Short Answer Type Questions – I

[2MARKS]

Que 1. Write the coordinates of a point on x-axis at a distance of 6 units from the origin in the positive direction of x-axis and then justify your answer.

Sol. As, any point on x-axis has coordinates $(x, 0)$where x is the distance from origin, so

required coordinates are $(6, 0)$.

Que 2. Which axis is parallel to the line on which the two points with coordinates $(4, 3)$ and $(4, -2)$lie?

Sol. As x-coordinate of both points is 4.

So, both points lie on the line $x = 4$ which is parallel to y-axos.

Que 3. Two points with coordinates $(3, 4)$ and $(-5, 4)$ lie on a line parallel to which axis? Justify your answer.

Sol. y-coordinate of both the points is 4.

So, both points lie on the line $y = 4$ which is parallel to $x - axis$.

Que 4. If the coordinates of two points are $P(-2, 3)$ and $Q(-3, 5)$ then find (abscissa of P)−(abscissa of Q)

Sol. Abscissa of P −Abscissa of $Q = (-2) - (-3) = -2 + 3 = 1$.

Que 5. Without plotting the points indicate the quadrant in which they will lie, if:

(i) **Ordinate is -3 and abscissa is -2**

(ii) **Abscissa is 5 and ordinate is -6**

Sol. (i) III quadrant

(ii) IV quadrant

Que 6. 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.

Sol. The obtained triangle is an isosceles triangle.

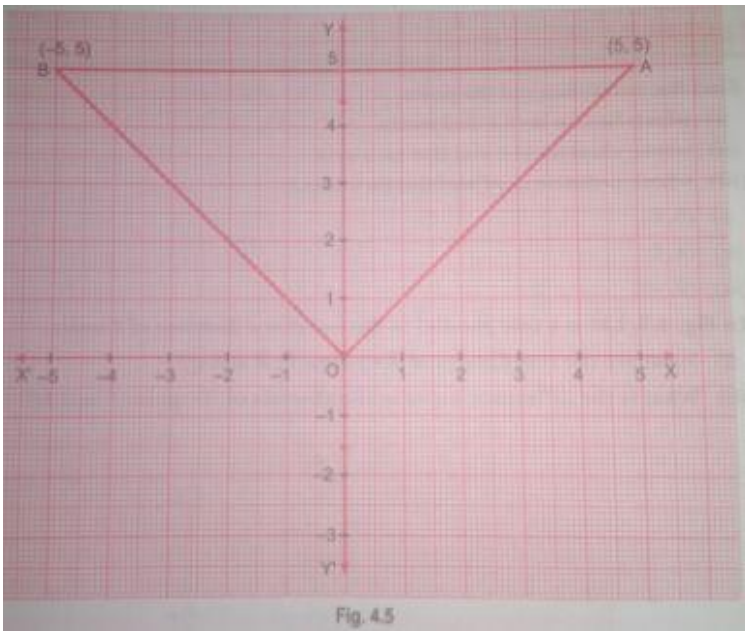

Fig. 4.5

Que 7. In Fig. 4.6, if ABC and ABD are equilateral triangles then find the coordinates of C and D.

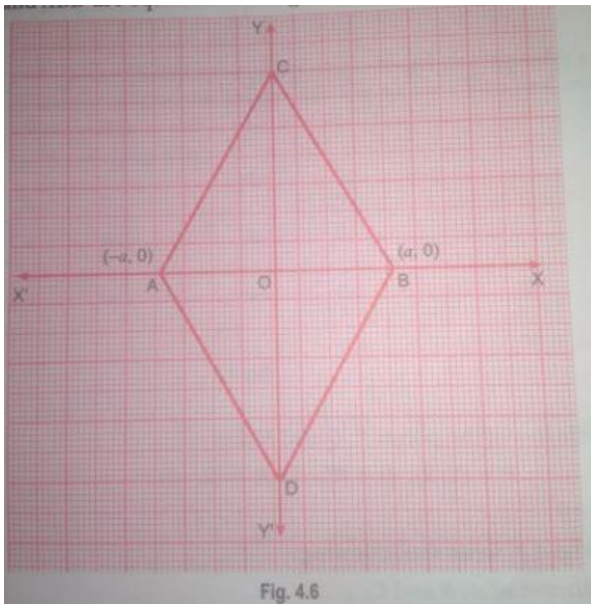

Fig. 4.6

Sol. Here, $AC = 2a \; and \;\; AO = a$

$$OC^2 = AC^2 - AO^2 = 4a^2 - a^2 = 3a^2$$

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

Therefore, coordinates of C are $(0, a\sqrt{3})$

Coordinates of D are $(0, -a\sqrt{3})$.