

CBSE CLASS X

Mathematics Standard (041)

QUESTION PAPER

From previous CBSE Board Exam questions

Code: W8I9VP**Questions: 79****Maximum Marks: 155****Generated: 2026-06-15 13:05**

SELECTIONS USED

Source	Previous-year board
Subject	Mathematics
Lessons	Coordinate Geometry
Year	2022-2026
Questions selected	79

Composition — Types: 32 MCQ · 22 Very short · 19 Short · 4 Assertion–reason · 4 Case-based · 1 Long

Q1. § 6.2 Similar Figures

[1]

Which of the following statements is false ?

- A Two right triangles are always similar.
- B Two squares are always similar.
- C Two equilateral triangles are always similar.
- D Two circles are always similar.

Previously asked in: 2025 30/5/1 Q8; 2025 30/5/1 Q10 — 2×

◆ Triangles

6.3 Similarity of Triangles

Assertion–Reason: True/False analysis of geometric statements

Q2. § 7.4 Summary

[3]

Find the ratio in which the line segment joining the points A(6, 3) and B(−2, −5) is divided by x-axis.

Previously asked in: 2023 30/6/1 Q26

◆ Coordinate Geometry

Section Formula – Division by Axes

Q3. § 7.1 Introduction

[1]

The coordinates of the vertex A of a rectangle ABCD whose three vertices are given as B(0, 0), C(3, 0) and D(0, 4) are:

- (a) (4, 0)
- (b) (0, 3)
- (c) (3, 4)
- (d) (4, 3)

Previously asked in: 2023 30/2/1 Q5

◆ Coordinate Geometry

Coordinates of a vertex given other vertices of a rectangle

Q4. § 7.1 Introduction § 7.2 Distance Formula**[1]**

The equation of a line parallel to the x-axis and at a distance of 3 units below x-axis is :

- A $x = 3$
- B $x = -3$
- C $y = -3$
- D $y = 3$

Previously asked in: 2025 30/2/1 Q17

♦ **Coordinate Geometry** Equation of a line parallel to the x-axis ($y = k$)

Q5. § 7.1 Introduction § 7.4 Summary**[3]**

Find the ratio in which the line segment joining the points $(5, 3)$ and $(-1, 6)$ is divided by Y-axis.

Previously asked in: 2024 30/3/1 Q29(a) (OR-1)

♦ **Coordinate Geometry** Section Formula and Division by Axes

Q6. § 7.4 Summary**[1]**

The line segment joining the points $P(-4, -2)$ and $Q(10, 4)$ is divided by y -axis in the ratio

- (A) 2 : 5
- (B) 1 : 2
- (C) 2 : 1
- (D) 5 : 2

Previously asked in: 2026 30/5/1 Q2

♦ **Coordinate Geometry** Section Formula – Division by Axes

Q7. § 7.1 Introduction § 7.2 Distance Formula § 7.4 Summary**[2]**

Using distance formula, prove that the points $A(2, 3)$, $B(-7, 0)$ and $C(-1, 2)$ are collinear.

Previously asked in: 2026 30/5/1 Q22(b) (OR-2)

♦ **Coordinate Geometry** 7.2 Distance Formula

Q8. § 7.2 Distance Formula § 7.3 Section Formula**[2]**

The coordinates of the centre of a circle are $(2a, a - 7)$. Find the value(s) of a if the circle passes through the point $(11, -9)$ and has diameter $10\sqrt{2}$ units.

Previously asked in: 2025 30/1/1 Q23

♦ **Coordinate Geometry** 7.2 Distance Formula

Q9. § 7.2 Distance Formula**[1]**

If the distance between the points $(3, -5)$ and $(x, -5)$ is 15 units, then the values of x are :

- (a) 12, -18
- (b) -12, 18
- (c) 18, 5
- (d) -9, -12

Previously asked in: 2024 30/1/1 Q11

♦ **Coordinate Geometry** 7.2 Distance Formula

Q10. § 7.1 Introduction § 7.2 Distance Formula § 7.3 Section Formula**[1]**

The coordinates of the end points of a diameter of a circle are $(5, -2)$ and $(-5, 2)$. The length of the radius of the circle is :

- A ± 2
- B ± 4
- C 4
- D 2

Previously asked in: 2025 30/2/1 Q5

♦ Coordinate Geometry 7.2 Distance Formula

Q11. § 7.1 Introduction § 7.2 Distance Formula**[2]**

Show that the points $(-2, 3)$, $(8, 3)$ and $(6, 7)$ are the vertices of a right-angled triangle.

Previously asked in: 2023 30/2/1 Q23

♦ Coordinate Geometry Distance Formula – Verifying type of triangle (right-angled) using vertices

Q12. § 7.1 Introduction § 7.4 Summary**[3]**

If $Q(0, 1)$ is equidistant from $P(5, -3)$ and $R(x, 6)$, find the values of x .

Previously asked in: 2023 30/2/1 Q28

♦ Coordinate Geometry Distance Formula

Q13. § 7.2 Distance Formula**[1]**

The distance of a point A from x -axis is 3 units. Which of the following cannot be coordinates of the point A ?

- (a) $(1, 3)$
- (b) $(-3, -3)$
- (c) $(-3, 3)$
- (d) $(3, 1)$

Previously asked in: 2025 30/4/1 Q4

♦ Coordinate Geometry 7.2 Distance Formula

Q14. § 7.1 Introduction § 7.2 Distance Formula**[1]**

The distance of the point $(-1, 7)$ from the x -axis is :

- (a) -1
- (b) 7
- (c) 6
- (d) $\sqrt{50}$

Previously asked in: 2023 30/4/1 Q4

♦ Coordinate Geometry 7.2 Distance Formula

Q15. § 7.1 Introduction § 7.2 Distance Formula**[1]**

The distance of the point $(-6, 8)$ from origin is :

- (a) 6
- (b) -6
- (c) 8
- (d) 10

Previously asked in: 2023 30/4/1 Q13

♦ Coordinate Geometry 7.2 Distance Formula

Q16. § 7.1 Introduction § 7.3 Section Formula

[1]

AOBC is a rectangle whose three vertices are $A(0, 2)$, $O(0, 0)$ and $B(4, 0)$. The square of the length of its diagonal is equal to:

- A 36
- B 20
- C 16
- D 4

Previously asked in: 2025 30/3/1 Q16

◆ Coordinate Geometry 7.2 Distance Formula

Q17. § 7.4 Summary

[3]

$P(x, y)$, $Q(-2, -3)$ and $R(2, 3)$ are the vertices of a right triangle PQR right angled at P. Find the relationship between x and y . Hence, find all possible values of x for which $y = 2$.

Previously asked in: 2025 30/4/1 Q28

◆ Coordinate Geometry Distance Formula and Right Triangle Condition (dot product / Pythagoras)

Finding coordinate values satisfying a geometric condition

Q18. § 7.4 Summary

[1]

The distance between the points $P\left(\frac{11}{3}, 5\right)$ and $Q\left(\frac{2}{3}, 5\right)$ is :

- (a) 6 units
- (b) 4 units
- (c) 2 units
- (d) 3 units

Previously asked in: 2023 30/5/1 Q7

◆ Coordinate Geometry 7.2 Distance Formula

Q19. § 7.1 Introduction

[1]

XOYZ is a rectangle with vertices $X(-3, 0)$, $O(0, 0)$, $Y(0, 4)$ and $Z(x, y)$. The length of its each diagonal is

- (A) 5 units
- (B) $\sqrt{5}$ units
- (C) $x^2 + y^2$ units
- (D) 4 units

Previously asked in: 2024 30/2/1 Q15

◆ Coordinate Geometry 7.2 Distance Formula

Q20. § 7.4 Summary

[2]

Point $P(x, y)$ is equidistant from points $A(5, 1)$ and $B(1, 5)$. Prove that $x = y$.

Previously asked in: 2023 30/5/1 Q21 (OR-2)

◆ Coordinate Geometry 7.2 Distance Formula

Q21. § 7.1 Introduction

[3]

Find a relation between x and y such that $P(x, y)$ is equidistant from the points $A(3, 5)$ and $B(7, 1)$. Hence, write the coordinates of the points on x -axis and y -axis which are equidistant from points A and B.

Previously asked in: 2025 30/5/1 Q29

◆ Coordinate Geometry 7.2 Distance Formula

Q22. § 7.1 Introduction § 7.2 Distance Formula § 7.4 Summary**[2]** $A(3, 0)$, $B(6, 4)$ and $C(-1, 3)$ are vertices of a triangle ABC. Find length of its median BE.

Previously asked in: 2024 30/2/1 Q25(b) (OR-2)

◆ Coordinate Geometry

7.2 Distance Formula

Q23. § 7.1 Introduction § 7.2 Distance Formula**[1]**The distance of the point $A(-3, -4)$ from x -axis is

A 3

B 4

C 5

D 7

Previously asked in: 2025 30/6/1 Q5

◆ Coordinate Geometry

7.2 Distance Formula

Q24. § 7.1 Introduction § 7.3 Section Formula**[2]**Prove that abscissa of a point P which is equidistant from points with coordinates $A(7, 1)$ and $B(3, 5)$ is 2 more than its ordinate.

Previously asked in: 2025 30/6/1 Q23

◆ Coordinate Geometry

7.2 Distance Formula

Q25. § 7.1 Introduction § 7.3 Section Formula § 7.4 Summary**[2]**Find a relation between x and y such that the point $P(x, y)$ is equidistant from the points $A(7, 1)$ and $B(3, 5)$.

Previously asked in: 2024 30/3/1 Q23(a) (OR-1)

◆ Coordinate Geometry

7.2 Distance Formula

Q26. § 7.2 Distance Formula § 7.3 Section Formula § 7.4 Summary**[2]**Points $A(-1, y)$ and $B(5, 7)$ lie on a circle with centre $O(2, -3y)$ such that AB is a diameter of the circle. Find the value of y . Also, find the radius of the circle.

Previously asked in: 2024 30/3/1 Q23(b) (OR-2)

◆ Coordinate Geometry

7.2 Distance Formula

Q27.**[1]**In the given figure, a circle is centred at $(1, 2)$. The diameter of the circle is

A 4

B $2\sqrt{2}$ C $\sqrt{5}$ D $2\sqrt{5}$

Previously asked in: 2026 30/4/1 Q7

◆ Coordinate Geometry

7.2 Distance Formula

Q28. § 7.2 Distance Formula § 7.4 Summary**[1]**

The distance between the points $(0, 2\sqrt{5})$ and $(-2\sqrt{5}, 0)$ is

- A $2\sqrt{10}$ units
- B $4\sqrt{10}$ units
- C $2\sqrt{20}$ units
- D 0

Previously asked in: 2023 30/1/1 Q13

◆ Coordinate Geometry

7.2 Distance Formula

Q29. § 7.1 Introduction § 7.2 Distance Formula § 7.4 Summary**[1]**

In Question 19 and 20, an Assertion (A) statement is followed by a statement of Reason (R). Select the correct option.

Assertion (A): Point P(0, 2) is the point of intersection of y-axis with the line $3x + 2y = 4$. Reason (R): The distance of point P(0, 2) from x-axis is 2 units.

- 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.

Previously asked in: 2023 30/1/1 Q19

◆ Coordinate Geometry

Distance of a point from an axis

Point on y-axis and its intersection with a line

Q30. § 7.2 Distance Formula § 7.3 Section Formula**[2]**

The coordinates of the centre of a circle are $(x - 7, 2x)$. Find the value(s) of 'x', if the circle passes through the point $(-9, 11)$ and has radius $5\sqrt{2}$ units.

Previously asked in: 2026 30/1/1 Q23

◆ Coordinate Geometry

7.2 Distance Formula

Q31. § 7.1 Introduction**[3]**

If $(-5, 3)$ and $(5, 3)$ are two vertices of an equilateral triangle, then find co-ordinates of the third vertex, given that origin lies inside the triangle. (Take $\sqrt{3} = 1.7$)

Previously asked in: 2023 30/1/1 Q28

◆ Coordinate Geometry

Finding vertices of equilateral triangle using distance formula and coordinate geometry

Q32. § 7.1 Introduction § 7.2 Distance Formula**[1]**

The distance of the point $(-6, 8)$ from x-axis is

- A 6 units
- B -6 units
- C 8 units
- D 10 units

Previously asked in: 2023 30/6/1 Q2

◆ Coordinate Geometry

7.2 Distance Formula

Q33. § 7.1 Introduction § 7.2 Distance Formula**[1]**The distance of the point $A(4a, 3a)$ from x -axis is :

- A $3a$
 B $-3a$
 C $4a$
 D $-4a$

Previously asked in: 2026 30/2/1 Q9

♦ Coordinate Geometry 7.2 Distance Formula

Q34. § 7.1 Introduction**[2]**Prove that the points $(3, 0)$, $(6, 4)$ and $(-1, 3)$ are the vertices of an isosceles triangle.

Previously asked in: 2024 30/5/1 Q24(b) (OR-2)

♦ Coordinate Geometry Distance Formula and Properties of Triangles

Q35. § 7.1 Introduction**[1]**The points $(-5, 0)$, $(5, 0)$ and $(0, 4)$ are the vertices of a triangle which is a/an :

- A right-angled triangle
 B isosceles triangle
 C equilateral triangle
 D scalene triangle

Previously asked in: 2025 30/2/1 Q6

♦ Coordinate Geometry Distance Formula and Classification of Triangles

Q36. § 7.1 Introduction**[1]**

Questions number 19 and 20 are Assertion and Reason based questions carrying 1 mark each. Select the correct answer from codes (a)–(d).

Assertion (A) : If the points $A(4, 3)$ and $B(x, 5)$ lie on a circle with centre $O(2, 3)$, then the value of x is 2.

Reason (R) : Centre of a circle is the mid-point of each chord of the circle.

- (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of the Assertion (A).
 (b) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of the Assertion (A).
 (c) Assertion (A) is true, but Reason (R) is false.
 (d) Assertion (A) is false, but Reason (R) is true.

Previously asked in: 2023 30/5/1 Q19

♦ Coordinate Geometry Assertion–Reason: True/False analysis of geometric statements

Distance from centre to points on a circle (equal radii condition)

Q37. § 7.1 Introduction**[2]**Find the type of triangle ABC formed whose vertices are $A(1, 0)$, $B(-5, 0)$ and $C(-2, 5)$.

Previously asked in: 2024 30/2/1 Q22

♦ Coordinate Geometry Distance Formula and Classification of Triangles

Q38. § 7.2 Distance Formula § 7.3 Section Formula § 7.4 Summary**[3]**A circle centred at $(2, 1)$ passes through the points $A(5, 6)$ and $B(-3, K)$. Find the value(s) of K . Hence find length of chord AB .

Previously asked in: 2026 30/5/1 Q29(a) (OR-1)

♦ Coordinate Geometry Distance from centre to points on a circle (equal radii condition) Length of a chord using coordinate geometry

Q39. § 7.4 Summary

[1]

The mid-point of the line segment joining the points $P(-4, 5)$ and $Q(4, 6)$ lies on:

- A x -axis
- B y -axis
- C origin
- D neither x -axis nor y -axis

Previously asked in: 2025 30/1/1 Q3

◆ Coordinate Geometry

7.3 Section Formula

Q40. § 7.1 Introduction § 7.4 Summary

[3]

Find the coordinates of the points of trisection of the line segment joining the points $A(-1, 4)$ and $B(-3, -2)$.

Previously asked in: 2026 30/2/1 Q27

◆ Coordinate Geometry

Section Formula – Points of Trisection

Q41. § 7.4 Summary

[2]

Find the ratio in which the point $P(-4, 6)$ divides the line segment joining the points $A(-6, 10)$ and $B(3, -8)$.

Previously asked in: 2024 30/5/1 Q24(a) (OR-1)

◆ Coordinate Geometry

Section Formula

Q42. § 7.4 Summary

[3]

Find the ratio in which the point $(\frac{8}{5}, y)$ divides the line segment joining the points $(1, 2)$ and $(2, 3)$. Also, find the value of y .

Previously asked in: 2024 30/1/1 Q26(A)

◆ Coordinate Geometry

Section Formula

Q43. § 7.4 Summary

[3]

A point $P(x, 7)$ divides a line segment joining the points $A(-5, 4)$ and $B(7, 9)$ in a certain ratio. Find the ratio and hence find the value of x .

Previously asked in: 2026 30/3/1 Q30

◆ Coordinate Geometry

7.3 Section Formula

Q44. § 7.4 Summary

[1]

Two of the vertices of $\triangle PQR$ are $P(-1, 5)$ and $Q(5, 2)$. The coordinates of a point which divides PQ in the ratio $2 : 1$ are:

- A $(3, -3)$
- B $(5, 5)$
- C $(3, 3)$
- D $(5, 1)$

Previously asked in: 2025 30/3/1 Q7

◆ Coordinate Geometry

Section Formula

Q45. § 7.4 Summary

[1]

Point P divides the line segment joining the points $A(4, -5)$ and $B(1, 2)$ in the ratio $5 : 2$. Co-ordinates of point P are

- (A) $\left(\frac{5}{2}, \frac{-3}{2}\right)$
 (B) $\left(\frac{11}{7}, 0\right)$
 (C) $\left(\frac{13}{7}, 0\right)$
 (D) $\left(0, \frac{13}{7}\right)$

Previously asked in: 2024 30/2/1 Q2

◆ Coordinate Geometry

Section Formula

Q46. § 7.4 Summary

[2]

The line segment joining the points $A(4, -5)$ and $B(4, 5)$ is divided by the point P such that $AP : AB = 2 : 5$. Find the coordinates of P .

Previously asked in: 2023 30/5/1 Q21 (OR-1)

◆ Coordinate Geometry

Section Formula

Q47. § 7.4 Summary

[3]

$P(-2, 5)$ and $Q(3, 2)$ are two points. Find the coordinates of the point R on line segment PQ such that $PR = 2QR$.

Previously asked in: 2024 30/3/1 Q29(b) (OR-2)

◆ Coordinate Geometry

7.3 Section Formula

Q48. § 7.1 Introduction

[1]

The fourth vertex D of a parallelogram $ABCD$ whose three vertices are $A(-2, 3)$, $B(6, 7)$ and $C(8, 3)$ is :

- A $(0, 1)$
 B $(0, -1)$
 C $(-1, 0)$
 D $(1, 0)$

Previously asked in: 2024 30/4/1 Q16

◆ Coordinate Geometry

7.3 Section Formula

Q49. § 7.1 Introduction § 7.4 Summary

[4]

Ryan, from a very young age, was fascinated by the twinkling of stars and the vastness of space. He always dreamt of becoming an astronaut one day. So he started to sketch his own rocket designs on the graph sheet. One such design is given below :

Based on the above, answer the following questions :

- (i) Find the mid-point of the segment joining F and G. [1]
 (ii) What is the distance between the points A and C ? OR Find the coordinates of the point which divides the line segment joining the points A and B in the ratio $1 : 3$ internally. [2]
 (iii) What are the coordinates of the point D ? [1]

Previously asked in: 2024 30/4/1 Q36

◆ Coordinate Geometry

7.1 Coordinates and Mid-point Formula

7.1 Coordinates on a Graph

7.2 Distance Formula

7.3 Section Formula

Q50. § 7.1 Introduction § 7.4 Summary**[2]**

A line intersects y-axis and x-axis at point P and Q, respectively. If R(2, 5) is the mid-point of line segment PQ, then find the coordinates of P and Q.

Previously asked in: 2023 30/6/1 Q22

♦ Coordinate Geometry

Section Formula / Midpoint Formula

Q51. § 7.1 Introduction**[2]**

If the points A(4, 5), B(m, 6), C(4, 3) and D(1, n) taken in this order are the vertices of a parallelogram ABCD, then find the values of m and n.

Previously asked in: 2026 30/2/1 Q23

♦ Coordinate Geometry

Midpoint Formula and Properties of Parallelogram in Coordinate Geometry

Q52. § 7.4 Summary**[3]**

Prove that the point P dividing the line segment joining the points A(−1, 7) and B(4, −3) in the ratio 3 : 2, lies on the line $x - 3y = -1$. Also find length of PA and PB.

Previously asked in: 2026 30/5/1 Q29(b) (OR-2)

♦ Coordinate Geometry

Collinearity / Point on a Line

Distance Formula

Section Formula (Internal Division)

Q53. § 7.1 Introduction § 7.4 Summary**[3]**

Find the ratio in which the y-axis divides the line segment joining the points (5, −6) and (−1, −4). Also find the point of intersection.

Previously asked in: 2025 30/1/1 Q28

♦ Coordinate Geometry

Section Formula and Division of a Line Segment

Q54. § 7.1 Introduction § 7.2 Distance Formula § 7.3 Section Formula**[1]**

AD is a median of $\triangle ABC$ with vertices A(5, −6), B(6, 4) and C(0, 0). Length AD is equal to :

- (a) $\sqrt{68}$ units
- (b) $2\sqrt{15}$ units
- (c) $\sqrt{101}$ units
- (d) 10 units

Previously asked in: 2024 30/1/1 Q6

♦ Coordinate Geometry

Distance Formula and Midpoint Formula

Q55. § 7.1 Introduction § 7.3 Section Formula § 7.4 Summary

[4]

A garden is in the shape of a square. The gardener grew saplings of Ashoka tree on the boundary of the garden at the distance of 1 m from each other. He wants to decorate the garden with rose plants. He chose a triangular region inside the garden to grow rose plants. In the above situation, the gardener took help from the students of class 10. They made a chart for it which looks like the given figure.

Based on the above, answer the following questions :

- (i) If A is taken as origin, what are the coordinates of the vertices of $\triangle PQR$? [1]
- (ii) Find distances PQ and QR, OR find the coordinates of the point which divides the line segment joining points P and R in the ratio 2 : 1 internally. [2]
- (iii) Find out if $\triangle PQR$ is an isosceles triangle. [1]

Previously asked in: 2024 30/5/1 Q37

◆ **Coordinate Geometry**

Classifying Triangles using Distance Formula (Isosceles)

Coordinates of Points on a Grid/Origin-based Setup

Distance Formula

Section Formula (Internal Division)

Q56. § 7.4 Summary

[1]

The centre of a circle is at $(2, 0)$. If one end of a diameter is at $(6, 0)$, then the other end is at :

- (a) $(0, 0)$
- (b) $(4, 0)$
- (c) $(-2, 0)$
- (d) $(-6, 0)$

Previously asked in: 2024 30/1/1 Q17

◆ **Coordinate Geometry**

Midpoint of a Diameter / Finding Endpoints using Midpoint Formula

Q57. § 7.1 Introduction § 7.2 Distance Formula § 7.4 Summary

[1]

In the given figure, $\triangle ABC$ is an equilateral triangle. AD is a median of the triangle joining the points $A\left(0, \frac{5\sqrt{3}}{2}\right)$, D(0, 0). Points B and C are (in same order) :

- A $(-5, 0), (5, 0)$
- B $\left(-\frac{5}{2}, 0\right), \left(\frac{5}{2}, 0\right)$
- C $(-10, 0), (10, 0)$
- D $(-5\sqrt{3}, 0), (5\sqrt{3}, 0)$

Previously asked in: 2026 30/3/1 Q17

◆ **Coordinate Geometry**

Coordinates of vertices of an equilateral triangle using median and coordinate geometry

Q58. § 7.1 Introduction § 7.3 Section Formula

[2]

Diagonals AC and BD of square ABCD intersect at P. Coordinates of points B and D are $(9, -2)$ and $(1, 6)$ respectively. (i) Find the co-ordinates of point P. (ii) Find the length of the side of the square.

Previously asked in: 2026 30/3/1 Q23(a)

◆ **Coordinate Geometry**

Distance Formula

Midpoint Formula

Q59. § 7.4 Summary**[1]**

The area of the triangle formed by the line $\frac{x}{a} + \frac{y}{b} = 1$ with the coordinate axes is:

- (a) ab
- (b) $\frac{1}{2}ab$
- (c) $\frac{1}{4}ab$
- (d) $2ab$

Previously asked in: 2023 30/2/1 Q17

♦ Coordinate Geometry

Area of triangle formed by a line with coordinate axes

Q60. § 7.4 Summary**[3]**

ABCD is a rectangle formed by the points A $(-1, -1)$, B $(-1, 6)$, C $(3, 6)$ and D $(3, -1)$. P, Q, R and S are mid-points of sides AB, BC, CD and DA respectively. Show that diagonals of the quadrilateral PQRS bisect each other.

Previously asked in: 2024 30/1/1 Q26(B)

♦ Coordinate Geometry

Midpoint Formula and Properties of Quadrilaterals using Coordinate Geometry

Q61. § 7.1 Introduction**[2]**

Find the coordinates of a point on the line $x + y = 5$ which is equidistant from $(6, 4)$ and $(5, 2)$.

Previously asked in: 2026 30/3/1 Q23(b)

♦ Coordinate Geometry

Finding a point equidistant from two given points on a given line

Q62. § 7.4 Summary**[5]**

In $\triangle ABC$, AD is a median. X is a point on AD such that $AX : XD = 2 : 3$. BX is extended so that it intersects AC at Y. Prove that $BX = 4 XY$.

Previously asked in: 2026 30/3/1 Q33

♦ Coordinate Geometry

Section Formula and Medians – Ratio of Collinear Points

Q63. § 7.4 Summary**[3]**

If the mid-point of the line segment joining the points A $(3, 4)$ and B $(k, 6)$ is $P(x, y)$ and $x + y - 10 = 0$, then find the value of k .

Previously asked in: 2025 30/2/1 Q28

♦ Coordinate Geometry

7.3 Section Formula / Mid-point Formula

Q64. § 7.4 Summary**[1]**

The line represented by $\frac{x}{4} + \frac{y}{6} = 1$ intersects x-axis and y-axis respectively at P and Q. The coordinates of the mid-point of line segment PQ are:

- A $(2, 3)$
- B $(3, 2)$
- C $(2, 0)$
- D $(0, 3)$

Previously asked in: 2025 30/3/1 Q6

♦ Coordinate Geometry

Midpoint of a Line Segment / Intercept Form of a Line

Q65. § 7.1 Introduction § 7.2 Distance Formula § 7.3 Section Formula**[2]**

Find the coordinates of the point C which lies on the line AB produced such that $AC = 2BC$, where coordinates of points A and B are $(-1, 7)$ and $(4, -3)$ respectively.

Previously asked in: 2025 30/4/1 Q23

♦ Coordinate Geometry

Section Formula – External Division

Q66. § 7.4 Summary**[3]**

If the mid-point of the line segment joining the points $A(3, 4)$ and $B(k, 6)$ is $P(x, y)$ and $x + y - 10 = 0$, find the value of k .

Previously asked in: 2025 30/3/1 Q26 (OR-1)

♦ Coordinate Geometry

7.3 Section Formula / Mid-point Formula

Q67. § 7.1 Introduction § 7.4 Summary**[3]**

Find the coordinates of the points which divide the line segment joining $A(-2, 2)$ and $B(2, 8)$ into four equal parts.

Previously asked in: 2025 30/3/1 Q26 (OR-2)

♦ Coordinate Geometry

Section Formula and Division of a Line Segment

Q68. § 7.4 Summary**[4]**

Jagdish has a field which is in the shape of a right angled triangle AQC. He wants to leave a space in the form of a square PQRS inside the field for growing wheat and the remaining for growing vegetables (as shown in the figure). In the field, there is a pole marked as O.

Based on the above information, answer the following questions :

- (i) Taking O as origin, coordinates of P are $(-200, 0)$ and of Q are $(200, 0)$. PQRS being a square, what are the coordinates of R and S ? [1]
- (ii) What is the area of square PQRS ? OR What is the length of diagonal PR in square PQRS ? [2]
- (iii) If S divides CA in the ratio $K : 1$, what is the value of K , where point A is $(200, 800)$? [1]

Previously asked in: 2023 30/4/1 Q37

♦ Coordinate Geometry

Area of a square using side length from coordinates

Coordinates of vertices of a square given two points

Length of diagonal of a square using distance formula

Section formula – finding the ratio in which a point divides a line segment

Q69. § 7.4 Summary**[1]**

In the figure given below, points P, Q, R divides the line segment AB in four equal parts. The point Q divides PB in the ratio

- A 1 : 3
- B 2 : 3
- C 1 : 2
- D 1 : 1

Previously asked in: 2025 30/5/1 Q6

♦ Coordinate Geometry

Section Formula and Division of a Line Segment

Q70. § 7.3 Section Formula § 7.4 Summary**[2]**

The coordinates of the end points of the line segment AB are $A(-2, -2)$ and $B(2, -4)$. P is the point on AB such that $BP = \frac{4}{7}AB$. Find the coordinates of point P.

Previously asked in: 2025 30/5/1 Q22

♦ Coordinate Geometry

Section Formula – Internal Division

Q71. § 7.1 Introduction § 7.4 Summary

[2]

Find the ratio in which y -axis divides the line segment joining the points $(5, -6)$ and $(-1, -4)$.

Previously asked in: 2023 30/5/1 Q24

◆ Coordinate Geometry

Section Formula – Division of a Line Segment (y-axis division)

Q72. § 7.4 Summary

[2]

In what ratio is the line segment joining the points $(3, -5)$ and $(-1, 6)$ divided by the line $y = x$?

Previously asked in: 2024 30/2/1 Q25(a) (OR-1)

◆ Coordinate Geometry

Section Formula and Division of a Line Segment

Q73. § 7.4 Summary

[1]

Directions: Two statements are given, one labelled as Assertion (A) and the other labelled as Reason (R). Select the correct answer from the codes (A), (B), (C) and (D) as given below.

Assertion (A): The point which divides the line segment joining the points $A(1, 2)$ and $B(-1, 1)$ internally in the ratio $1 : 2$ is $\left(\frac{-1}{3}, \frac{5}{3}\right)$.Reason (R): The coordinates of the point which divides the line segment joining the points $A(x_1, y_1)$ and $B(x_2, y_2)$ in the ratio $m_1 : m_2$ are $\left(\frac{m_1x_2 + m_2x_1}{m_1 + m_2}, \frac{m_1y_2 + m_2y_1}{m_1 + m_2}\right)$.

A Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of the Assertion (A).

B Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of the Assertion (A).

C Assertion (A) is true, but Reason (R) is false.

D Assertion (A) is false, but Reason (R) is true.

Previously asked in: 2024 30/3/1 Q19

◆ Coordinate Geometry

Section Formula (Internal Division)

Q74. § 7.1 Introduction § 7.3 Section Formula § 7.4 Summary

[3]

If the points $A(6, 1)$, $B(p, 2)$, $C(9, 4)$ and $D(7, q)$ are the vertices of a parallelogram ABCD, then find the values of p and q . Hence, check whether ABCD is a rectangle or not.

Previously asked in: 2025 30/6/1 Q29

◆ Coordinate Geometry

Distance Formula

Properties of Parallelogram and Rectangle using Coordinate Geometry

Section Formula and Midpoint Formula

Q75. § 7.1 Introduction § 7.4 Summary

[1]

In what ratio, does x -axis divide the line segment joining the points $A(3, 6)$ and $B(-12, -3)$?

A 1 : 2

B 1 : 4

C 4 : 1

D 2 : 1

Previously asked in: 2023 30/1/1 Q4

◆ Coordinate Geometry

Division of a Line Segment by the x -axis (Section Formula)

Q76. § 7.4 Summary**[1]**

The mid-point of the line segment joining the points $(5, -4)$ and $(6, 4)$ lies on :

- (a) x -axis
- (b) y -axis
- (c) origin
- (d) neither x -axis nor y -axis

Previously asked in: 2026 30/1/1 Q8

◆ Coordinate Geometry

Mid-point of a Line Segment

Q77. § 7.1 Introduction § 7.4 Summary**[3]**

Find the ratio in which the x -axis divides the line segment joining the points $(-6, 5)$ and $(-4, -1)$. Also, find the point of intersection.

Previously asked in: 2026 30/1/1 Q27

◆ Coordinate Geometry

Section Formula – Division of a Line Segment (x -axis / y -axis intersection)**Q78.** § 7.4 Summary**[1]**

Assertion (A) : Mid-point of a line segment divides the line segment in the ratio 1 : 1.

Reason (R) : The ratio in which the point $(-3, k)$ divides the line segment joining the points $(-5, 4)$ and $(-2, 3)$ is 1 : 2.

Select the correct answer from the codes (A), (B), (C) and (D) as given below.

- A Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of the Assertion (A).
- B Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of the Assertion (A).
- C Assertion (A) is true, but Reason (R) is false.
- D Assertion (A) is false, but Reason (R) is true.

Previously asked in: 2024 30/4/1 Q19

◆ Coordinate Geometry

Section Formula and Mid-point Formula

Q79. § 7.1 Introduction § 7.3 Section Formula § 7.4 Summary**[4]**

Observe the map of Jaipur city placed on a Cartesian plane. Taking Rambagh Palace as origin, the location of some places are given below:

Point A: $(-4, 2)$ — Rajasthan High Court

Point B: $(4, -4)$ — Birla Mandir

Point C: $(4, 3)$ — Heera Bagh

Point D: $(-5, -2)$ — Amar Jawan Jyoti

Based on the above, answer the following questions:

- (i) Advocate Rehana stays at Heera Bagh. How much distance she has to cover daily to go to the court and coming back home? [1]
- (ii) There is a crossing on X -axis which divides AD in a certain ratio. Find the ratio. [1]
- (iii) Is Birla Mandir equidistant from Heera Bagh and Amar Jawan Jyoti? Justify your answer. [2]

Previously asked in: 2026 30/4/1 Q38

◆ Coordinate Geometry

7.2 Distance Formula

Section Formula (ratio of division)

Q80. § 7.2 Distance Formula**[1]**

The distance between the points $(a \cos \theta + b \sin \theta, 0)$ and $(0, a \sin \theta - b \cos \theta)$ is

A $\sqrt{a^2 + b^2}$

B $a^2 - b^2$

C $\sqrt{a^2 - b^2}$

D $a^2 + b^2$

Previously asked in: 2026 30/4/1 Q15

♦ Coordinate Geometry

7.2 Distance Formula

8.4 Trigonometric Identities

Q81. § 10.1 Introduction § 10.4 Summary**[2]**

At point A on the diameter AB of a circle of radius 10 cm, tangent XAY is drawn to the circle. Find the length of the chord CD parallel to XY at a distance of 16 cm from A.

Previously asked in: 2025 30/2/1 Q25

♦ Circles

10.2 Tangent to a Circle

7.2 Distance Formula

Q82. § 10.1 Introduction**[1]**

A chord of a circle of radius 10 cm subtends a right angle at its centre. The length of the chord (in cm) is :

A $5\sqrt{2}$

B $10\sqrt{2}$

C $\frac{5}{\sqrt{2}}$

D 5

Previously asked in: 2024 30/5/1 Q12

♦ Circles

Length of a chord using coordinate geometry

Available for free from:

<https://cbsegrade10studyguide.com>

<https://github.com/orgs/cbse-free-resources/repositories>

Available for free from:

<https://cbsegrade10studyguide.com>

<https://github.com/orgs/cbse-free-resources/repositories>