

परमाणु ऊर्जा शिक्षा संस्था, मुंबई  
Atomic Energy Education Society, Mumbai  
Session : 2023 – 24

Class: IX

Subject: MATHEMATICS

WORKSHEET NO.- 1

Name of the Chapter : COORDINATE GEOMETRY  
(CHAPTER – 3 )

General Instructions:

1. There are 5 sections in this worksheet.
2. Section – A has 10 multiple choice questions of 1 mark each.
3. Section – B has 10 very short answer questions of 1 mark each.
4. Section – C has 10 short answer questions of 2 marks each.
5. Section – D has 5 short answer questions of 3 marks each.
6. Section – E has 5 long answer questions of 5 marks each.
7. Draw neat diagrams wherever necessary.
8. Use of calculator is not permitted.

SECTION – A (1 X 10 =10)

- 1 \_\_\_\_\_ is an algebraic tool for studying geometry. [1]
  - a) Statistics
  - b) Trigonometry
  - c) Coordinate Geometry
  - d) None of these
- 2 The points ( - 5,3) and (3, - 5) lie in the [1]
  - a) IV and II quadrants respectively
  - b) II and IV quadrants respectively
  - c) same quadrant
  - d) II and III quadrants respectively
- 3 The point whose abscissa and ordinate have different signs will lie in [1]
  - a) II and III quadrants
  - b) I and II quadrants

- c) II and IV quadrant  
d) I and III quadrants
- 4 The point  $(-3, 0)$  lies [1]  
a) in quadrant III  
b) in quadrant IV  
c) on the negative direction of y - axis  
d) on the negative direction of x - axis
- 5 The abscissa of any point on y - axis is [1]  
a) 1  
b) any number  
c) - 1  
d) 0
- 6 Point  $(-3, 5)$  lies in the [1]  
a) second quadrant  
b) fourth quadrant  
c) third quadrant  
d) first quadrant
- 7 The point  $(0, -4)$  lies [1]  
a) on the negative direction of y - axis  
b) in quadrant III  
c) in quadrant IV  
d) on the negative direction of x - axis
- 8 The signs of abscissa and ordinate of a point in quadrant III are [1]  
a)  $(-, -)$   
b)  $(-, +)$   
c)  $(+, +)$   
d)  $(+, -)$

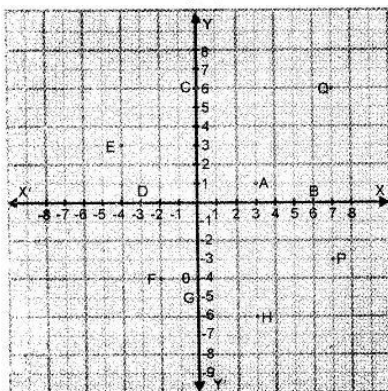
- 9 The ordinate of any point on x - axis is [1]
- a) 0
- b) any number
- c) - 1
- d) 1
- 10 Point (0, - 8) lies [1]
- a) on the x - axis
- b) on the y - axis
- c) in the II quadrant
- d) in the IV quadrant

**SECTION – B ( 1X 10 = 10)**

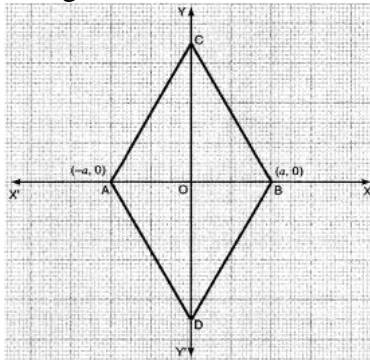
- 11 Without plotting the points indicate the quadrant in which they will lie, if abscissa is – 5 and ordinate is 3 [1]
- 12 In which quadrant does the point( - 2, - 5)lie? [1]
- 13 Write the quadrant in which it lies:(11, 6) [1]
- 14 In which quadrantdoes the point ( - 3, 7)lie? [1]
- 15 Write the coordinates of the reflections of point (3,5) in X and Y - axis. [1]
- 16 In which quadrant does the point(4, 2)lie? [1]
- 17 What is the name of each part of the plane formed by these two lines? [1]
- 18 On which axis does the point Q(0 - 2)lie? [1]
- 19 On which axis does the point P(5,0)lie? [1]
- 20 In which quadrant does thepoint(4, - 2)lie? [1]

**SECTION – C ( 2 X 10 = 20)**

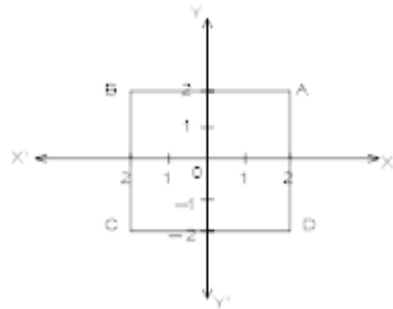
- 21 Write the co - ordinates of each of the following points marked in the graph paper. [2]



- 22 Which of the following points lie on the x - axis? A(1, 1), B(3, 0), C(0, 3), D(0, 0), E(-5, 0), F(0, -1), G(9, 0), H(0, -8). [2]
- 23 Write the quadrant in which it lies: (- 7, - 4) [2]
- 24 Name the quadrant in which the following points lie: (i) (5, -7) (ii) (-2, 1) (iii) (4, -8) [2]
- 25 Name the quadrant in which the point lies :(i) A(1, 1) (ii) (-2, -4) (iii) C(1, -2). [2]
- 26 Write the quadrant in which it lies: (3, - 8) [2]
- 27 Name the quadrant in which the following points lie: (i) A(2, 9) (ii) B(-3, 5) (iii) C(-4, -7) (iv) D(3, -2) [2]
- 28 In Fig., if ABC and ABD are equilateral triangles then find the coordinates of C and D. [2]



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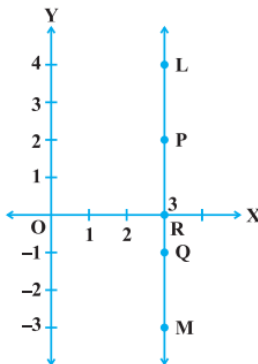
[2]

Find Co - ordinates of vertices of rectangle ABCD.

- 30 Name the quadrant in which the following points lie: [2]  
 (i) (2, 3)(ii) (-3, 4)(iii) (-3, -10)

**SECTION – D ( 3 X 5 = 15)**

- 31 In Figure, LM is a line parallel to the y - axis at a distance of 3 units. [3]



1. What are the coordinates of the points P, R and Q?
  2. What is the difference between the abscissa of the points L and M?
- 32 Seema has a 10 m × 10 m kitchen garden attached to her kitchen. She divides it into a 10 × 10 grid and wants to grow some vegetables and herbs used in the kitchen. She puts some soil and manure in that and sows a green chilly plant at A, a coriander plant at B and a tomato plant at C. Her friend Kusum visited the garden and praised the plants grown there. She pointed out that they seem to be in a straight line. See the below [3]

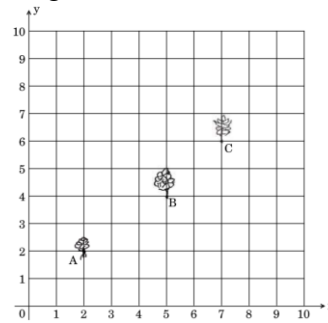
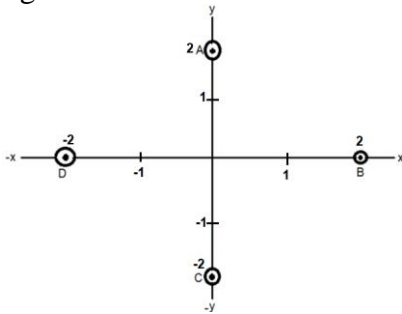
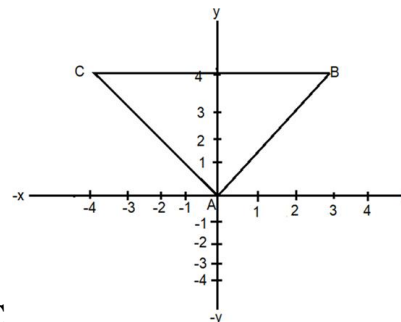


diagram carefully and answer the following questions :

1. Write the coordinates of the points A, B, and C taking the 10 × 10 grid as coordinate axes.
  2. By distance formula or some other formula, check whether the points are collinear.
- 33 In fig. write the Co - ordinates of the points and if we join the points write the name of fig. formed. Also write Co - ordinate of intersection point of AC and BD. [3]



- 34 Draw the graphs of  $y = x$  and  $y = -x$  in the same graph. Also find the co - ordinates of the point where the two lines intersect. [3]
- 35 [3]



In fig find the vertices' co - ordinates of  $\triangle ABC$

**SECTION – E ( 5 X 5 = 25)**

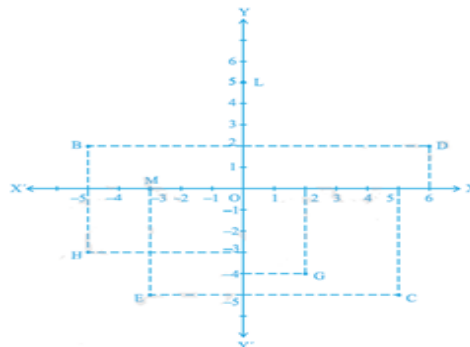
36 Write the coordinates of the vertices of a rectangle whose length and breadth are 5 and 3 units respectively, one vertex at the origin, the longer side lies on the x - axis and one of the vertices lies in the III quadrant. [5]

37 (Street Plan): A city has two main roads which cross each other at the centre of the city. These two roads are along the North - South direction and East - West direction. All the other streets of the city run parallel to these roads and are 200 m apart. There are 5 streets in each direction. Using 1cm = 200 m, draw a model of the city on your notebook. Represent the roads/streets by single lines. There are many cross - streets in your model. A particular cross - street is made by two streets, one running in the North - South direction and another in the East - West direction. Each cross street is referred to in the following manner: If the 2nd street running in the North - South direction and 5th in the East - West direction meet at some crossing, then we will call this cross - street (2, 5). Using this convention, find: [5]

1. how many cross - streets can be referred to as (4, 3).
2. how many cross - streets can be referred to as (3, 4).

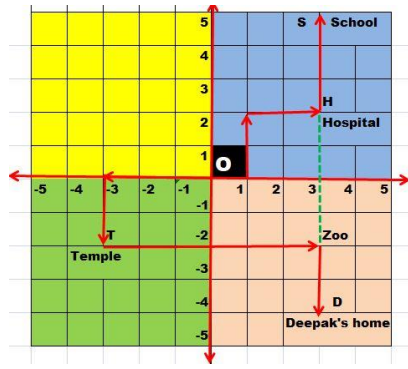
38 write the following: [5]

1. The coordinates of B.
2. The coordinates of C.
3. The point identified by the coordinates (- 3, - 5).
4. The point identified by the coordinates (2, - 4).
5. The abscissa of the point D.
6. The ordinate of the point H.
7. The coordinates of the point L.



8. The coordinates of the point M.

39 Read the Source/Text given below and answer any four questions: [5]



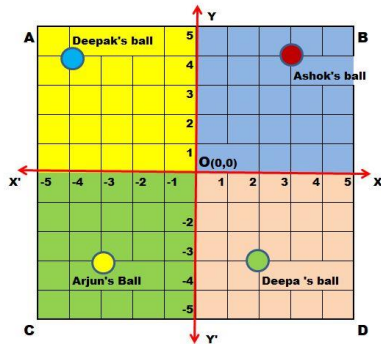
In the above picture, one small square is of size  $1 \text{ km} \times 1 \text{ km}$ . From the starting point  $O(0,0)$  Deepak started to drive towards his home. He first drives 3km in left then he turned to his left and drove 2 km, there he found a temple. He worshipped there and drove 6km in the left direction, there is a zoo and from the zoo, he drives 2km on the right side, then he reached his home. From O Sanjay drove for his school, he drove 1km to his right then took a left turn and drives 2km then again took a right turn and drives 2 km. He found a hospital in the way. From Hospital he drove 3 km and finally reached his school.

1. What are the coordinates of the Hospital?
  - a. (3, 2)
  - b. (2, 3)
  - c. (3, 3)
  - d. (5, 5)
  
2. What is common abscissa of school, Hospital, Zoo and Deepak's home?
  - a. 3
  - b. 5
  - c. - 3
  - d. - 5
  
3. What is the common ordinate of temple and Zoo?
  - a. 3
  - b. 5
  - c. - 3
  - d. - 2
  
4. Deepak Drove in which quadrants?

- a. I & II
  - b. II and III
  - c. III and IV
  - d. IV and I
5. Sanjay Drove in which quadrants?
- a. I only
  - b. II and III
  - c. III and IV
  - d. II and I

40 Read the Source/Text given below and answer any four questions:

[5]



There is a square park ABCD in the middle of Saket colony in Delhi. Four children Deepak, Ashok, Arjun and Deepa went to play with their balls. The colour of the ball of Ashok, Deepak, Arjun and Deepa are red, blue, yellow and green respectively. All four children roll their ball from centre point O in the direction of  $XOY$ ,  $X'OY$ ,  $X'OY'$  and  $XOY'$ . Their balls stopped as shown in the above image. Answer the following questions:

1. What are the coordinates of the ball of Ashok?
  - a. (4, 3)
  - b. (3, 4)
  - c. (4, 4)
  - d. (3, 3)
2. What are the coordinates of the ball of Deepa?
  - a. (2, - 3)



b. (3, 2)

c. (2, 3)

d. (2, 2)

3. What the line  $XOX'$  is called?

a. y - axis

b. ordinate

c. x - axis

d. origin

4. What the point  $O(0,0)$  is called?

a. y - axis

b. ordinate

c. x - axis

d. origin

5. What is the ordinate of the ball of Arjun?

a. - 3

b. 3

c. 4

d. 2

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