Work Sheet 1

CHAPTER 3

COORDINATE GEOMETRY

CLASS:IX

MCQ

Q1 The Coordinates of Origin are

a. (0,0)   b.(0,x).   c.(0,y).   d.(x,y)

Q2 All the points which lie on x axis are of the form

a.(0,0)   b.(x,0).   c.(0,x).   d.(x,y)

Very Short Answers

Q3 Fill in the blanks

a.The name of horizontal line in co-ordinate plane is …………..

b.   The distance of the point (7,5) from x axis is….

Q4.Find the image of point (-2, 5) under   (i) X – axis   (ii) Y – axis

Q5 Write whether the following statements are True or False? Justify your answer.

(i) Point (3, 0) lies in the first quadrant.

(ii) Points (1, –1) and (–1, 1) lie in the same quadrant.
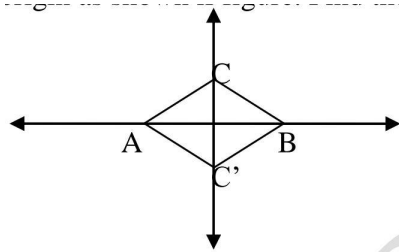
Short Answers

Q6.In which quadrant or on which axis each of the following points lie? (– 3, 5), (4, – 1), (2, 0), (2, 2), (– 3, – 6)

Q7.Plot the points A (5, 5) and B (-5, 5) in Cartesian plane. Join AB, OA and OB. Name the type of triangle so obtained.

Q8 Plot the points O (0,0) A(3,0), B(3,3) and C(0,3) in a Cartesian plane. Join OA, AB, BC and CO. Name the figure so formed and write its one property.
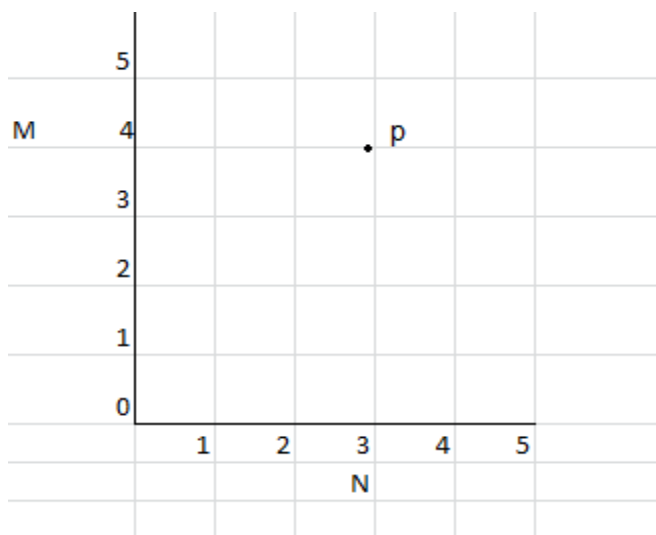
Long Answers

Q9The base AB of two equilateral ABC and ABC' with side 2a lies along the x – axis such that the mid – point of AB is at the origin as shown if figure. Find the coordinates of the vertices C and C' of the triangles.

CCT

Q10A precious diamond is placed in an exhibition. There is tight security all around it. Two thieves Babloo and Shyam are trying to steal it .They are unaware about the presence of each other. Babloo is hiding at point N(3,0) and Shyam is hiding at point M(0,4) and the diamond is placed at point P. Both of them are also unaware about the policeman on duty at point O. Based on their locations, give answers.

i. Which of the following is true?

    (a) N is nearer to diamond.
    (b) M is nearer to diamond.
    (c) No one is nearer to diamond.
    (d) Both are at same distance from box.

ii. What are the coordinates of the diamond.

    (a) (2,3) (b) (3,4) (c) (4,3)
(d) None of these

    Q3. What will be the shortest distance travelled by policeman to the diamond?

Q4. If it takes 1 min by policeman to cover one unit , 1.5 min by Babloo to cover one unit and 1.25 min by shyam to cover 1 unit,who will take least time to reach the diamond if started simultaneously.

    (a) Policeman
    (b) Babloo
    (c) Shyam

(d) All together

ANSWERS

Q1 a

Q2 b

Q3 i) x axis

   ii) 5 units

Q4 Mirror image of P in x axis is Q (-2,-5)
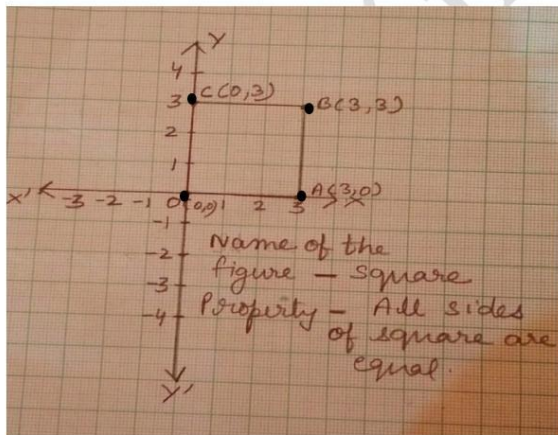
Mirror image of P in y axis is Q (2,5)

Q5 i)False because all the points of the form (x,0) lies on x axis.

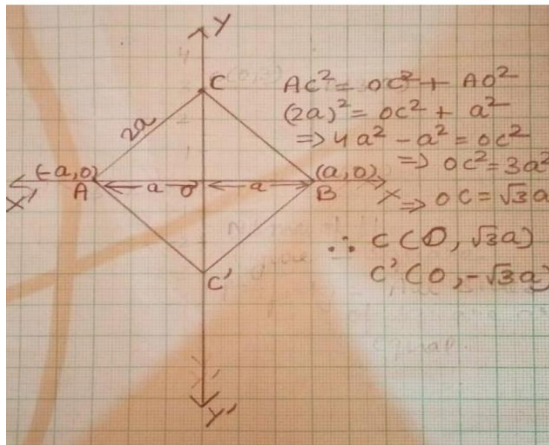ii) False Point (1, –1) lies in III Quadrant and (–1, 1) lie in the second quadrant.

Q6 (– 3, 5) II Quadrant, (4, – 1) IV Quadrant, (2, 0) X axis, (2, 2) I Quadrant, (– 3, – 6) III Quadrant

Q7 Isosceles Triangle

Q8

Name of the figure — square

Property — All sides of square are equal.

Q 9C(0, √3 a) , C'(0, - √3a)

$AC^2 = OC^2 + AO^2$

$(2a)^2 = OC^2 + a^2$

$\Rightarrow 4a^2 - a^2 = OC^2$

$\Rightarrow OC^2 = 3a^2$

$\Rightarrow OC = \sqrt{3}a$

$\therefore C(0, \sqrt{3}a)$

$C'(0, -\sqrt{3}a)$

Q10 i b,ii b

iii) OP=√3²+4² = √25 = 5units

iv) Time taken by police man to reach the diamond = 5 x 1= 5min

Time taken by Babloo to reach the diamond = 1.5 x 4= 6min

Time taken by Shyam to reach the diamond = 1.25 x 3= 3.75min

Shyam will take the least time to reach the diamond.

PREPARED BY

SWATI GUPTA

TGT MATHS

KV AFS CHANDINAGAR