RD SHARMA Solutions for Class 9 Maths Chapter 8 - Co-ordinate Geometry

Chapter 8 - Co-ordinate Geometry Exercise 8.7

Question 1

The Point of intersection of co-ordinate axes is
(a) ordinate (b) abscissa (c) quadrant (d) origin

Solution 1

The point of intersection of co-ordinate axes i.e. X-axis and Y-axis is (0, 0), which is called origin.
Hence, correct option is (d).

Question 2

The abscissa and ordinate of the origin are
(a) (0, 0)
(b) (1, 0)
(c) (0, 1)
(d) (1, 1)

Solution 2

$\text{Origin} = (0,0)$
$\text{abscissa} = \text{intercept on } X-\text{axis} = 0$
$\text{ordinate} = \text{intercept on } Y-\text{axis} = 0$
$\Rightarrow (0, 0)$ is the answer.
Hence, correct option is (a).

Question 3

The measure of the angle between the coordinate axes is
(a) 0^o (b) 90^0 (c)180^0 (d)360^0

Solution 3

$\text{The angle between the co} - \text{ordinate axes is } 90° \text{ because } X-\text{axis} \perp Y-\text{axis}.$
Hence, correct option is (b).

Question 4

A point whose abscissa and ordinate are 2 and -5 respectively, lies in
(a) First quadrant
(b) Second quadrant
(c) Third quadrant
(d) Fourth quadrant

Solution 4

Abscissa is = 2 (positive intercept on X-axis)
and ordinate = -5 (negative intercept on Y-axis)
so X-value is positive and Y-value is negative, i.e. Fourth Quadrant.
Hence, correct option is (d).

Question 5

Point (-4, 0) and (7, 0) lie
(a) on X- axis
(b) on Y- axis
(c) in first quadrant
(d) in second quadrant

Solution 5

In (-4, 0) and (7, 0),
measure of ordinate = 0
That means, intercept on Y-axis = 0
So, points lies on X-axis.
Hence, correct option is (a).

Question 6
The ordinate of any point on X-axis is
(a) 0
(b) 1
(c) -1
(d) any number

Solution 6
On X- axis, all points have their Y- intercept = 0
So their ordinate = 0
Hence, correct option is (a).

Question 7
The abscissa of any point on Y-axis is
(a) 0
(b) 1
(c) -1
(d) any number

Solution 7
Every point on Y-axis have X-intercept = 0
Thus, their abscissa = 0
Hence, correct option is (a).

Question 8
The abscissa of a point is positive in the
(a) First and Second quadrant
(b) Secod and Third quadrant
(c) Third and Fourth quadrant
(d) Fourth and First quadrant

Solution 8
Abscissa = Intercept on X-axis
If intercept on X-axis is positive, means First and Fourth quadrant.
Hence, correct option is (d).

Question 9
A point whose abscissa is -3 and ordinate 2 lies in
(a) First Quadrant
(b) Second Quadrant
(c) Third Quadrant
(d) Fourth Quadrant

Solution 9

If abscissa $= -3$
Intercept on $X-$ axis $= -3$
$X < 0$
and Ordinate $= 2$
Intercept on Y axis is $= 2$
$Y > 0$
So, Point is in Second Quadrant.
Hence, correct option is (b).

Question 10
Two points having same abscissae but different ordinates lie on
(a) X-axis
(b) Y-axis
(c) a line parallel of Y-axis
(d) a line parallel to X-axis

Solution 10
Let two points be (a, b) and (a, c).
If abscissa is same = a
and ordinate is different then all such points will lie on a line parallel to Y- axis because value of X-intercept
i.e. abscissa is fixed.
Hence, correct option is (c).

Question 11
The perpendicular distance of the point P (4, 3) form x-axis is
(a) 4
(b) 3
(c) 5
(d) None of these

Solution 11
If perpendicular drawn from P to $X-$ axis, then the perpendicular is equal to measure of ordinate of point P.
So, perpendicular distance of point P form $X-$ axis $= 3$
Hence, correct option is (b).

Question 12
The perpendicular distance of the point P(4, 3) from y-axis is
(a) 4
(b) 3
(c) 5
(d) none of these

Solution 12
If we draw a perpendicular from point P(4, 3) to $Y-$ axis,
the measure of perpendicular is equal to abscissa of point P.
So perpendicular distabce form $Y-$ axis $=$ abscissa $= 4$
Hence, correct option is (a).

Question 13
The distance of the point P(4, 3) from the origin is
(a) 4
(b) 3
(c) 5
(d) 7

Solution 13

Point P(4, 3) and Origin O(0, 0).

Required distance = $OP = \sqrt{(0-4)^2 + (0-3)^2}$ (by distance formula)

$= \sqrt{16 + 9}$

$= \sqrt{25}$

$= 5$

Hence, correct option is (c).

Question 14

The area of the triangle formed by the points A(2, 0), B(6, 0) and C(4, 6) is

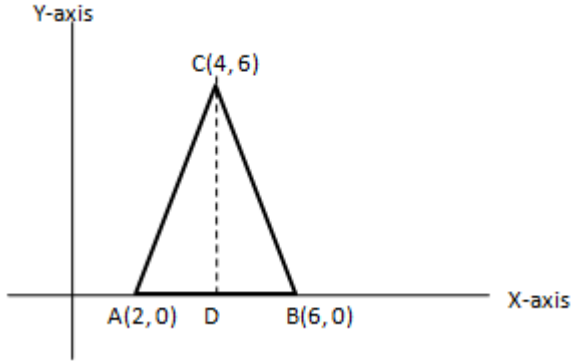
(a) 24 sq. units

(b) 12 sq. units

(c) 10 sq. units

(d) none of these

Solution 14



Let CD be perpendicular drawn from C to AB.

The length of the perpendicular will be equal to the ordinate of point C.

$\Rightarrow CD = 6$ units

$AB = 4$ units

Now, Area of $\triangle ABC = \frac{1}{2} \times \text{Base} \times \text{height} = \frac{1}{2} \times 4 \times 6 = 12$ sq. units

Hence, correct option is (b).

Question 15

The area of the triangle formed by the points P(0, 1), Q(0, 5) and R(3, 4) is

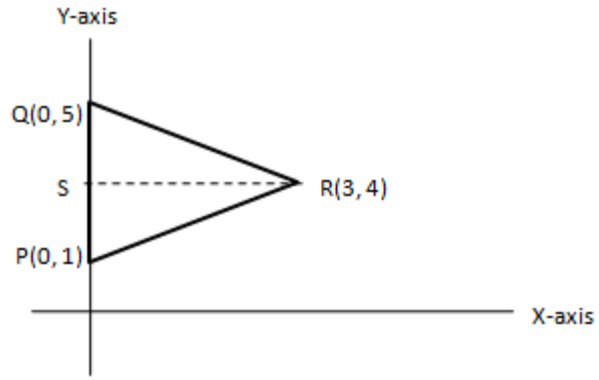
(a) 16 sq. units

(b) 8 sq. units

(c) 4 sq. units

(d) 6 sq. units

Solution 15



PQ = 4 units

Let RS be perpendicular drawn from R to PQ.

Length of RS = abscissa of R(3, 4)

$\Rightarrow$ RS = 3 units

Area of $\triangle RQP = \frac{1}{2} \times PQ \times RS = \frac{1}{2} \times 4 \times 3 = 6$ sq. units

Hence, correct option is (d).

Chapter 8 - Co-ordinate Geometry Exercise Ex. 8.1

Question 1

Plot the following points on the graph paper:

(i) (2,5)

(ii) (4,-3)

(iii) (-5,-7)

(iv) (7,-4)

(v) (-3,2)

(vi) (7,0)

(vii) (-4,0)

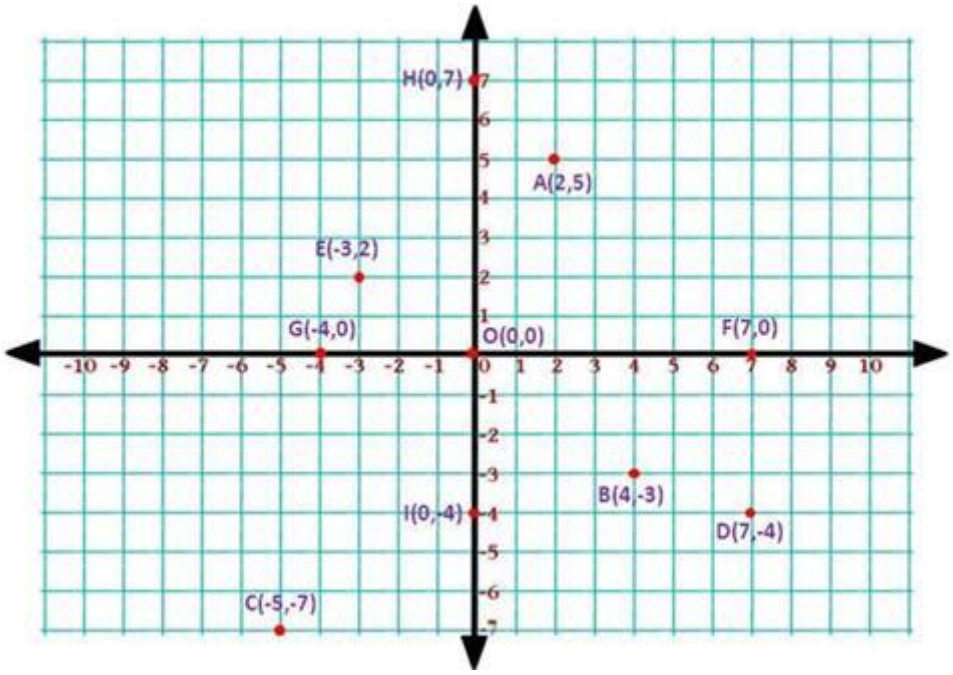
(viii) (0,7)

(ix) (0,-4)

(x) (0,0)

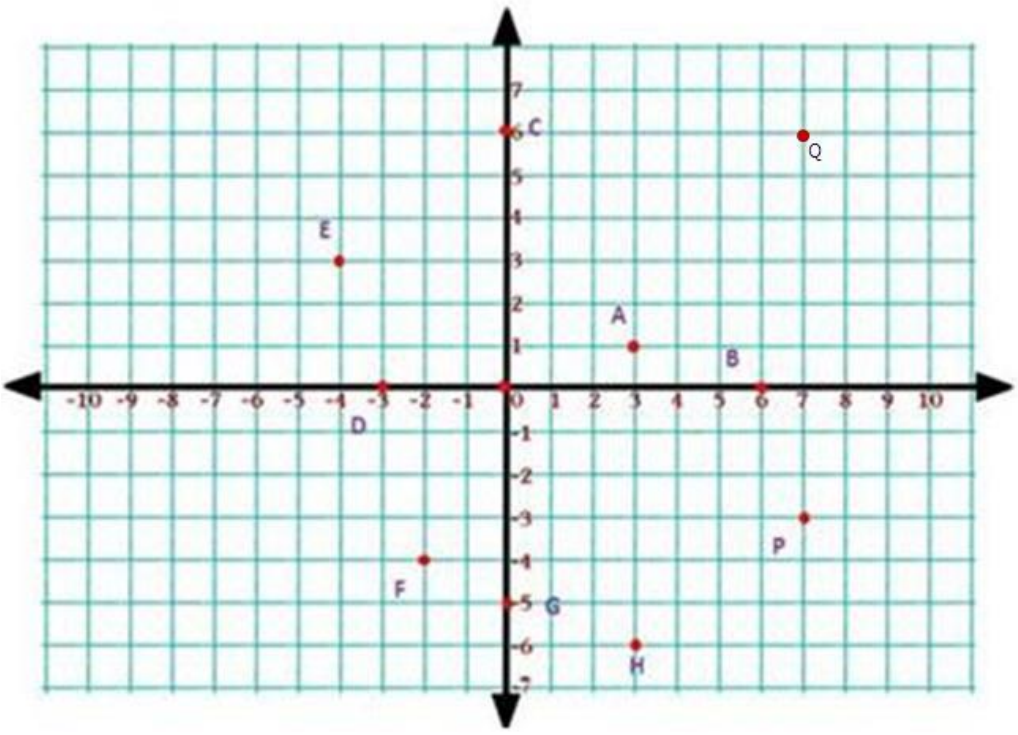
Solution 1

The graph of the given points are:



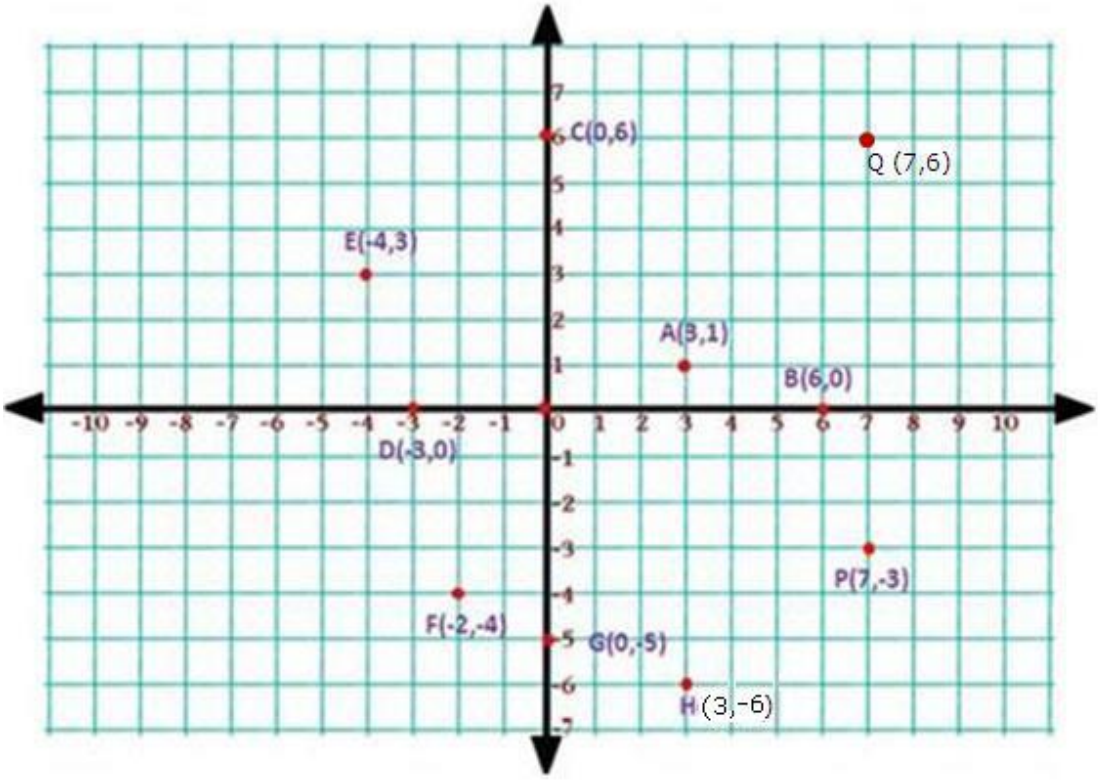
Question 2

Write the coordinates of each of the following points marked in the graph paper:



Solution 2

The coordinates of the given points are A(3,1), B(6,0), C(0,6), D(-3,0), E(-4,3), F(-2,-4), G(0,-5), H(3,-6), P(7,-3) and Q(7,6)


C(0,6)
Q (7,6)
E(-4,3)
A(3,1)
B(6,0)
D(-3,0)
P(7,-3)
F(-2,-4)
G(0,-5)
H (3,-6)