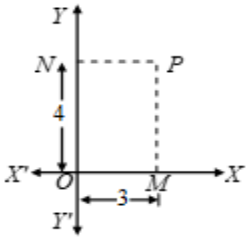
COORDINATE GEOMETRY

BASIC INTRODUCTION AND CARTESIAN PLANE

EXERCISE

Q.1 From the adjoining figure find

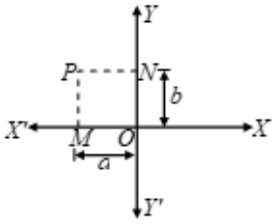


(i) Abscissa

(ii) Ordinate

(iii) Co-ordinates of a point P

Q.2 Determine

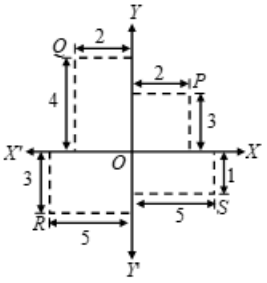


(i) Abscissa

(ii) ordinate

(iii) Co-ordinates of point P given in the following figure.

Q.3 Write down the



(i) abscissa

(ii) ordinate

(iii) Co-ordinates of P, Q, R and S as given in the figure.

Co-ordinates of S = (5, – 1)

Q.4 Draw a triangle ABC where vertices A, B and C are (0, 2), (2, – 2), and (–2, 2) respectively.

Q.5 Draw a rectangle PQRS in which vertices P, Q, R and S are (1, 4), (–5, 4), (–5, –3) and (1, – 3) respectively.

Q.6 Draw a trapezium ABCD in which vertices A, B, C and D are (4, 6), (–2, 3), (–2, –5) and (4, –7) respectively.

Q.7 Find the images of the following points with respect to x axis, (1, 2), $\left(\frac{3}{8}, \frac{4}{3}\right)$, $\left(-\frac{2}{3}, 3\right)$, (2, 5), (5, 0), (0, 7), (– 3, – 4)

Q.8 Find the images, of points (0, 0), (3, 0), (0, 2), (5, 1), (–2, 3), (–3, –3), (6, –7) with respect to y axis.

Q.9 If the distance between the points (a, 2) and (3, 4) be 8 then a =

(A) $2+3\sqrt{15}$ (B)$2-3\sqrt{15}$ (C) $2\pm 3\sqrt{15}$ (D) $3 \pm 2\sqrt{15}$

ANSWER KEY

1. (i) Abscissa = PN = OM = 3 units

   (ii) Ordinate = PM = ON = 4 units

   (iii)Co-ordinates of the point P = (Abscissa, ordinate) = (3, 4)

2. (i) Abscissa of the point P = – NP = –OM = – a

   (ii) Ordinate of the point P = MP = ON = b

   (iii)Co-ordinates of point P = (abscissa, ordinate) = (–a, b)

3. **Point P**

   Abscissa of P = 2; Ordinate of P = 3

   Co-ordinates of P = (2, 3)

   Point Q

   Abscissa of Q = – 2; Ordinate of Q = 4

   Co-ordinate of Q = (–2, 4)

   Point R

   Abscissa of R = – 5; Ordinate of R = – 3

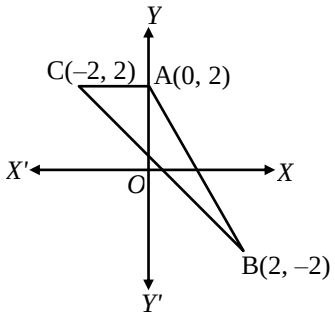
   Co-ordinates of R = (–5, –3)

   Point S

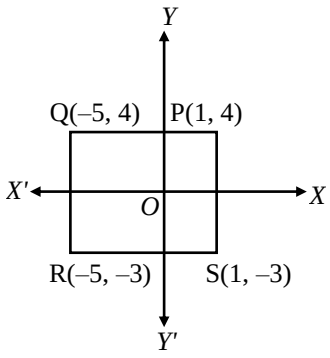
   Abscissa of S = 5; Ordinate of S = – 1

Co-ordinates of S = (5, – 1)

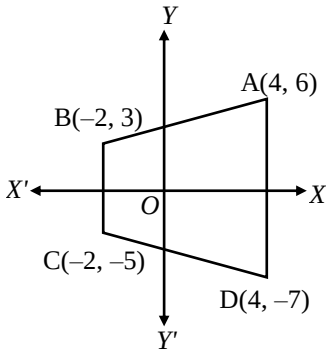
4.



5.



6.



7. The images are (1, –2), $\left(\frac{3}{8},-\frac{4}{3}\right)$, $\left(-\frac{2}{5},-3\right)$, (2, –5), (5, 0), (0, –7), (–3, 4) respectively.

8. The images are (0, 0), (–3, 0), (0, 2), (–5, 1), (2, 3), (3, –3), (–6, –7) respectively.

9. (D)