

COORDINATE GEOMETRY
PRACTICE EXERCISE

Multiple Choice Questions:

Q1. The point which lies on Y-axis at a distance of 4 units in the negative direction of Y-axis is:

- a. (0,4) b. (4,0) c. (0,-4) d. (-4,0)

Q2. Which point lies on X-axis?

- a. (3, 2) b. (-3, 2) c. (2, 0) d. (-1,-2)

Q3. Which point lies on Y-axis?

- a. (1, 3) b. (0, 3) c. (5, 2) d. (-2-3)

Q4. Which point lies to the right of Y-axis?

- a. (0, 3) b. (-2,-1) c. (3,5) d. (-3,-2)

Q5. The perpendicular distance of the point P(2,5) from the Y-axis is:

- a. 5 b. 2 c. 3 d. 4

Q6. Which point lies on the left of Y-axis?

- a. (2,0) b. (-2,-4) c. (5, 2) d. (3, 6)

Q7. Which point lies above X-axis?

- a. (-1,2) b. (2,0) c. (-1,-5) d. (0-3)

Q8. If the coordinates of two points are P(-2, 3) and Q(-3, 5), then (abscissa of P) - (abscissa of Q) is:

- a. -5 b. 1 c. -1 d. -2

Q9. The ordinate of a point is negative in:

- a. II and III quadrants b. III quadrant only
c. III and IV quadrants. d. IV quadrant only

Q10. Which point lies in IV quadrant?

- a. (-3,-4) b. (2-4) c. (-2,3) d. (0, 1)

Q11. If $(x+3, 5) = (6, y-3)$, then coordinates (x, y) are:

- a. (3, 2) b. (-3, 8) c. (-3, -8) d. (3, 8)

Q12. If the points $P(0, -2)$, $Q(0, 4)$ and $R(a-5, 6)$ lie on the Y-axis, then the value of a is:

- a. -5 b. 5 c. 6 d. 4

Q13. The coordinates of any point on the Y-axis are of the form $(0, k)$, where $|k|$ is distance of the point from the:

- a. X- axis b. Y- axis c. (0,1) d. (0, 5)

Q14. The distance of the points $(0, 3)$ and $(0, -5)$ from Y-axis is:

- a. 8 b. 3 c. -5 d. 0

Q15. The distance between the points $A(3, 5)$ and $B(-8, 5)$ is:

- a. 11 b. 5 c. 10 d. 12

Q16. The image of point $(-3, 4)$ with respect to X-axis is:

- a. $(-3, -4)$ b. $(3, 4)$ c. $(-3, 0)$ d. $(3, -4)$

Q17. The image of a point $P(-8, 5)$ with respect to the Y-axis is:

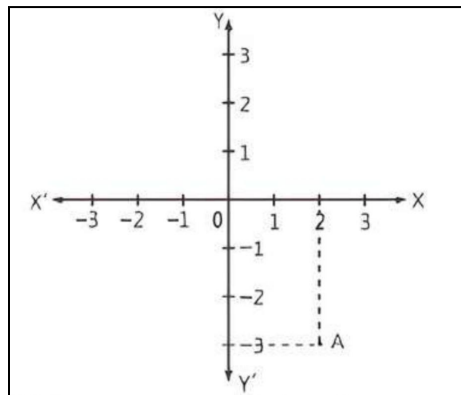
- a. $(-8, 5)$ b. $(8, 5)$ c. $(-8, 0)$ d. $(0, 5)$

Q18. Which of the points $P(-1, 1)$, $Q(3, -4)$, $R(1, -1)$, $S(-2, -3)$ and $T(-4, 4)$ lie in the IV quadrants?

- a. P and T b. Q and R c. only S d. P and R

Q19. In the following graph, the coordinates of A are:

- a. (2, 3)
b. (2, 3)
c. $(-2, 3)$
d. $(-2, -3)$



Assertion & Reason Type Questions:

Directions (Q. Nos. 20-23): In the following questions, a statement of Assertion (A) is followed by a statement of a Reason (R). Choose the correct option:

- a. Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).
- b. Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A).
- c. Assertion (A) is true but Reason (R) is false.
- d. Assertion (A) is false but Reason (R) is true.

Q20. Assertion (A): The point $(-3, 0)$ lies on Y-axis and $(0, 4)$ lies on X-axis.

Reason (R): Every point on the X-axis has zero distance from X-axis and every point on the Y-axis has zero distance from Y-axis.

Q 21. Assertion (A): The ordinate of a point $(3, 7)$ is 7.

Reason (R): The perpendicular distance of a point from X-axis is said to be an ordinate.

Q22. Assertion (A): A point whose abscissa is 3 and ordinate is -4 lies in IV quadrant.

Reason (R): A point whose sign is the form of $(-, +)$ lies in the II nd quadrant.

Q23. Assertion (A): If the ordinate of a point is equal to its abscissa, then the point lies either in the I st quadrant or in the II nd quadrant.

Reason (R): A point having both coordinates negative, will lie in the III rd quadrant.

Fill in the Blanks:

Q24. If the abscissa is negative and the ordinate is zero, then that point lies on _____ X-axis.

Q25. The point of intersection of X and Y-axes is called _____.

Q26. The distance of the point $(-4, -2)$ from Y-axis is _____ units.

Q27. The coordinates of the point which lies on the Y-axis and is at a distance of 3 units above X-axis is _____.

Q28. The coordinates of point(s) of the plane which do not belong to any of the quadrants is/are _____.

True/False Type Questions:

Q29. Abscissa of all the points on the X-axis is any number.

Q30. The coordinates of a point whose ordinate is $-1/2$ and abscissa is 1 is $(-1/2, 1)$.

Q31. The distance of the point $(3, 0)$ from X-axis is 3 units.

Q32. The point $(-2, -1)$ lies in II quadrant.

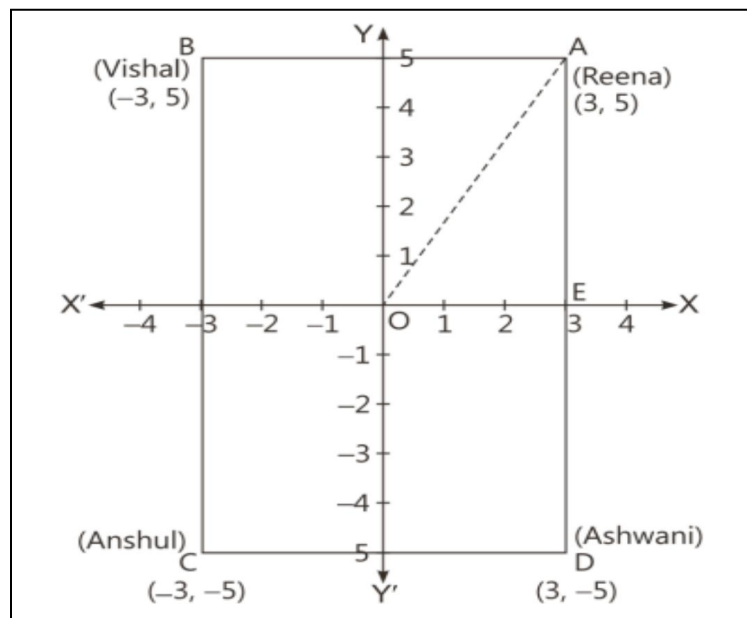
Case Study 1

A new year party is organised by Anil on 31st December. Anil invites some of his friends to have some fun and wants to enjoy the delicious food. Among all of the friends, four friends Reena, Vishal, Anshul and Ashwani are standing at positions A $(3, 5)$, B $(-3, 5)$, C $(-3, -5)$ and D $(3, -5)$ respectively.



On the basis of the above information, solve the following questions:

Q1. The position of given points are shown below. The perimeter of this figure is:



a. 30

b. 32

c. 16

d. 20

Q2. Anshul stands on the quadrant:

- a. II b. I c. III d. IV

Q3. The distance between Reena and Vishal is:

- a. 10 b. 0 c. 6 d. 8

Q4. Area of rectangle ABCD is:

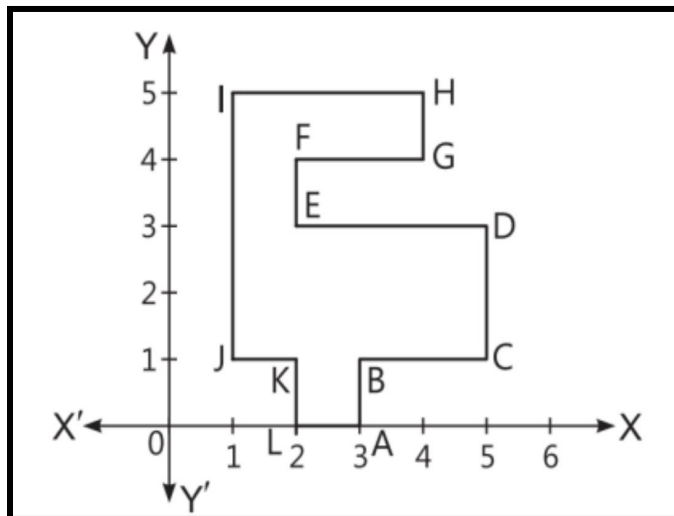
- a. 50 sq. units b. 60 sq. units
c. 65 sq. units d. 55 sq. units

Q5. The distance of Reena from origin is:

- a. $\sqrt{34}$ units b. $\sqrt{30}$ units c. $\sqrt{39}$ units d. $\sqrt{29}$ units

Case Study 2

Municipality constructed a zig-zag cycle track so that the person enjoys the ride of bicycle as well as make himself fit and healthy. It starts from point A to B then B to C..... and so, on and finally returns at the starting point A, which is as shown in the figure.



On the basis of the above information, solve the following questions:

Q1. The coordinates of point B are:

- a. (1, 3) b. (3, 1) c. (-1, -3) d. (-1, 3)

Q 2. Points E and F has same:

- a. Y-coordinate
- b. X-coordinate
- c. x and y-coordinate
- d. x-coordinate or y-coordinate

Q 3. The distance between points C and D is:

- a. 5 units
- b. 2 units
- c. 4 units
- d. 6 units

Q4. The ordinate of point I is:

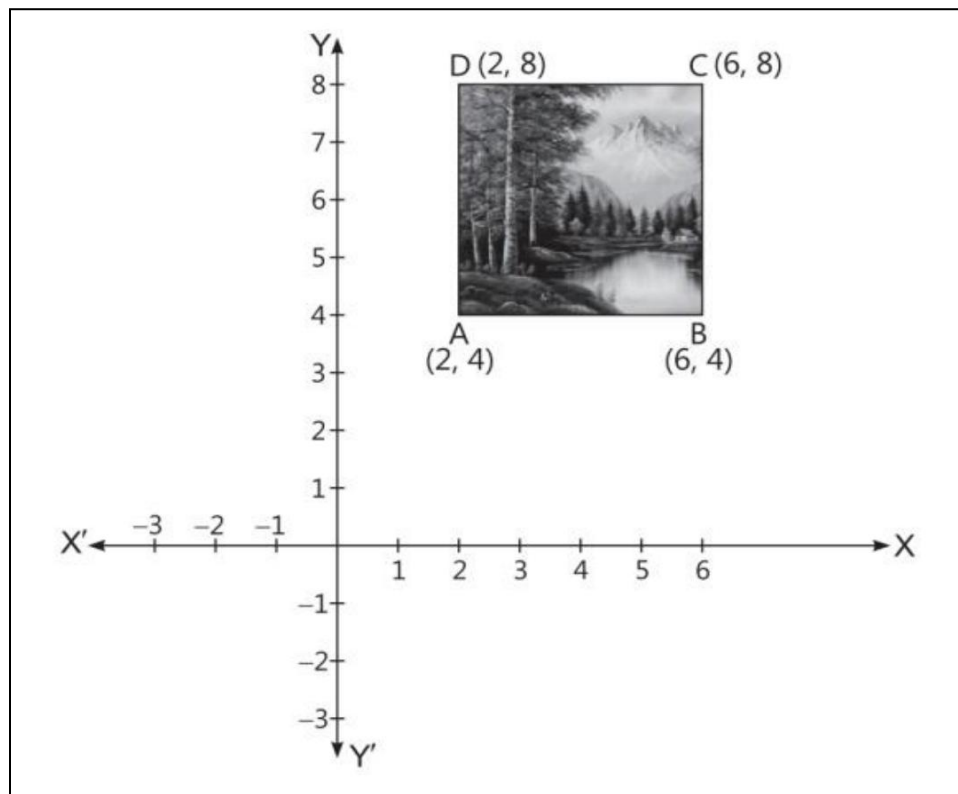
- a. 5
- b. 4
- c. 3
- d. 6

Q5. The distance between points B and D is:

- a. 2
- b. $\sqrt{2}$
- c. $2\sqrt{2}$
- d. 3

Case study 3

Vivek wants to purchase a painting for drawing room. First of all, he puts a grid on the wall so that he could hang a painting on that area. The corner points of the grid are A (2, 4); B (6, 4); C (6, 8) and D (2, 8).



On the basis of the above information, solve the following questions:

Q1. The shape of the painting is a:

- a. rectangle
- b. Square
- c. trapezium
- d. parallelogram

Q2. The area of given figure is:

- a. 6 sq. units b. 8 sq. units c. 16 sq. units d. 12 sq. units

Q3. The coordinates of intersection point of diagonals are:

- a. (6, 4) b. (4, 6) c. (-4, 6) d. (2, 2)

Q4. The perimeter of a square is:

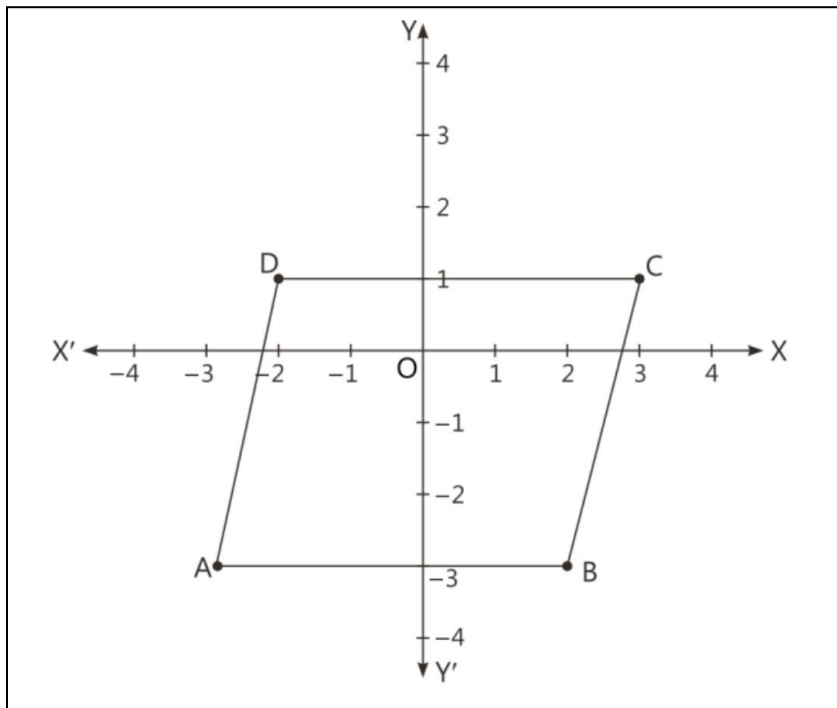
- a. 14 units b. 12 units c. 16 units d. 18 units

Q5. The image of a point D (2, 8) with respect to X-axis is:

- a. (-2, -8) b. (-2, 8) c. (8, 2) d. (2, -8)

Case Study 4

Four friends Aakansha, Prabhat, Puneet and Lalit are sitting in a park at points A, B, C and D respectively. This park has been divided into small squares by drawing equally distanced horizontal and vertical lines. Consider XOX' and YOY' as coordinate axes.



On the basis of the above information, solve the following questions:

Q1. Find the coordinates of B.

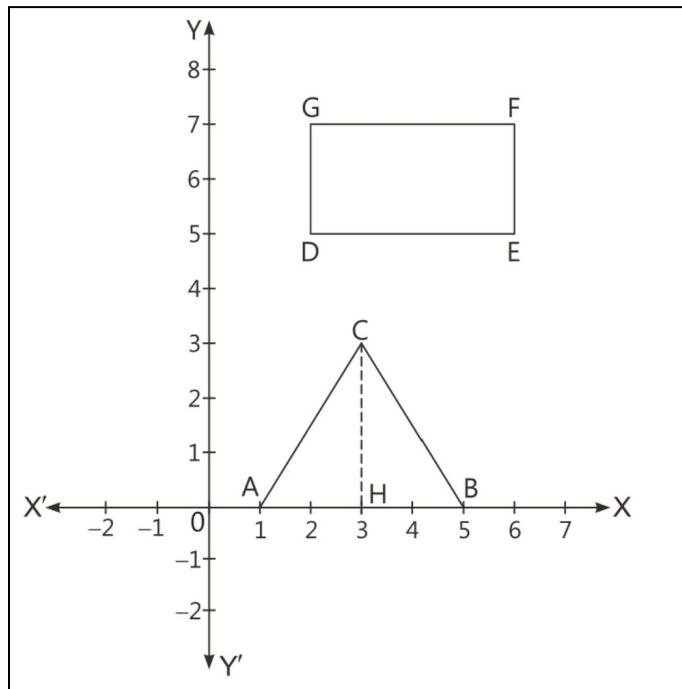
Q2. In which quadrant, point A is located?

Q3. Find the image of a point A with respect to Y-axis.

Q4. Find the area of the figure.

Case Study 5

Annie Besant school provides good and quality education. The school also provides playing facilities to students for which they created two playground one is in the shape of rectangle and the other one is triangular in shape, which is as shown below.



On the basis of the above information, solve the following questions:

Q1. Find the altitude of the triangle ABC.

Q2. Find the area of a triangle ABC.

Q3. Find the coordinate of point F.

Q4. Find the perimeter of a rectangle DEFG.

Q5. Find the length of diagonal of a rectangle.