

Mathematics — Ganita Manjari

Chapter 1 Test 7

Orienting Yourself: The Use of Coordinates

Class IX | 2026-27

Time Allowed: 45 Minutes

Maximum Marks: 25

General Instructions

1. All 13 questions are compulsory. Choose one option in A; show working in B-D.
2. Show the main steps and give reasons where asked. Calculators are not allowed.
3. Read coordinate scales carefully. Give exact lengths and state units.

SECTION A

(5 questions $\times$ 1 mark = 5 marks)

1. The points (x, y) and (y, x) coincide exactly when:

- (A) $x = -y$ (B) $x = 0$
(C) $x = y$ (D) $y = 0$

2. For any point strictly inside Quadrant II, the x-coordinate is:

- (A) positive (B) zero
(C) equal to y (D) negative

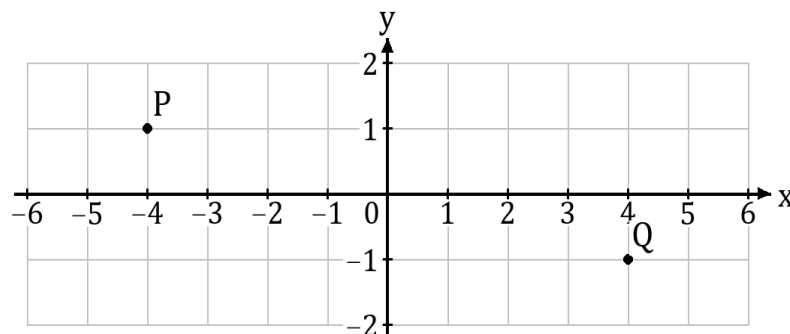
3. $P(-3, -9)$ is closer to:

- (A) the y-axis (B) the x-axis
(C) both axes equally (D) neither axis

4. The midpoint of $(-6, -2)$ and $(2, 6)$ is:

- (A) $(-4, 4)$ (B) $(-2, 2)$
(C) $(2, -2)$ (D) $(4, 8)$

5. Which operation takes P to Q?

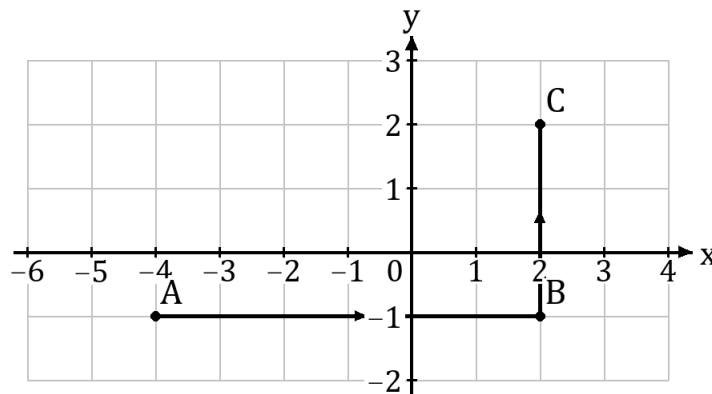


- (A) Reflect only in the x-axis.
(B) Reflect only in the y-axis.
(C) Reflect once in each axis.
(D) Interchange the coordinates.

SECTION B

(4 questions $\times$ 2 marks = 8 marks)

6. A straight footpath runs from A(-2.5, 0) to B(4.5, 0) on a map. One unit represents 0.4 km. Find the actual length of the footpath.
7. A(3, 4) and B(3, -2) are reflected in the y-axis. Find A' and B', and compare AB with A'B'.
8. Calculate the distance between P(2, 6) and Q(6, 2).
9. A traveller follows the route A to B to C. Read the coordinates and find the total distance along the two segments.



SECTION C

(3 questions $\times$ 3 marks = 9 marks)

10. Show that O(0, 0), A(-4, -3) and B(4, -3) form an isosceles triangle. Find its perimeter.
11. Is M(2, 1) the midpoint of S(-1, -3) and T(5, 5)? Justify using coordinates and verify by distances.
12. A circle has centre C(2, -1) and radius 5 units. Determine whether P(5, 3) and Q(2, 5) lie on, inside or outside it.

SECTION D

(1 application question $\times$ 3 marks = 3 marks)

13. Take the station as the origin, east as positive x and north as positive y. The hospital is 3 blocks west and 4 north; the library is 5 blocks east and 4 north. Write both coordinates and find their separation if each block is 200 m.