

# Mathematics — Ganita Manjari

## Chapter 1 Test 9

### 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

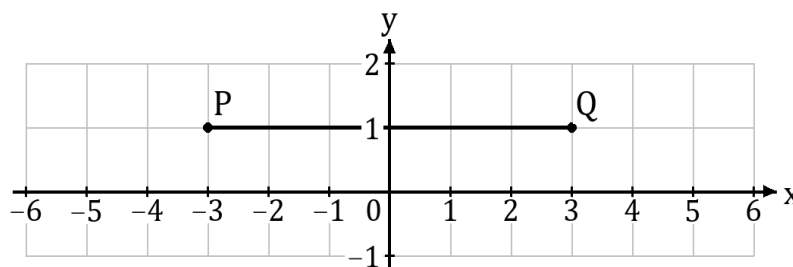
(5 questions  $\times$  1 mark = 5 marks)

1. The point  $(-4, 0)$  lies:

- (A) in Quadrant II  
(C) in Quadrant IV

- (B) in Quadrant III  
(D) on an axis, in no quadrant

2. The line through P and Q is parallel to:



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

3. Doubling both the horizontal and vertical separations of two points multiplies their distance by:

- (A) 4  
(C)  $\sqrt{2}$
- (B) 2  
(D) 8

4. The image of  $(-7, -2)$  in the y-axis is:

- (A)  $(-7, 2)$   
(C)  $(7, -2)$
- (B)  $(7, 2)$   
(D)  $(-2, -7)$

5. Which point lies on the vertical line through  $(-5, 3)$ ?

- (A)  $(3, -5)$   
(C)  $(0, 3)$
- (B)  $(5, 3)$   
(D)  $(-5, -8)$

## SECTION B

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

6. Give both points on the y-axis that are 4 units from the origin.
7. P has x-coordinate  $-3$  and y-coordinate  $2$ . Form Q by interchanging these coordinates. Give P and Q and state their quadrants.
8.  $A(-4, -1)$  and  $B(-1, b)$  are 5 units apart. If B is above A, find b.
9. An axis-parallel rectangle has consecutive corners  $(2, -3)$ ,  $(9, -3)$  and  $(9, 2)$ . Find its fourth corner and area.

## SECTION C

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

10. Find the distance between  $P(2, -3)$  and  $Q(-4, 5)$ . Then interchange the coordinates of both points and calculate the new distance. Explain why the distances agree.
11.  $D(1, 2)$ ,  $E(4, 1)$  and  $F(2, -2)$  are the midpoints of AB, BC and CA respectively. Find A, B and C.
12. A circle centred at the origin passes through  $P(-6, 8)$ . Find its radius, show that  $Q(0, 10)$  is on it, and decide whether  $R(9, 4)$  is inside or outside.

## SECTION D

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

13. The hall plan uses 1 unit = 1 m. Find the stage area, the horizontal separation between the stage's right edge and the mat's left edge, and the mat's distance from the bottom wall.

