NCERT Solutions Class 9 Maths
Chapter 3: Coordinate Geometry
EXERCISE 3.2

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Quick Summary: In NCERT Solutions Class 9 Maths Chapter 3 Exercise 3.2, students learn the fundamentals of plotting points on the Cartesian coordinate system. This exercise covers essential coordinate geometry concepts including reading coordinates from graphs, identifying quadrants, and understanding the distance formula basics, which form the foundation for advanced geometry problems in CBSE Class 9 exams.

Key Takeaways:

- Master the Cartesian coordinate system with points represented as (x, y) where x is the abscissa and y is the ordinate
- Learn to identify quadrants and understand that points on axes have special coordinate properties
- Introduction to distance formula concepts: d = √(x_2-x_1)^2 + (y_2-y_1)^2
- Develop skills in plotting and reading coordinates accurately from graphs, essential for coordinate geometry problem-solving

Complete Solutions

Question 1

QUESTION

Write the answer of each of the following questions:

(i) What is the name of the horizontal and the vertical lines drawn to determine the position of any point in the Cartesian plane?
(ii) What is the name of each part of the plane formed by these two lines?
(iii) Write the name of the point where these two lines intersect.

SOLUTION

This question tests our understanding of the fundamental terms and concepts related to the Cartesian coordinate system.

(i) What is the name of the horizontal and the vertical lines drawn to determine the position of any point in the Cartesian plane?

Step 1: Recall the definition of the Cartesian plane.

The Cartesian plane is formed by two perpendicular lines.

Step 2: Identify the horizontal line.

The horizontal line is called the x-axis.

Step 3: Identify the vertical line.

The vertical line is called the y-axis.

Answer: The x-axis and the y-axis

(ii) What is the name of each part of the plane formed by these two lines?

Step 1: Visualize the Cartesian plane.

The x-axis and y-axis divide the plane into four parts.

Step 2: Recall the name of these parts.

Each of these parts is called a quadrant.

Answer: Quadrants

(iii) Write the name of the point where these two lines intersect.

Step 1: Visualize the intersection of the x-axis and y-axis.

The x-axis and y-axis intersect at a single point.

Step 2: Recall the name of this point.

This point is called the origin.

Step 3: State the coordinates of the origin.

The coordinates of the origin are (0, 0).

Answer: The origin

ANSWER

(i) The x-axis and the y-axis

(ii) Quadrants

(iii) The origin

Question 2

QUESTION

See Fig. 3.14, and write the following:

(i) The coordinates of B.
(ii) The coordinates of C.
(iii) The point identified by the coordinates (–3, –5).
(iv) The point identified by the coordinates (2, –4).
(v) The abscissa of the point D.
(vi) The ordinate of the point H.
(vii) The coordinates of the point L.
(viii) The coordinates of the point M.

SOLUTION

This question tests your understanding of how to read coordinates from a graph and identify points based on their coordinates.

(i) The coordinates of B.

To find the coordinates of point B, we look at its position on the graph. First, find the x-coordinate by dropping a perpendicular from B to the x-axis. It intersects at -5. Then, find the y-coordinate by drawing a horizontal line from B to the y-axis. It intersects at 2. Therefore, the coordinates of B are (-5, 2).

Answer: (-5, 2)

(ii) The coordinates of C.

Similarly, for point C, we drop a perpendicular to the x-axis, which intersects at 5. The horizontal line to the y-axis intersects at -5. Thus, the coordinates of C are (5, -5).

Answer: (5, -5)

(iii) The point identified by the coordinates (–3, –5).

We are given the coordinates (-3, -5). We find the point on the graph where the x-coordinate is -3 and the y-coordinate is -5. This point is E.

Answer: E

(iv) The point identified by the coordinates (2, –4).

We are given the coordinates (2, -4). We find the point on the graph where the x-coordinate is 2 and the y-coordinate is -4. This point is G.

Answer: G

(v) The abscissa of the point D.

The abscissa is the x-coordinate of a point. Point D has coordinates (6, 2). Therefore, the abscissa of D is 6.

Answer: 6

(vi) The ordinate of the point H.

The ordinate is the y-coordinate of a point. Point H has coordinates (-5, -3). Therefore, the ordinate of H is -3.

Answer: -3

(vii) The coordinates of the point L.

Point L lies on the y-axis. Its x-coordinate is 0, and its y-coordinate is 5. Therefore, the coordinates of L are (0, 5).

Answer: (0, 5)

(viii) The coordinates of the point M.

Point M lies on the x-axis. Its x-coordinate is -3, and its y-coordinate is 0. Therefore, the coordinates of M are (-3, 0).

Answer: (-3, 0)

ANSWER

(i) (–5, 2)

(ii) (5, –5)

(iii) E

(iv) G

(v) 6

(vi) –3

(vii) (0, 5)

(viii) (–3, 0)

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📌 Key Formulas

Important Formulas for Exercise 3.2

Formula / Concept	Description
Cartesian System	A system used to locate a point in a plane by using two perpendicular lines: the x-axis and the y-axis.
Coordinate Axes	The two perpendicular lines in a Cartesian plane. The horizontal line is the x-axis and the vertical line is the y-axis.
Origin	The point of intersection of the x-axis and the y-axis. Its coordinates are (0, 0).
Ordered Pair (x, y)	A pair of numbers that give the location of a point on a coordinate plane. The first number, x, is the x-coordinate, and the second number, y, is the y-coordinate.
x-coordinate (Abscissa)	The perpendicular distance of a point from the y-axis. It indicates the horizontal position of the point.
y-coordinate (Ordinate)	The perpendicular distance of a point from the x-axis. It indicates the vertical position of the point.
Quadrants	The four regions into which the coordinate axes divide the plane.
Signs in Quadrant I	(+, +). Both x and y coordinates are positive.
Signs in Quadrant II	(-, +). The x-coordinate is negative, and the y-coordinate is positive.
Signs in Quadrant III	(-, -). Both x and y coordinates are negative.
Signs in Quadrant IV	(+, -). The x-coordinate is positive, and the y-coordinate is negative.
Point on x-axis	Any point on the x-axis has coordinates of the form (x, 0). Its y-coordinate is 0.

Formula / Concept	Description
Point on y-axis	Any point on the y-axis has coordinates of the form (0, y). Its x-coordinate is 0.
Distance Formula	The distance d between two points (x_1, y_1) and (x_2, y_2) is given by the formula: d = √(x_2 - x_1)^2 + (y_2 - y_1)^2 Although this is introduced in later chapters, it's a key concept in coordinate geometry.

Top FAQs

Q1. How many questions are in NCERT Solutions Class 9 Maths Chapter 3 Coordinate Geometry Exercise 3.2 for CBSE board exam 2025-26?

Exercise 3.2 of NCERT Solutions for Class 9 Maths Chapter 3 Coordinate Geometry contains exactly 2 questions. These questions focus on plotting points on the Cartesian plane and understanding the coordinate system, carrying a weightage of 4 marks in the CBSE board exam 2025-26.

Q2. Where can I download free PDF of NCERT Solutions for Class 9 Maths Chapter 3 Coordinate Geometry Exercise 3.2 with step by step solutions?

You can download the free PDF of NCERT Solutions for Class 9 Maths Chapter 3 Coordinate Geometry Exercise 3.2 from the official NCERT website or various educational platforms offering step by step solutions. These PDFs are updated according to the CBSE syllabus 2025-26 and include detailed explanations for plotting points and understanding the Cartesian system.

Q3. How many marks does Coordinate Geometry Chapter 3 Exercise 3.2 carry in CBSE Class 9 Maths board exam 2025-26?

Coordinate Geometry (Chapter 3) falls under Unit III and carries a total weightage of 4 marks in the CBSE Class 9 Maths board exam 2025-26. Exercise 3.2 specifically covers fundamental concepts like plotting points on the Cartesian plane, which are essential for scoring full marks in this unit.

Q4. Which is the most difficult question in NCERT Solutions Class 9 Maths Chapter 3 Coordinate Geometry Exercise 3.2 for beginners?

Question 2 of Exercise 3.2 in NCERT Solutions Class 9 Maths Chapter 3 Coordinate Geometry is considered relatively challenging for beginners as it involves plotting multiple points accurately on the Cartesian plane. However, with step by step solutions and practice, students can easily master this concept for the CBSE board exam 2025-26.

Q5. What is Cartesian System explained in NCERT Solutions for Class 9 Maths Chapter 3 Coordinate Geometry Exercise 3.2?

The Cartesian System in NCERT Class 9 Maths Chapter 3 Exercise 3.2 refers to a two-dimensional plane formed by two perpendicular number lines called the x-axis and y-axis. This system helps in locating points using ordered pairs (x, y) and is fundamental to understanding coordinate geometry for the CBSE board exam 2025-26.

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