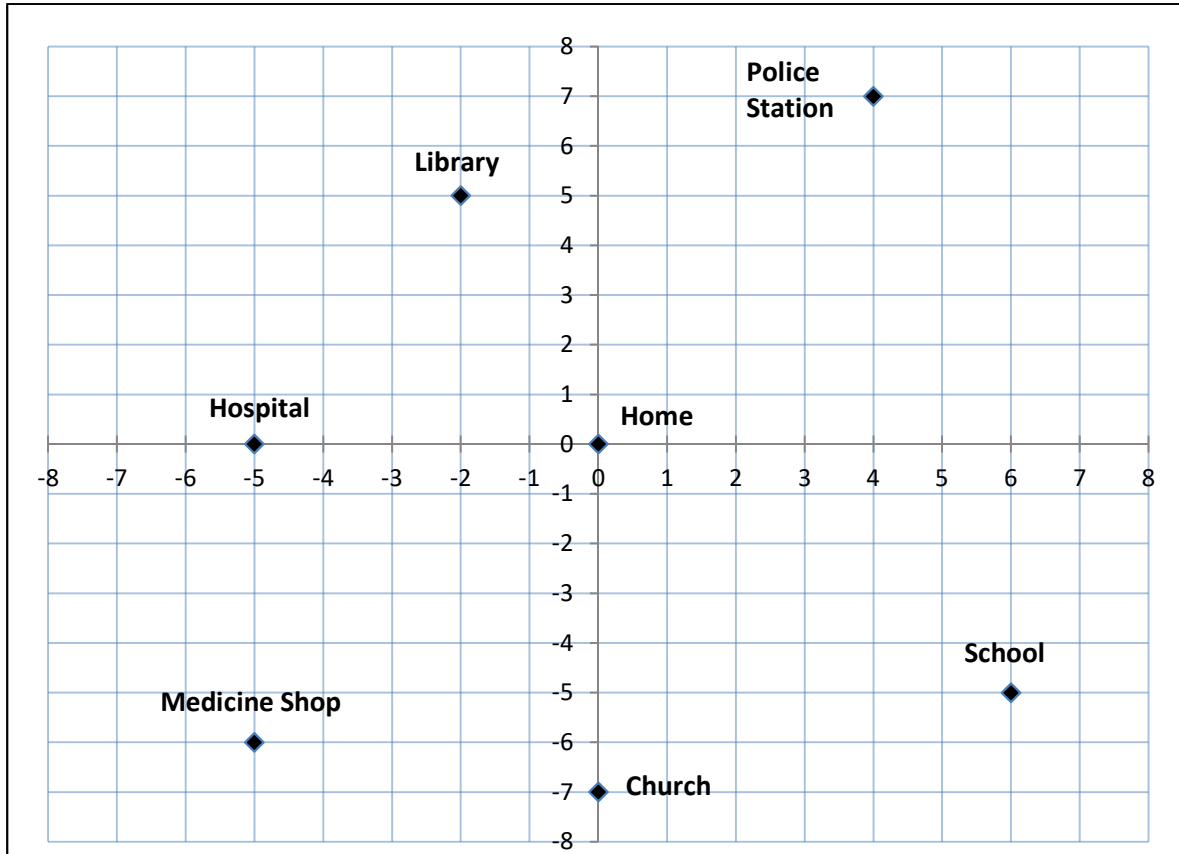


MATHEMATICS

CLASS: IX

Chapter 3: Co-ordinate Geometry

CASE STUDY



Meghdoot is a class IX student residing in Chakdaha. One day, he went to the hospital with his grandfather for general check-up. From there, he visited four places- medicine shop, Library, School and Police Station. After returning home, he plotted a graph by taking his home as origin and mark the places on graph paper as per his direction of movement and distance covered. The graph is shown above.

By analysing the graph, answer the following questions:

1. The coordinates of Hospital are-

(a)	(0, -5)	(b)	(-3, -2)	(c)	(5, 0)	(d)	(-5, 0)
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2. The distance between hospital and medicine shop is

(a)	4 units	(b)	9 units	(c)	6 units	(d)	8 units
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3. Which one of the following places has the coordinates (6,-5)?

(a)	Church	(b)	Police Station	(c)	School	(d)	Library
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4. Co-ordinates of which one of the following places is in III quadrant?

(a)	School	(b)	Hospital	(c)	Medicine shop	(d)	Library
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5. (Abcissa of Police Station)-(Ordinate of Church) is equal to-

(a)	-11	(b)	-3	(c)	4	(d)	11
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Assertion-Reason Based Questions

Directions: The following questions (Q1-Q10) have one Assertion (A) and one Reason (R). For them, choose any one of the following options given below-

- (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.

Q1. Assertion (A): The point $(6, -3)$ lies in the fourth quadrant.

Reason (R): In the fourth quadrant, the x-coordinate is positive and the y-coordinate is negative.

Q2. Assertion (A): Any point on the x-axis has its y-coordinate as a non-zero number.

Reason (R): The coordinate of any point on x-axis can be denoted as $(x, 0)$

Q3. Assertion (A): The point $(-1, -5)$ lies in the second quadrant.

Reason (R): In the second quadrant, the x-coordinate is negative and the y-coordinate is positive.

Q4. Assertion (A): The points $(2, -7)$ and $(-7, 2)$ represent same location in the Cartesian plane.

Reason (R): The order of the coordinates in an ordered pair dictates the point's position.

Q5. Assertion (A): If the abscissa of a point is 0, then the point lies on the y-axis.

Reason (R): The abscissa of a point represents its perpendicular distance from the y-axis.

Q6. Assertion (A): The point $(3, 8)$ lies in the first quadrant.

Reason (R): In the first quadrant, both the x-coordinate and the y-coordinate are positive.

Q7. Assertion (A): A point with coordinates $(-4, 0)$ lies on the negative side of the y-axis.

Reason (R): Any point with a y-coordinate of zero lies on the x-axis.

Q8. Assertion (A): The signs of the coordinates of a point in the third quadrant are $(+, +)$.

Reason (R): In the third quadrant, both the x and y coordinates are negative.

Q9. Assertion (A): The point $(0, 0)$ lies in all four quadrants.

Reason (R): The origin is the intersection point of the x-axis and the y-axis.

Q10. Assertion (A): If a point has a positive ordinate, it must lie in either the first or the second quadrant.

Reason (R): The ordinate of a point represents its perpendicular distance from the x-axis.