## ONLINE MATHS CLASS- X – 30 (02 / 09 / 2021)

### 3 . MATHEMATICS OF CHANCE - CLASS- 3 WORKSHEET

Important point

➤ **In some situations , probability can be calculated in terms of the areas of the geometrical figures . Here probability is how much part is the desired area out of the total area   . It is known as the geometrical probability**

1. There are two semicircles in the figure . O is the centre of the larger semicircle . Put a dot in this figure without looking .
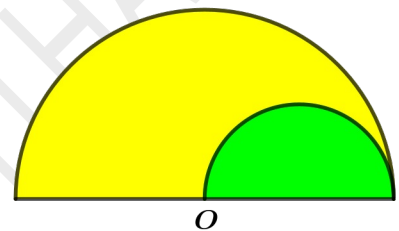
a) If the radius of the smaller semi circle is r , What is the radius of the larger semicircle ?

b) What is the probability that the dot would be within the smaller semicircle   ?

c) What is the probability that the dot would be outside the smaller semicircle   ?

2. In the figure , an equilateral triangle is drawn inside a circle Put a dot in this figure without looking .
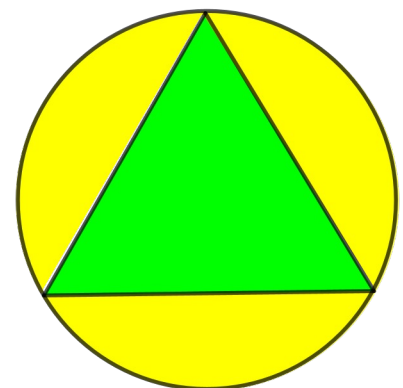
a) If the radius of the circle is r , What is the length of the side of the triangle ?

b) What is the probability that the dot would be within the triangle ?

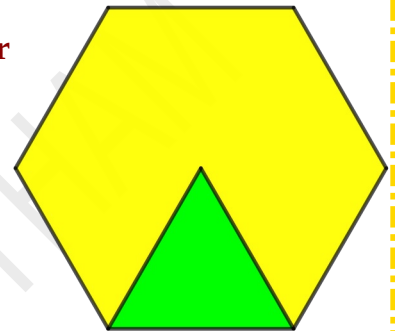c) What is the probability that the dot would be outside the triangle ?

3. Two rectangles are joined in the figure   . If we put a dot in the figure without looking , the probability

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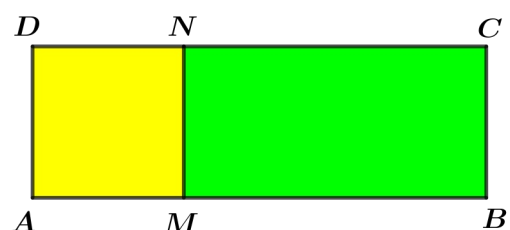
of it would be within the rectangle AMND is $\dfrac{4}{9}$

a) What is the probability that the dot would be within the rectangle MBCN ?

b) If   AM = 8 cm and MN = 5 cm , what is the area of the rectangle ABCD ?

c) If the area of the rectangle AMND is y nd the probability of the dot would be within

this rectangle is $\dfrac{y}{x}$, what is the area of the rectangle MBCN   ?

4. In the figure , an equilateral triangle is drawn inside a regular

hexagon . Put a dot in this figure without looking .

a) What is the maximum number of triangles of the given

size can be cut from the hexagon   ?

b) What is the probability that the dot would be within the triangle ?

c) What is the probability that the dot would be outside the triangle ?

5 . In the figure , small equal squares are   drawn inside a

square . Put a dot in this figure without looking .
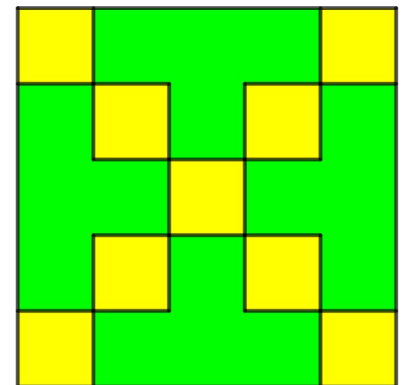
a) How many squares with the same size as the yellow square

can be cut from the larger square ?

b) What is the probability that the dot would be within the

shaded portion ?

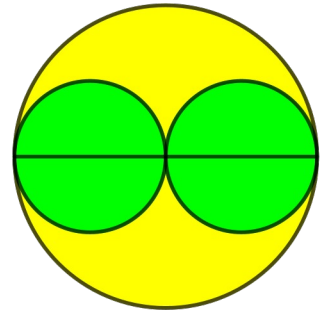c) What is the probability that the dot would be outside the shaded portion ?

3 . MATHEMATICS OF CHANCE - CLASS - 4 WORKSHEET

1.In the figure two small semicircles are drawn with the radius of the larger semicircle as the diameter . Put a dot in this figure without looking .
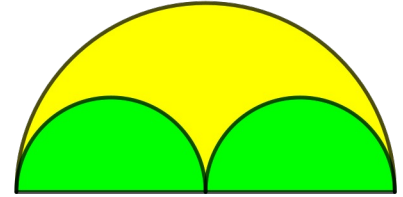
a)If the radius of the smaller semi circle is r, What is the radius of the larger semicircle ?

b) What is the probability that the dot would be within the green portion ?

c) What is the probability that the dot would be within the yellow portion ?

2. In the figure , two small circles are drawn with radius of the larger circle as diameter . Put a dot in this figure without looking .

a) If the radius of the smaller circle is r, What is the radius of the larger circle ?

b) What is the probability that the dot would be within the green portion ?

c) What is the probability that the dot would be within the yellow portion ?

3. In the figure small squares of equal size are drawn in the larger square . Put a dot in this figure without looking .
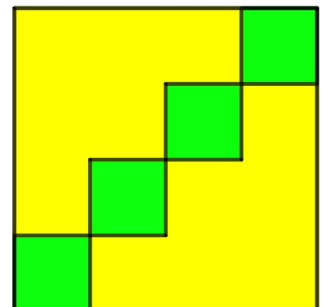
a) How many squares with the same size as that of the small green square can be cut from the larger square ?

b) What is the probability that the dot would be within the green portion ?

c) What is the probability that the dot would be within the yellow portion ?

4. Two boxes contain paper slips .On each paper slip a number is written . The numbers on the paper slips of each box is given in the table . Complete the table .

Box 1	Box 2	Possible pairs of numbers	Number of paper slips in the first box	Number of paper slips in the second box	Total number of possible pairs of numbers
1 , 2 , 3	1 , 2	(1 , 1) , (1 , 2) (2 , 1) , (2 , 2) (3 , 1) , (3 , 2)	2	3	6
1	1 , 2				
1 , 2 ,	1 , 2				
1 , 2 , 3 ,	1 , 2 , 3 , 4				
1 , 2 , 3 , 4 , 5	1 , 2				

5. Manu has three shirts , yellow, red and black . Also he has two pants , red and black .

a) In what all different ways can he wear them ?

b) What is the probability of his wearing the shirt and the pants of the same colour ?

c) What is the probability of his wearing the shirt and the pants of different colours ?

3 . MATHEMATICS OF CHANCE - CLASS - 5 WORKSHEET

1. **A bag contains 30   white and 20 green beads . Take one bead from this**

   a) What is the probability of getting a white bead ?

   b) What is the probability of getting a green bead ?

   c) How many more green beads are to be put in the box to make the probability of

   getting a white bead is $\frac{1}{2}$?

2. In a class there are 45 students . If a student is selected from this class, the probability

   that the student selected being girl is $\frac{4}{9}$.

   a) What would be the number of girls in the class ?

   b) Find the number of boys in the class .

   c) After some more girls joined the class , the probability that the student selected being a

   boy is $\frac{1}{2}$. Find the number of girls newly joined .

3) Two dice with faces numbered from to 1 to 6 are rolled together .

   a) What are the possible sums ?

   b) What is the probability the the sum of the digits being 4   ?

   c) What is the probability the the sum of the digits being perfect square ?

4. One is asked to say a two digit number .

   a) How many two digit numbers are there ?

   b) What is the largest possible product of the digits ?

   c) What is the probability that the product of the digits being multiple of 10 ?

   d) What is the probability that the product of the digits being multiple of 5 ?

5.

   a) How many days are there in a leap year ?

   b) What is the probability of occurring 53 saturdays in a leap year ?

   c) What is the probability of occurring 53 saturdays in a non - leap year ?