is drawn and put aside, what is the probability that the second card picked up is : an ace ?

Watch Video Solution

39. Five cards - the ten, jack, queen, king and ace of diamonds, are well-shuffled with their

face downwards. One card is then picked up at random : If the queen is drawn and put aside, what is the probability that the second card picked up is : a queen ?



Watch Video Solution

40. 12 defective pens are accidentally mixed up with 132 good ones. It is not possible to just look at a pen and tell whether or not it is defective. One pen is taken out at random

from this lot. Determine the probability that

the pen taken out is a good one.



41. A lot of 20 bulbs contains 4 defective ones. One bulb is drawn at random from the lot. What is the probability that the bulb is defective?

42. A lot of 20 bulbs contain 4 defective ones. Suppose the bulb drawn in (i) is not defective and is not replaced. Now one bulb is drawn at random from the rest. What is the probability that this bulb is not defective?

Watch Video Solution

43. A box contains 90 discs which are numbered from 1 to 90. If one disc is drawn at

random from the box, find the probability that

it bears : a two-digit number



44. A box contains 90 discs which are numbered from 1 to 90. If one disc is drawn at random from the box, find the probability that it bears : a perfect sequare number

45. A box contains 90 discs which are numbered from 1 to 90. If one disc is drawn at random from the box, find the probability that it bears : a number divisible by 5.

Watch Video Solution

46. A lot consists of 144 ball pens of which 20 are defective and the others are good. Nuri will buy a pen if it is good, but will not buy it if it is defective. The shopkeeper draws one pen

at random and gives it to her. What is the

probability that : She will buy it ?



47. A lot consists of 144 ball pens of which 20 are defective and the others are good. Nuri will buy a pen if it is good, but will not buy it if it is defective. The shopkeeper draws one pen at random and gives it to her. What is the probability that : She will not buy it ?



48. Two dice, one blue and one grey are thrown at the same time. Write down all the possible outcomes. : A student argues that 'there are 11 possible outcomes 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12. Therefore, each of them has a probability $\frac{1}{11}$. Do you agree with his argument ? Justify you answer :

Event : 'Sum on 2 dice'	2	3	4	5	6	7	8	9	10	11	12
Probability	$\frac{1}{36}$						$\frac{5}{36}$		-		$\frac{1}{36}$

49. A game consists of tossing a one rupee coin 3 times and noting its out come each time. Hanif wins if all the tosses give the same result i.e. Three heads or three tails, and loses otherwise. Calculate the probability that Hanif will lose the game.

Watch Video Solution

50. A die is thrown twice. What is the probability that : 5 will not come up either time ?



51. A die is thrown twice. What is the probability that : 5 will come up atleast once ?

Watch Video Solution

52. Which of the following arguments are correct ? Give reasons for your answer : If two coins are tossed simultaneously there are three possible outcomes - two heads, two tails

or one of each. Therefore, for each of these outcomes, the probability is $\frac{1}{3}$.



53. Which of the following arguments are correct? Give reasons for your answer : If a die is thrown, there are two possible outcomes - an odd number or an even number. Therefore, the probability of getting an odd number is $\frac{1}{2}$

1. If a die is thrown, what is the probability

that an 'ace' turns up ?

Watch Video Solution

2. Find the probability of not getting a pair of

heads in a simultaneous toss of two coins.

3. In a single throw of two dice, what is the probability of getting same number on both the dice i.e. of getting a doublet.



Watch Video Solution

4. Three coins are tossed. Find the probability

of getting : all heads
5. Three coins are tossed. Find the probability

of getting : all tails

Watch Video Solution

6. Three coins are tossed. Find the probability

of getting : at least one head and one tail.

7. Find the probability of getting a number

less than 5 in a single throw of a die.

Watch Video Solution

8. A bag contains 3 red balls. 5 black balls and 4 white balls. A ball is drawn at random from the dag. What is the probability that the ball drawn is : white ?

9. A bag contains 3 red balls. 5 black balls and 4 white balls. A ball is drawn at random from the dag. What is the probability that the ball drawn is : red ?



10. A bag contains 3 red balls. 5 black balls and

4 white balls. A ball is drawn at random from

the dag. What is the probability that the ball

drawn is : black ?



11. It is known that a box of 600 electric bulbs contains 12 defective bulbs. One bulb is taken out at random from this box. What is the probability that it is a non-defective bulb ?



12. 1000 tickets of a lottery were sold and there are 5 prizes on these tickets. If Saket has

purchased one lottery ticket, what is the

probability of winning a prize.



13. A die is thrown once. Find the probability of

getting : an even number

Watch Video Solution

14. A die is thrown once. Find the probability of getting : a number greater than 3



16. A bag contains 5 red balls and some blue balls. If the probability of drawing a blue ball is double that of a red ball, find the number of blue balls in the bag.





17. A bag contains 5 red balls, 8 white balls 4 green balls and 7 black balls. If one ball is drawn at random, find the probability that it is

: black

Watch Video Solution

18. A bag contains 5 red balls, 8 white balls 4 green balls and 7 black balls. If one ball is

drawn at random, find the probability that it is

: red



19. A bag contains 5 red balls, 8 white balls 4 green balls and 7 black balls. If one ball is drawn at random, find the probability that it is : not green.

20. In a lottery there are 10 prizes and 25 blanks. Find the probability of getting a prize.

Watch Video Solution

21. From a well-shuffled pack of 52 cards one card is drawn at random. Find the probability that it is king or a queen.

22. A bag contains 20 cards numbering from 1, 2, 3.....20. One card is drawn from the bag. Find the probability that it has a prime number on it.

Watch Video Solution

23. A drawer contains 50 bolts and 150 nuts. Half bolts and half of the nuts are rusted. If one item is chosen at random what is the probability that it is rusted or is a bolt.



24. A bag contains 12 balls out of which x are white. : If one ball is drawn at random, what is the probability that it will be a white ball ?

Watch Video Solution

25. A bag contains 12 balls out of which x are white. : If 6 more white balls are put in the bag, the probability of drawing a white ball will be double than that in : find x.



26. A bag contains 4 red balls. What is the sample space if the experiment consisting of choosing : 1 ball ?



27. A bag contains 4 red balls. What is the sample space if the experiment consisting of choosing : 2 balls ?





28. A bag contains 4 red balls. What is the sample space if the experiment consisting of choosing : 2 balls ?

Watch Video Solution

29. A bag contains 2 white balls and 3 blue balls. What is the sample space if the experiment consists of drawing from the bag : 1 ball



30. A bag contains 2 white balls and 3 blue balls. What is the sample space if the experiment consists of drawing from the bag : 1 ball

Watch Video Solution

31. A bag contains 120 identical tokens on which numbers 1 to 120 are marked. A token is

drawn randomly. What is the probability that

the number on the token is : an odd number



32. A bag contains 120 identical tokens on which numbers 1 to 120 are marked. A token is drawn randomly. What is the probability that the number on the token is : an even number

33. A bag contains 120 identical tokens on which numbers 1 to 120 are marked. A token is drawn randomly. What is the probability that the number on the token is : a multiple of 6



34. A bag contains 120 identical tokens on which numbers 1 to 120 are marked. A token is drawn randomly. What is the probability that the number on the token is : a multiple of 10.



35. A bag contains 120 identical tokens on which numbers 1 to 120 are marked. A token is drawn randomly. What is the probability that the number on the token is : a multiple of 3 and 4

Watch Video Solution

36. A bag contains 120 identical tokens on which numbers 1 to 120 are marked. A token is

drawn randomly. What is the probability that

the number on the token is : a multiple of 3 or

Watch Video Solution

4

37. A bag contains 120 identical tokens on which numbers 1 to 120 are marked. A token is drawn randomly. What is the probability that the number on the token is : less than 30

38. A bag contains 120 identical tokens on which numbers 1 to 120 are marked. A token is drawn randomly. What is the probability that the number on the token is : greater than 100 ?

Watch Video Solution

39. In a toss of two coins, find the probability

of getting both heads or both tails.

40. Find the probability of not getting a pair

of heads in a simultaneous toss of two coins.

Watch Video Solution

41. Three coins are tossed. Find the probability

of : all heads



42. Three coins are tossed. Find the probability

of : exactly 2 tails

Watch Video Solution

43. Three coins are tossed. Find the probability

of : atleast two tails



44. Three coins are tossed. Find the probability of : atmost two heads
Watch Video Solution

45. Three coins are tossed. Find the probability

of : no heads



46. Three coins are tossed. Find the probability

of : atleast one head and one tail.



47. Four coins are tossed once. Find : P (4

heads)



48. Four coins are tossed once. Find : P (exactly 3 heads)
Watch Video Solution

49. Four coins are tossed once. Find : P (

exactly 2 heads)





53. A die is thrown once. Find : P (a number \geq 3)



54. A die is thrown once. Find : P (a number \leq 4)

55. A die is thrown once. Find : P (a number

< 7)

Watch Video Solution

56. A die is thrown once. Find : P (a number more than 6)

Watch Video Solution

57. A die is thrown once. Find : P (8)



59. A dice is thrown once. Find the probability

of getting : an even number

60. A dice is thrown once. Find the probability

of getting : an prime number



61. A dice is thrown once. Find the probability

of getting : a number greater than 4

62. A dice is thrown once. Find the probability

of getting : 2 or 4

Watch Video Solution

63. A dice is thrown once. Find the probability

of getting : a multiple of 2 or 3.

64. In a single throw of two dice, what is the probability of getting : an odd number on the first dice and 6 on the second dice.



65. In a single throw of two dice, what is the probability of getting : a number greater than

4 on each dice



66. In a single throw of two dice, what is the

probability of getting : a total of 11



67. In a single throw of two dice, what is the

probability of getting : 8 as the sum

68. In a single throw of two dice, what is the probability of getting : A double of prime numbers



69. In a single throw of two dice, what is the

probability of getting : a sum greater than 9



70. In a single throw of two dice, what is the probability of getting : an even number on first



71. In a single throw of two dice, what is the probability of getting : an even number on

one and multiple of 3 on the other.



72. In a single throw of two dice, what is the probability of getting : neither 9 nor 11 as the sum of the numbers on the faces

Watch Video Solution

73. In a single throw of two dice, what is the probability of getting : a sum less than 6

74. In a single throw of two dice, what is the

probability of getting : a sum less than 7

Watch Video Solution

75. In a single throw of two dice, what is the

probability of getting : a sum more than 7.
76. One card is drawn at random from a wellshuffled pack of 52 cards. Find the probability of getting : a jack, a queen or a king



77. One card is drawn at random from a well-

shuffled pack of 52 cards. Find the probability

of getting : a two of heart or a spade.



78. One card is drawn at random from a wellshuffled pack of 52 cards. Find the probability of getting : a face card

Watch Video Solution

79. One card is drawn at random from a well-shuffled pack of 52 cards. Find the probability

of getting : a diamond or a club

80. One card is drawn at random from a wellshuffled pack of 52 cards. Find the probability of getting : neither a heart nor a jack.



81. A card is drawn from a pack of playing cards. What is the probability of drawing : an ace card

82. A card is drawn from a pack of playing cards. What is the probability of drawing : a spade card



83. A card is drawn from a pack of playing cards. What is the probability of drawing : an

ace card having spade sign ?

84. A bag contains 10 white, 6 black and 4 red balls. Find the probability of getting : a white ball



85. A bag contains 10 white, 6 black and 4 red balls. Find the probability of getting : a black ball

86. A bag contains 10 white, 6 black and 4 red balls. Find the probability of getting : not a red ball

Watch Video Solution

87. What is the chance that a non-leap year

selected at random will contain 53 Sundays ?

88. What is the probability that a number selected from the numbers 1, 2, 3.....27 is a prime number ? You may assume that each of 27 numbers is equally likely to be selected.

Watch Video Solution

89. A man wants to marry an educated girl. The probability of getting such a girl is 1/7. Find the probability of not getting the girl of his choice.





90. If odds against an event be 5 : 6, find the

probability of occurence of this event.



91. If odds in favour of an event 3 : 7, find the

probability of non-occurrence of this event.

92. A card is drawn at random from a pack of 52 playing cards. Find the probability that the card drawn is neither an ace nor a king.

Watch Video Solution

93. A card is drawn at random from a pack of

52 playing cards. Find the probability that the

card drawn is neither a queen nor a jack.

94. A card is drawn at random from a pack of 52 playing cards. Find the probability that the card drawn is neither a red card nor a black king.

Watch Video Solution

95. Find the probability that a card drawn from

a pack of 52 playing cards is either queen or

spade.



96. One card is drawn from pack of 52 cards, each of 52 cards being equally likely to be drawn. Find the probability of : the card drawn is black

Watch Video Solution

97. One card is drawn from pack of 52 cards, each of 52 cards being equally likely to be drawn. Find the probability of : the card drawn is a jack



98. One card is drawn from pack of 52 cards, each of 52 cards being equally likely to be drawn. Find the probability of : the card draw is a black and a jack

Watch Video Solution

99. One card is drawn from pack of 52 cards, each of 52 cards being equally likely to be

drawn. Find the probability of : the card draw

is either black or a jack.



100. One card is drawn from a pack of 52 cards, each of 52 cards being equally likely to be drawn. Find the probability of : the card drawn is red

101. One card is drawn from a pack of 52 cards, each of 52 cards being equally likely to be drawn. Find the probability of : the card drawn is a king

Watch Video Solution

102. One card is drawn from a pack of 52 cards, each of 52 cards being equally likely to be drawn. Find the probability of : the card drawn is red and a king



103. One card is drawn from a pack of 52 cards, each of 52 cards being equally likely to be drawn. Find the probability of : the card drawn is either red or a king

Watch Video Solution

104. One card is drawn from a pack of 52 cards,

each of 52 cards being equally likely to be

drawn. Find the probability of : the card drawn

is neither red nor a king.



105. A box contains 6 red marbles numbered 1

to 6 ad 4 white marbles numbered from 12 to

15. Find the probability that a marble drawn at

random is : white

106. A box contains 6 red marbles numbered 1 to 6 ad 4 white marbles numbered from 12 to 15. Find the probability that a marble drawn at random is : even numbered

Watch Video Solution

107. A box contains 6 red marbles numbered 1 to 6 ad 4 white marbles numbered from 12 to 15. Find the probability that a marble drawn at random is : white and odd numbered



108. A box contains 6 red marbles numbered 1 to 6 ad 4 white marbles numbered from 12 to 15. Find the probability that a marble drawn at random is : red or even numbered.

Watch Video Solution

109. A bag contains 5 red balls, 3 black balls and 4 white balls. A ball is drawn out of the

bag at random. What is the probability that

the ball drawn is : white ?



110. A bag contains 5 red balls, 3 black balls and 4 white balls. A ball is drawn out of the bag at random. What is the probability that the ball drawn is : red ?

111. A bag contains 5 red balls, 3 black balls and 4 white balls. A ball is drawn out of the bag at random. What is the probability that the ball drawn is : black ?

Watch Video Solution

112. A bag contains 5 red balls, 3 black balls and 4 white balls. A ball is drawn out of the bag at random. What is the probability that the ball drawn is : red or black ?



113. A bag contains 5 red balls, 3 black balls and 4 white balls. A ball is drawn out of the bag at random. What is the probability that the ball drawn is : red or white ?

Watch Video Solution

114. A bag contains 5 red balls, 3 black balls and 4 white balls. A ball is drawn out of the

bag at random. What is the probability that

the ball drawn is : red or white or black ?



115. A bag contains 5 red balls, 3 black balls and 4 white balls. A ball is drawn out of the bag at random. What is the probability that the ball drawn is : yellow ?

116. A card is drawn at random from a well shuffled pack of 52 cards. Find the probability that the card drawn is neither a red card nor a queen.

Watch Video Solution

117. Savita and Hamida are friends. What is the

probability that both have : different birthday

118. Savita and Hamida are friends. What is the

probability that both have : same birthday.



119. A box contains 3 blue, 2 white and 4 red Marbles. If a marble is drawn at random from the box then what is the probability that it will be : white



120. A box contains 3 blue, 2 white and 4 red Marbles. If a marble is drawn at random from the box then what is the probability that it will be : Blue ?



121. A box contains 3 blue, 2 white and 4 red

Marbles. If a marble is drawn at random from

the box then what is the probability that it will

be : Red ?



122. Harapreet tosses two different coins simultaneously. (say one is of Rs 1 and other of Rs 2). What is the probability that she gets at least one Head?

Watch Video Solution

123. Two customers Shyam and Ekta are visiting a particular shop in the same week (Tuesday to Saturday). Each is equally likely to visit the shop on any day as on another day.

What is the probability that both will visit the

shop on : the same day ?



124. Two customers Shyam and Ekta are visiting a particular shop in the same week (Tuesday to Saturday). Each is equally likely to visit the shop on any day as on another day. What is the probability that both will visit the shop on : consecutive days ?



125. Two customers Shyam and Ekta are visiting a particular shop in the same week (Tuesday to Saturday). Each is equally likely to visit the shop on any day as on another day. What is the probability that both will visit the shop on : different days ?

Watch Video Solution

126. A die is numbered in such a way that its faces show the numbers 1, 2, 2, 3, 3, 6. It is

thrown two times and the total score in two throws is noted. Complete the following table which gives a few values of the total score on the two throws :



: What is

the probability that the total score is : even ?

127. A die is numbered in such a way that its faces show the numbers 1, 2, 2, 3, 3, 6. It is thrown two times and the total score in two throws is noted. Complete the following table which gives a few values of the total score on the two throws :



: What is

the probability that the total score is : at least

6?

128. A bag contains 5 red balls and some blue balls. If the probability of drawing a blue ball is double that of a red ball, find the number of blue balls in the bag.



129. A box contains 12 balls out of which x are black. If one ball is drawn at random from the box, what is the probability that it will be a

black ball ? If 6 more balls are put in the box,

the probability of drawing a black ball is now

double of what it was before. Find x.

Watch Video Solution

130. A jar contains 24 marbles, some are green and others are blue. If a marble is drawn at random from the jar, the probability that it is green is $\frac{2}{3}$. Find the number of blue marbles in the jar. Watch Video Solution

132. What is the probability of sure event ?

133. Complete the following statements: Probability of an event E+ Probability of the event 'not E' =



134. If P(E) = 0.05 than find the value of P(NotE) ?

135. A game of chance consists of spinning an arrow which comes to rest pointing at one of the number 1, 2, 3, 4, 5, 6, 7, 8 and these are equally likely outcomes. What is the probability that it will point at 8 ?

A. $\frac{1}{8}$ B. 0 C. $\frac{8}{8}$ D. 1

Answer:



136. Which of the following can not be the probability of an event ?

A. a.
$$rac{2}{3}$$

B. b. -1.5

C. c. 15~%

D. d. 0.17




137. What will be the probability of event E + event not E ?

A. a. 1

- B. b. 0
- $\mathsf{C.\,c.}\,2$

D. d.
$$\frac{1}{2}$$



138. What will be the probability of an impossible event ? a. 0 b. 1 c. 2 d. 3

A. 0

 $\mathsf{B.1}$

 $\mathsf{C.}\,2$

D. 3



139. What will be the probability of a certain event ? a. 0 b. 1/2 c. 1 d. 2

A. 0



C. 1

 $\mathsf{D.}\ 2$



140. A coin tossed once. What is the probability of getting of tail ? a. 0 b. 1 c. 1/2 d.

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



141. Which of the following can not be probability of an event ?

A.
$$\frac{3}{4}$$

B. 25~%

C.0.5

$\mathsf{D.}-3.4$



142. A die is thrown once, the probability of getting an even number will be :

A.
$$\frac{1}{3}$$

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



