MATHS

BOOKS - CHETAN MATHS (TAMIL ENGLISH)

PROBABILITY

Practice Set 5 1

1. How many possibilities are there in each of the following?

(i) vanita knows the following sites in Maharashtra. She is planning to visit one of them in her summer vacation.

Ajinath, Mahableshwar, Lonar Sarovat, Tadoba wild life sanctuary, Amboli, Raigad, Matheran, Anandavan.

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2. How many possibilities are there in each of the following?

(ii) Any day of a week is to be selected randomly,

3. How many possibilities are there in each of the following?

(iii) Select one card from the pack of 52 cards.

4. How many possibilities are there in each of the following?

One number from 10 to 20 is written on each card. Select one card randomly.

Practice Set 5 2

1. For each of the following experiments write samples space 'S' and number of sample

points n(S):

One coin and one die are thrown simultaneously.

2. For each of the following experiments write samples space 'S' and number of sample points n(S): (ii) Two digit numbers are formed using digits 2,3 and 5 without repeating the digits.

3. The arrow is rotated and it stops randomly on the disc. Find out on which colour it may stop.

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4. In the month of March 2019, find the days on which the date is a multiple of 5. (see the

given page of calendar)

		MARCH 2019				
M	T	W	T	F	S	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

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5. Form a 'Road safety committee' of two, from

2 boys (B_1, B_2) and 2 girls (G_1, G_2).

Complete the following activity to write the

sample space.

Practice Set 5 3

1. Write sample space 'S' and number of sample point n(S) for each of the following experiments Also write evets A,B, C in the set form and write n(A), n(B), m(C).

One die is rolled,

Event A: Even number on the upper face.

Event B: Odd number on the upper face.

Event C: Prime number on the upper face.

2. Write sample space 'S' and number of sample point n(S) for each of the following experiments Also write evets A,B, c in the set form and write n(A), n(B), n(C).

Two dice are rolled simultaneously:

Event A: The sum of the digits on upper faces is a multiple of 6.

Event B: The sum of the digits on the upper faces is minimum 10.

Event C: The same digit on both the upper

faces.

3. Write sample space 'S' and number of

sample point n(S) for each of the following

experiments Also write evets A,B, c in the set

form and write n(A), n(B), n(C).

three coins are tossed simultaneously:

Event A: To get at least two heads.

Event B: To get no head.

Event C: To get head on the second coin.

4. Write sample space 'S' and number of sample point n(S) for each of the following experiments Also write evets A,B, c in the set form and write n(A), n(B), n(C).

Two digit numbers are formed using digits 0,1, 2,3,4,5 without repetition of the digits.

Condition for event A: The number formed is

even

Condition for event B: the number formed is divisible by 3.

Condition for event C: The number formed is greater then 50.

5. Write sample space 'S' and number of sample point n(S) for each of the following experiments Also write evets A,B, c in the set form and write n(A), n(B), n(C).

From three men and two women, environment committee of two persons is to be formed.

Condition for event A: There must be at least one woman member.

Condition for event B: One man, one woman commitee to be formed.

Condition for event C: There should not be woman member.

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6. Write sample space 'S' and number of sample point n(S) for each of the following experiments Also write evets A,B, c in the set form and write n(A), n(B), n(C).

One coin and one die are thrown simultaneously.

Condition for event A: To get head and an odd number.

Condition for event B: to get a head or tail and an even number.

Condition for event C: Number on the upper face is greater than 7 and tail on the coin.

Practice Set 5 4

1. If two coins are tossed, find the probability of the following events:

Getting atleast one head

2. If two coins are tossed, find the probability of the following events:

Getting no head

3. If two dice are rolled simultaneously, find the probability of the following events.

The sum of the digits on the upper faces is at least 10.

4. If two dice are rolled simultaneously, find the probability of the following events.

The sum of the digits on the upper faces is 33.

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5. If two dice are rolled simultaneously, find the probability of the following events.

The digit on the first die is greater than the digit on second die.

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6. Solve the following questions.

A card is drawn at random from a pack of well shuffled 52 playing cards. Find the probability that the card drawn is

A red picture card.

7. The King , Queen and Jack of the suit spade are removed from a deck of 52 cards. One card

is selected from the remaining cards. Find the probability of getting (i) a diamond (ii) a queen (iii) a spade (iv) a heart card bearing the number 5.

8. There are 15 tickets in a box, each bearing one of the numbers from 1 to 15. One ticket is drawn at random from the box. Find the probability of event that the ticket drawn - shows an even number.

9. There are 15 tickets in a box, each bearing one of the numbers from 1 to 15. One ticket is drawn at random from the box. Find the probability of event that the ticket drawn - shows a number which is a multiple of 5.

10. A two digit number is formed with digits 2,3,5,7,9, without repetition. What is the

probability that the number formed is an odd

number?

11. A two digit number is formed with digits

2,3,5,7,9, without repetition. What is the

probability that the number formed is a

multiple of 5?

1. Joseph kept 26 cards in a cap. Bearing one English alphabet on each card. One card is drawn at random. What is the probability that the card drawn is a vowel card?

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2. A box cantains 30 tickets, bearing only one number from 1 to 30 on each. If one ticket is drawn at random, find the probability of an

event that the ticket drawn bears an odd

number

3. A box cantains 30 tickets, bearing only one

number from 1 to 30 on each. If one ticket is

drawn at random, find the probability of an

event that the ticket drawn bears a complete

square number.

4. There are six cards in a box, each bearing a number from 0 to 5. Find the probability of each of the following events, that a card drawn shows, a natural number.

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5. There are six cards in a box, each bearing a number from 0 to 5. Find the probability of each of the following events, that a card drawn shows, a number less than 1.

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6. There are six cards in a box, each bearing a number from 0 to 5. Find the probability of each of the following events, that a card drawn shows, a whole number

7. There are six cards in a box, each bearing a number from 0 to 5. Find the probability of

each of the following events, that a card

drawn shows, a number is greater than 5.

8. Each card bears one letter from the word

'mathematics'. The cards are placed on a table

upside down. Find the probability that a card

drawn bears the letter 'm'

9. Six faces of a die are as shown below.

A	B	C	D	E	A

If the die is rolled once, find the probability of -

A appears on upper face.

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10. Six faces of a die are as shown below.

A	B	C	D	E	A

If the die is rolled once, find the probability of -

D appears on upper face.

11. The faces of a die bear numbers 0,1,2,3,4,5,.

If the die is rolled twice, then find the probability that the product of digits on the upper face is zero.
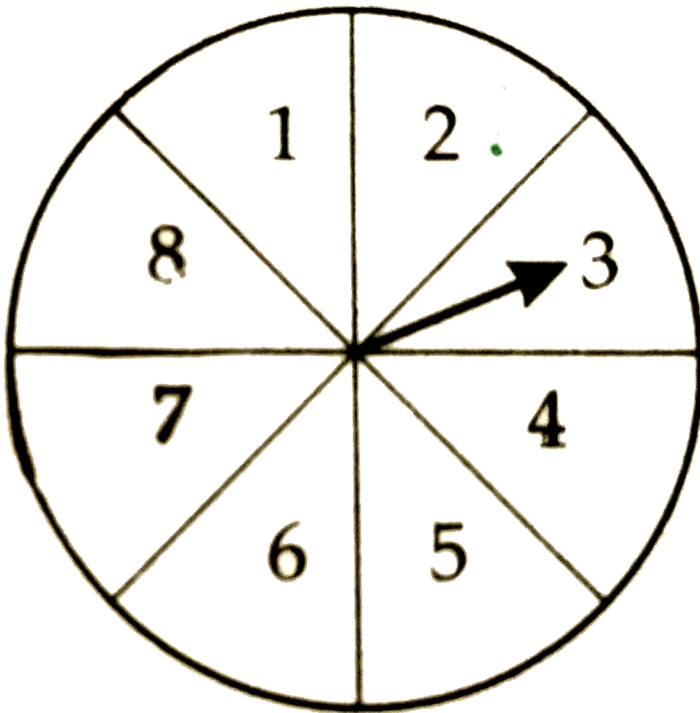
12. In a game of chance, a spinnig arrow comes to rest at one of the numbers 1,2,3,4,5,6,7,8. All these are equally likely outcomes. Find the probability that it wil rest at 8.
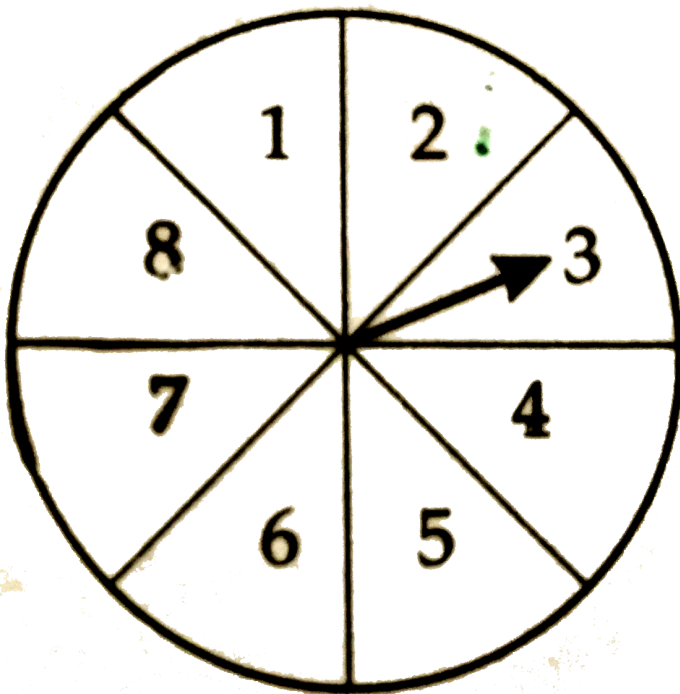
13. In a game of chance, a spinnig arrow comes to rest at one of the numbers 1,2,3,4,5,6,7,8. All these are equally likely outcomes. Find the probability that it wil rest at an odd number.
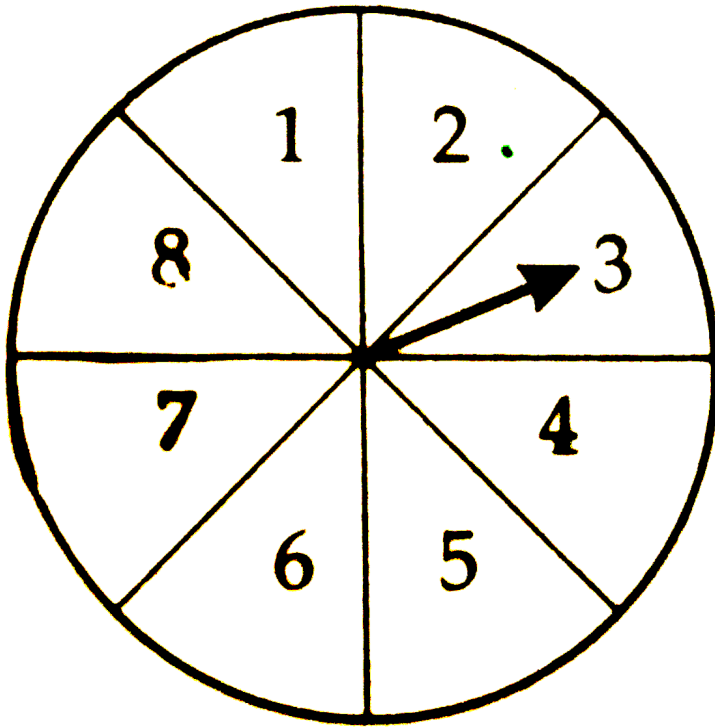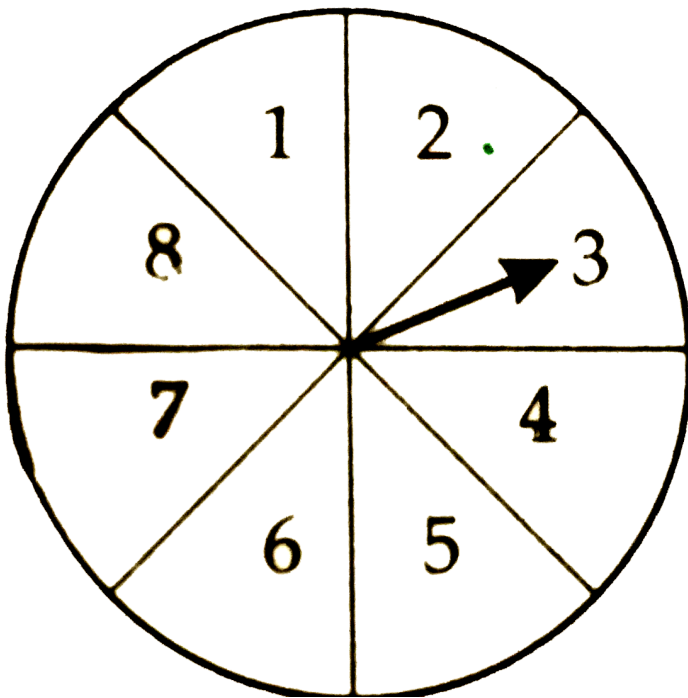
14. In a game of chance, a spinnig arrow comes to rest at one of the numbers 1,2,3,4,5,6,7,8. All these are equally likely outcomes. Find the probability that it wil rest at a nubmer greater

than 2.

15. In a game of chance, a spinnig arrow comes to rest at one of the numbers 1,2,3,4,5,6,7,8. All these are equally likely outcomes. Find the probability that it wil rest at a number less than 9.

16. A two digit number is to be formed from the digits 0,1,2,3,4. Repetition of the digit is allowed . Find the probability that the number so formed is a - prime number

17. A two digit number is to be formed from the digits 0,1,2,3,4. Repetition of the digit is

allowed . Find the probability that the number so formed is a - multiple of 4

18. A two digit number is to be formed from the digits 0,1,2,3,4. Repetition of the digit is allowed . Find the probability that the number so formed is a - multiple of 11.

19. In a hockey team there are 6 defenders, 4 offenders and 1 goalee. Out of these, one player is to be selected randomly as a captain. Find the probability of the selection that - The goalee will be selected.

20. In a hockey team there are 6 defenders, 4 offenders and 1 goalee. Out of these, one player is to be selected randomly as a captain.

Find the probability of the selection that - A defender will be selected.

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21. A balloon vendor has 2 red, 3 blue and 4 green balloons. He wants to choose one of them at random to give it to Pranali. What is the probability of the event that Pranali gets, a red balloon.

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22. A balloon vendor has 2 red, 3 blue and 4 green balloons. He wents to choose one of them at random to give it ot Pranali. What is the probability of the event that Pranali gets, a blue balloon.

23. A balloon vendor has 2 red, 3 blue and 4 green balloons. He wents to choose one of them at random to give it ot Pranali. What is

the probability of the event that Pranali gets, a green balloon.

24. A box contains 5 red, 8 blue an 3 green pens. Rutuja wants to pick a pen at random. What is the probability that the pen is blue?

25. A bag contains 3 red , 3 white and 3 green balls. One ball is taken out of the bag at random. What is the probability that the ball drawn is - red.

26. A bag contains 3 red, 3 white and 3 green balls. One ball is taken out of the bag at random. What is the probability that the drawn is not red

27. A bag contains 3 red , 3 white and 3 green balls. One ball is taken out of the bag at random. What is the probability that the ball drawn is - either red or white.

28. Out of 200 students from a school, 135 like Kabbaddi and the remaining students do not like the game. If one student is selected at
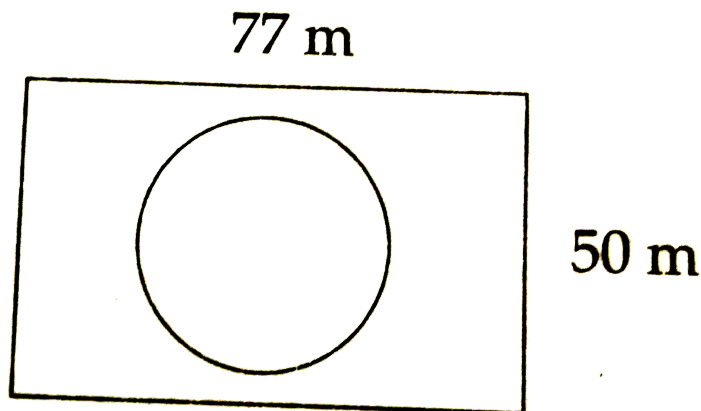
random from all the students, find the probability that the student doesn't like kabbaddi.

29. Length and breadth of a rectangular garden are 77 m and 50 m. There is a circular lake in the garden having diameter 14 m. Due to wind. A Towel from a terrace on a nearby buiding fell into the garden. Then find the

probability of the event that if fell in the lake.

77 m

50 m

Mcqs

1. Which number cannot represent a

probability?

A. $\dfrac{2}{3}$

B. 1.5

C. 0.15

D. 0.7

Answer: B

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2. A die is rolled. What is the probability that the number appearing on upperface is less than 3?

A. $\dfrac{1}{6}$

B. $\dfrac{1}{3}$

C. $\dfrac{1}{2}$

D. 0

Answer: B

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3. What is the probability of the event that a number chosen from 1 to 100 is a prime number?

A. $\dfrac{1}{5}$

B. $\dfrac{6}{25}$

C. $\dfrac{1}{4}$

D. $\dfrac{13}{50}$

Answer: C

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4. There are 40 cards in a bag. Each bears a nubmer from 1 to 40. One card is drawn at

random. What is the probability that the card

bears a number which is a multiple of 5?

A. $\dfrac{1}{5}$

B. $\dfrac{3}{5}$

C. $\dfrac{4}{5}$

D. $\dfrac{1}{3}$

Answer: A

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5. If $n(A) = 2$, $P(A) = \dfrac{1}{5}$, then n(S)=?

A. 10

B. $\dfrac{5}{2}$

C. $\dfrac{2}{5}$

D. $\dfrac{1}{3}$

Answer: A

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6. Which of the following cannot be the probability of an event?

A. $\dfrac{3}{5}$

B. $\dfrac{7}{2}$

C. $\dfrac{3}{4}$

D. $\dfrac{4}{5}$

Answer: B

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7. Probability lies between

A. $0 \text{ to } 1$

B. $-1 \text{ to } 1$

C. $1 \text{ to } \infty$

D. $-\infty \text{ to } 1$

Answer: A

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8. The probabilitty of throwing a number smaller than 2 in a fair die is......

A. $\dfrac{12}{3}$

B. $\dfrac{1}{6}$

C. $\dfrac{2}{3}$

D. $\dfrac{5}{6}$

Answer: B

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9. A card is drawn from a well shuffled pack of 52 cards. The probability that the card drawn is a black face card is......

A. $\dfrac{2}{13}$

B. $\dfrac{3}{13}$

C. $\dfrac{3}{26}$

D. $\dfrac{1}{13}$

Answer: C

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10. Three coins are tossed. Find the probability that tail does not appear.

A. $\dfrac{3}{8}$

B. $\dfrac{1}{8}$

C. $\dfrac{1}{4}$

D. $\dfrac{7}{8}$

Answer: B

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1. In each of the following experiments, find the sample space S and the sample points n(S). A two digit number is to be formed from the digits 0,2,4,6 without repetitions of digits.

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2. In each of the following experiments, find the sample space S and the sample points

n(S). A ball is drawn from a bag containing 3 red, 3 green and 4 white balls.

3. In each of the following experiments, find the sample space S and the sample points n(S). A day is chosen randomly for the meeting of Gram Sevaks in the month of February 2016.

4. In each of the following experiments, find the sample space S and the sample points n(S). A committee of two is to be formed from 2 men and 3 women for Gram Swachhatta Abhiyan.

5. In each of the following experiments, find the sample space S and the sample points

n(S). A card is drawbn from a box containing

cards nu,mbered from 1 to 25.

6. A box contains cards numbered from 1 to 30.

Write the sample space S and no. of sample

points n(S) and if a card is drawn at random,

write A and n(A) if the card drawn is divisible

by5.

7. An urn containsf 10 red and 8 white balls. Write sample space S and n(S). Write the events A and B using set form and mention n(A) and n(B) if A is the event that bell is while, B is the event that ball is neither white nor red.

8. A card is picked up randomly from well shuffled pack of cards. Write the n(S), n(A), n(B) and n(C).

Event A: A red face card.

Event B : An ace of spade

Event C: Not a black king.

9. A box contains 3 apples, 4 oranges and 5 bananas. One fruit is drawn at random from the box. Write S, n(S) and sample points of each of the following events.

Event A: Fruit is orange or banana

Event B: Fruit is not an apple.

Event C: Fruit is neither apple nor banana

Event D: Fruit is banana

10. Tickets numbered 1 to 30 are mixed up together and then a ticket is drawn at random. What is the probability that the ticket drawn will be a multiple of 7?

11. Find the probability that leap year selected at random will contain 53 Sundays .

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12. A box contains 300 electrical bulbs out of which 18 are defective. What is the probability that bulb chosen will not be defective?

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13. Three coins are tossed together. Find the probability of getting exactly two heads.

14. A card is drawn at random from a well shuffled pack of 52 cards. Find the probability that the card drawn is neither ace nor king.

15. A card is drawn at random from a well shuffled pack of 52 cards. Find the probability that the card drawn is black king

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16. A card is drawn at random from a well shuffled pack of 52 cards. Find the probability that the card drawn is 10 of spades.

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1. If $n(A) = 2$, $P(A) = \dfrac{1}{5}$, then n(S)=?

A. 10

B. $\dfrac{5}{2}$

C. $\dfrac{4}{5}$

D. $\dfrac{1}{3}$

Answer:

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2. One coin and one die are thrown simultaneously. Write the sample space S and n(S).

3. Six faces of a die are as shown below.

A B C D E A

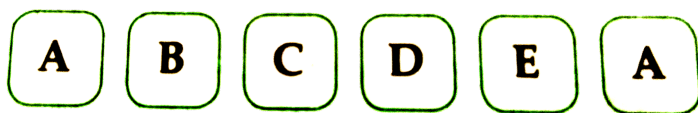If the die is rolled once, find the probability of -

A appears on upper face.

4. Six faces of a die are as shown below.

$$A \quad B \quad C \quad D \quad E \quad A$$

If the die is rolled once, find the probability of -

D appears on upper face.

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5. Basketball player John, Vasim, Akash were practising the ball drop in the basket. The probability of success for John, Vasim and

Akash are $\dfrac{4}{5}$, 0.83 and 58% respectively. Who
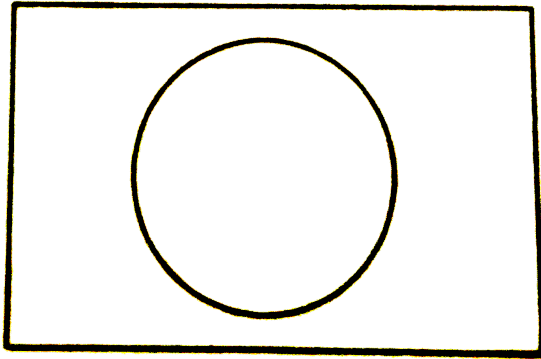
had the greatest probability of success?

6. Length and breadth of a rectangular garden

are 77 m and 50 m. There is a circular lake in

the garden having diameter 14 m. Due to wind.

A Towel from a terrace on a nearby buiding fell

into the garden. Then find the probability of

the event that if fell in the lake.

77 m

50 m

7. A card is drawn at random from a pack of well shuffled 52 playing cards. Find the probability that the card drawn is an ace

8. A card is drawn at random from a pack of well shuffled 52 playing cards. Find the probability that the card drawn is a spade

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9. If two coins are tossed, find the probability of the following events: Getting atleast one head

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10. If two coins are tossed, find the probability of the following events: Getting no head

11. There are 15 tickets in a box, each bearing one of the number from 1 to 15. One ticket is drawn at random from the box. Find the probability of event that the ticket drawn - shows an even number.

12. There are 15 tickets in a box, each bearing one of the number from 1 to 15. One ticket is drawn at random from the box. Find the probability of event that the ticket drawn - shows a nubmer which is a multiple of 5.

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13. In a hockey team there are 6 defenders, 4 offenders and 1 goalee. Out of these, one

player is to be selected randomly as a captain. Find the probability of the selection that - The goalee will be selected.

14. In a hockey team there are 6 defenders, 4 offenders and 1 goalee. Out of these, one player is to be selected randomly as a captain. Find the probability of the selection that - A defender will be selected.

15. A bag contains 3 red, 3 white and 3 green balls. One ball is taken out of the bag at random. What is the probability that the drawn is red

16. A bag contains 3 red, 3 white and 3 green balls. One ball is taken out of the bag at random. What is the probability that the drawn is not red

17. A bag contains 3 red, 3 white and 3 green balls. One ball is taken out of the bag at random. What is the probability that the drawn is either red or white.

18. If two dice are rolled simultaneously, find the probability of the following events. The

sum of the digits on the upper faces is at least

10

19. If two dice are rolled simultaneously, find the probability of the following events. The sum of the digits on the upper faces is 33

20. If two dice are rolled simultaneously, find the probability of the following events. The digit on the first die is greater than the digit on the second die.

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