DEPARTMENT OF GENERAL EDUCATION

DIET ERNAKULAM
VAIBHAVAM 2021
SSLC – ACADEMIC SUPPORT

MATHEMATICS

Time : 45 min.

T 20   **Score : 20 marks**

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1. From the points given below, find the point on the y axis.   (1 Mark)

    a). (2, 0)   b). (1, 1)   c). (0, -2)   d). (-2, 0)

2. A box contains 7 white balls and 3 black ball. If one ball is taken from it without looking, what is the probability of it being white ?   (1 Mark)

3. Prove that (8, 5) is a point on the line joining (2, 1) and (5, 3).   (2 Marks)

4. If A (0, 0), B (4, 1) , C (6, 4) are three vertices of a parallelogram.

    a). Find the co-ordinate of D, the fourth vertex,

    b). Find the point of intersection of the diagonals.   (2 Marks)

5. The sides of a rectangle are parallel to the axes. It's opposite vertices are (1,3) and (5, 6). Find the

    a). Other two vertices

    b). Find the length of its diagonal.   (3 Marks)

6. Counting numbers from 1 to 20 are written in slips of paper and put it in a box. If one slip is taken from this, What is the probability of

    a). getting an odd number.

    b). getting an even number.

    c). the number is a multiple of 3.   (3 Marks)

7. Draw X-axis and Y-axis and mark the points below.

a). A (3, 2), B (-1, 2), C (-1, -2), D (3, -2)

b). Draw the polygon ABCD and find the length of its sides

c). Prove that it is a square.   (4 Marks)

8.   (1, 4) and (3, 7) are two points on a line.

a). Find its slope.

b). Find the equation of the line.

c). find the co-ordinate of the point when X-Coordinate is 4.   (4 Marks)

9.a) Prove that the points (-2, 4), (5, 3), (2, 7) are vertices of an isosceles triangle.

b). Find the area of triangle.   (5 Marks)

10.   In class 10 A there are 12 girls and 8 boys. In 10 B there are 20 girls and 10 boys.
      If one from each class is selected,

a). Which class has more probability of getting a girl ?

b). What is the probability of both being girls ?

c). What is the probability of getting atleast one girl ?   (5 Marks)