MATHS

BOOKS - RS AGGARWAL MATHS (HINGLISH)

COORDINATE GEOMETRY

Solved Examples

1. Draw the lines X'OX and YOY' as axes on the plane of a graph paper and plot the points

given below

(i) $A(5, 3)$ (ii) $B(-3, 2)$

(iii) $C(-5, -4)$ (iv) $D(2, -6)$

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2. In which quadrants do the given points lie ?

$(4, -2)$ (ii) $(-3, 7)$ (iii) $(-1, -2)$ (iv) (3, 6)

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3. On which axes do the given points lie ?

(i) (7, 0) (ii) $(0, -3)$ (iii) (0, 6) (iv) $(-5, 0)$

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4. The three vertices of a $\triangle ABC$ are $A(1, 4), B(-2, 2)$ and $C(3, 2)$. Plot these points on a graph paper and calculate the area of $\triangle ABC$.

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5. The three vertices of a square ABCD are $A(3, 2), B(-2, 2)$ and $D(-3, 3)$. Plot these points on a graph paper and hence, find the coordinates of C. Also, find the area of square ABCD.

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6. The three vertices of a rectangle $ABCD$ are $A(2, 2), B(-3, 2)$ and $C(-3, 5)$. Plot these points on a graph paper and find the

coordinates of D. Also, find the area of rectangle $ABCD$.

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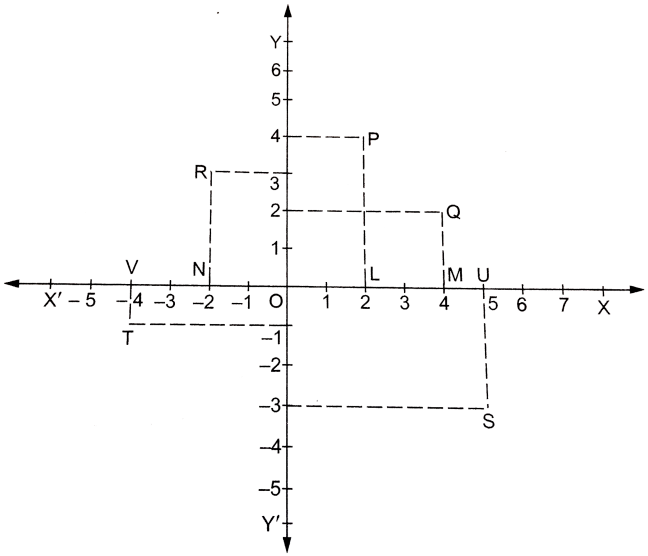
Example

1. Write down the coordinates of each of the points P, Q, S and T, as shown in the figure

given on next page.



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Exercise 5

1. On the plane of a graph paper drawn X'OX and YOY' as coordinate axes and plot each of the following points

(i) A(5, 3) (ii) B(6, 2) (iii) $C(-5, 3)$ (iv) $D(4, -6)$

(v) $E(-3, -2)$ (vi) $F(-4, 4)$ (vii) $G(3, -4)$ (viii) H(5, 0)

(ix) I(0, 6) (x) J$(-3, 0)$ (xi) $K(0, -2)$ (xii) O(0, 0)

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2. For each of the following points write the quadrant in which it lies.

(i) $(-6, 3)$ (ii) $(-5, -3)$ (iii) $(11, 6)$ (iv) $(1, -4)$

(v) $(-7, -4)$ (vi) $(4, -1)$ (vii) $(-3, 8)$ (viii) $(3, -8)$

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3. Write the axis on which the given point lies.

(i) (2, 0) (ii) $(0, -5)$ (iii) $(-4, 0)$ (d) (0, -1)

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4. Which of the following points lie on the x-axis ?

(i) A(0, 8) (ii) B(4, 0) (iii) $C(0, -3)$ (iv) $D(-6, 0)$

(v) E(2, 1) (vi) $F(-2, -1)$ (vii) $G(-1, 0)$

(viii) $H(0, -2)$

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5. Plot the point $A(2, 5), B(-2, 2)$ and $C(4, 2)$ on a graph

paper. Join AB, BC and AC. Calculate the area of $\triangle ABC$.

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6. Three vertices of a rectangle ABCD are A(3, 1), B(-3, 1) and $C(-3, 3)$. Plot these points on a graph paper and find the coordinates of the fourth vertex D. Also, find the area of rectangle ABCD.

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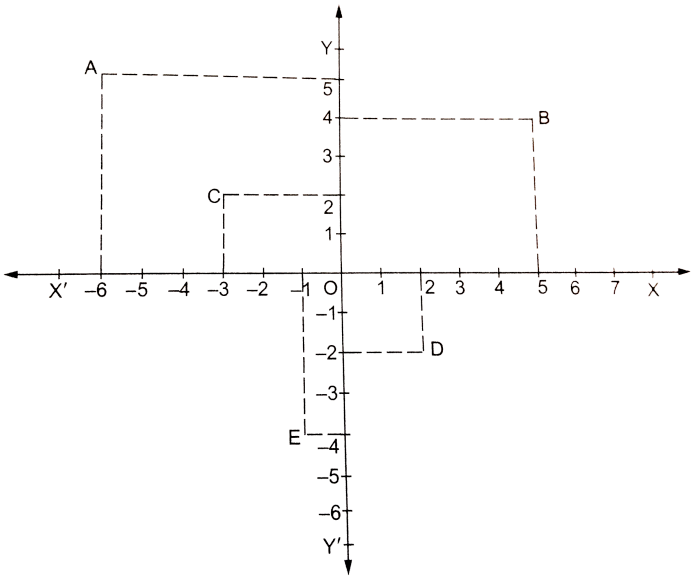
Exercise

1. Write down the coordinates of each of the following point A, B, C, D and E.



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Multiple Choice Questions Mcq

1. In which quadrant does the point $(-7, -4)$ lie ?

A. IV

B. II

C. III

D. None of these

Answer: C

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2. If $x > 0$ and $y < 0$ then the point (x, y) lies in quadrant

A. I

B. III

C. II

D. IV

Answer: D

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3. If $a < 0$ and $b > 0$ then the point (a, b) lies in quadrant

A. IV

B. II

C. III

D. None of these

Answer: B

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4. A point both of whose coordinates are negative lies in quadrant

A. I

B. II

C. III

D. IV

Answer: C

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5. The point (other than origin) for which abscissa is equal to the ordinate will lie in the quadrant

A. I only

B. I or II

C. I or III

D. II or IV

Answer: C

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6. The points $(-5, 3)$ and $(3, -5)$ lie in the

A. same quadrant

B. II and III quadrants respectively

C. II and IV quadrants respectively

D. IV and II quadrants respectively

Answer: C

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7. Points

$(1, -1), (2, -2), (-3, -4), (4, -5)$

A. all lie in the II quadrant

B. all lie in the III qudrant

C. all lie in the IV quadrant

D. do not lie in the same quadrant

Answer: D

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8. Point $(0, -8)$ lies

A. in the II quadrant

B. in the IV quadrant

C. on the x-axis

D. on the y-axis

Answer: D

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9. Point $(-7, 0)$ lies

A. on the negative direction of the x-axis

B. on the negative direction of the y-axis

C. in the III quadrant

D. in the IV qudrant

Answer: A

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10. The point which lies on Y-axis at a distance of 5 units in the negative direction of Y-axis is

A. $(-5, 0)$

B. $(0, -5)$

C. $(5, 0)$

D. $(0, 5)$

Answer: B

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11. The ordinate of every point on the x-axis is

A. 1

B. -1

C. 0

D. any real number

Answer: C

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12. If the y-coordinate of a point is zero then this point always lies

A. on the y-axis

B. on the x-axis

C. in the I quadrant

D. in the IV qudrant

Answer: B

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13. If $O(0, 0), A(3, 0), B(3, 4), C(0, 4)$ are four given points then the figure $OABC$ is a

A. square

B. rectangle

C. trapezium

D. rhombus

Answer: B

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14. If $A(-2, 3)$ and $B(-3, 5)$ are two given points then (abscissa of A) - (abscissa of B) = ?

A. -2

B. 1

C. -1

D. 2

Answer: B

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15. The perpendicular distance of the point A(3, 4) from the y-axis is

A. 3

B. 4

C. 5

D. 7

Answer: A

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16. Abscissa of a point is positive in

A. I and II quadrants

B. I and IV quadrants

C. I quadrant only

D. II quadrant only

Answer: B

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17. The point at which the two coordinate axes meet is called the

A. abscissa

B. ordinate

C. origin

D. quadrant

Answer: C

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18. The point whose ordinate is 3 and which lies on the y-axis is

A. (3,0)

B. (0, 3)

C. (3, 3)

D. (1, 3)

Answer: B

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19. Which of the following points lies on the line $y = 2x + 3$?

A. (2, 8)

B. (3, 9)

C. (4, 12)

D. (5, 15)

Answer: B

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20. Which of the following points does not lie on the line $y = 3x + 4$?

A. (1, 7)

B. (2, 10)

C. $(-1, 1)$

D. $(4, 12)$

Answer: D

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21. Which of the following points does not lie in any quadrant?

A. $(3, -6)$

B. $(-3, 4)$

C. $(5, 7)$

D. $(0, 3)$

Answer: D

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22. The area of $\triangle AOB$ having vertices $A(0, 6), O(0, 0)$ and $B(6, 0)$ is

A. 12 sq units

B. 36 sq units

C. 18 sq units

D. 24 sq units

Answer: C

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