


COORDINATE GEOMETRY

*The essence of mathematics is not to make simple things complicated,
but to make complicated things simple.*

By **O.P. GUPTA** Math Mentor
INDIRA AWARD WINNER

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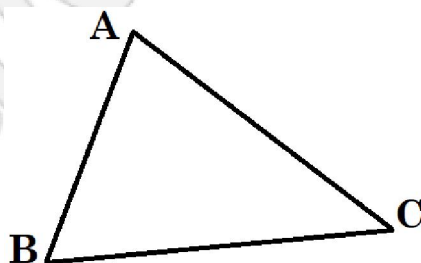
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☆ Multiple Choice Questions, with **only** one correct option.

- Q01. P is a point on x-axis at a distance of 3 units from y-axis to its left. The coordinates of P are:
(a) (3, 0) (b) (0, 3) (c) (-3, 0) (d) (0, -3)
- Q02. The coordinates of the point where the line $\frac{x}{a} + \frac{y}{b} = 7$ intersects y-axis are:
(a) (a, 0) (b) (0, b) (c) (0, 7b) (d) (7a, 0)
- Q03. The area of the triangle OAB, the coordinates of the points A(4, 0), B(0, -7) and O is origin, is:
(a) 11 sq.units (b) 18 sq.units (c) 28 sq.units (d) None of these
- Q04. The line $\frac{x}{2} + \frac{y}{4} = 1$ intersects the axes at P and Q, the coordinates of the midpoint of PQ are:
(a) (1, 2) (b) (2, 0) (c) (0, 4) (d) (2, 1)
- Q05. The distance between the lines $2x + 4 = 0$ and $x - 5 = 0$, is:
(a) 9 units (b) 1 unit (c) 5 units (d) 7 units
- Q06. The distance between the points $(5 \cos 35^\circ, 0)$ and $(0, 5 \cos 55^\circ)$ is:
(a) 10 units (b) 1 unit (c) 5 units (d) 2 units
- Q07. If 'a' is any positive integer such that the distance between the points P(a, 2) and Q(3, -6) is 10 units, then the value of 'a' is:
(a) -3 (b) 6 (c) 9 (d) 3
- Q08. The perimeter of triangle formed by the points (0, 0), (2, 0) and (0, 2) is:
(a) 4 units (b) 6 units (c) $6\sqrt{2}$ units (d) $4 + 2\sqrt{2}$ units
- Q09. The points (1, 2), (-5, 6) and (a, -2) are collinear only if a = _____.
(a) -3 (b) 7 (c) 2 (d) 5
- Q10. The two points of line segment are (a, b) and (-a, -b), then the length of the line is:
(a) $\sqrt{a^2 + b^2}$ (b) $2\sqrt{a^2 + b^2}$ (c) $\frac{2}{3}\sqrt{a^2 + b^2}$ (d) None of these
- Q11. If the points (a, 0), (0, b) and (1, 1) are collinear, then:
(a) $a^2 + b^2 = ab$ (b) $a + b = ab$ (c) $a + b = a^2b^2$ (d) $a^2 + b^2 = 0$
- Q12. The point on the x-axis which is equidistant from (2, -5) and (-2, 9) is:
(a) (-7, 0) (b) (-5, 0) (c) (-6, 0) (d) (-7, 1)

- Q13. The coordinate of a general point on x-axis is of the form:
 (a) $(x, 0)$ (b) $(0, x)$ (c) (x, y) (d) None of these
- Q14. If the points A(6, 1), B(8, 2), C(9, 4) and D(p, 3) are vertices of a parallelogram, taken in order, then the value of p is:
 (a) 7 (b) 9 (c) 5 (d) 8
- Q15. In what ratio is the segment joining the points A(6, 3) and B(-2, -5) divided by the x-axis?
 (a) 3:2 (b) 3:5 (c) 2:3 (d) 2:5
- Q16. The distance between the points (3, 7) and (8, 9) is:
 (a) 11 units (b) 12 units (c) $\sqrt{29}$ units (d) Can't be found
- Q17. The distance between $(\tan \alpha, 0)$ and $(0, 1)$ is:
 (a) $\sec^2 \alpha$ (b) $\cot^2 \alpha$ (c) $\sec \alpha$ (d) $\cot \alpha$
- Q18. The ratio in which the line joining the points (5, 3) and (-1, 6) is divided by y-axis is:
 (a) 5:3 (b) 2:3 (c) 4:5 (d) 5:1
- Q19. The centroid of a triangle with two vertices (3, -10), (-1, -9) is (2, -4). The coordinates of the third vertex are:
 (a) (-4, -7) (b) (4, -7) (c) (4, 7) (d) (7, 4)
- Q20. The distance of the point (2, 3) from the x-axis is:
 (a) 2 units (b) 3 units (c) 4 units (d) 5 units
- Q21. The distance of (-6, 8) from the origin is:
 (a) 8 units (b) 27 units (c) 10 units (d) 6 units
- Q22. AOBC is a rectangle whose three vertices are A(0, 3), O(0, 0) and B(5, 0). Square of the length of its diagonal is:
 (a) 5 (b) 3 (c) 34 (d) 4
- Q23. The perimeter of a triangle with vertices (0, 4), (0, 0) and (3, 0) is:
 (a) 5 units (b) 12 units (c) 11 units (d) 10 units
- Q24. The points (-4, 0), (4, 0) and (0, 3) are the vertices of a:
 (a) Right triangle (b) Isosceles triangle
 (c) Equilateral triangle (d) Scalene triangle
- Q25. Which of the following is a point on x-axis?
 (a) (1, 0) (b) (0, 1) (c) (-1, 1) (d) (1, 1)
- Q26. If the points (1, x), (5, 2) and (9, 5) are collinear, then value of x is:
 (a) $\frac{5}{2}$ (b) $-\frac{5}{2}$ (c) -1 (d) 1
- Q27. The end points of diameter of circle are (2, 4) and (-3, -1). Its radius is:
 (a) $\frac{5\sqrt{2}}{2}$ units (b) $5\sqrt{2}$ units (c) $3\sqrt{2}$ units (d) $\pm \frac{5\sqrt{2}}{2}$ units
- Q28. The ratio in which x-axis divides the line segment joining the points (5, 4) and (2, -3) is:
 (a) 5:2 (b) 3:4 (c) 2:5 (d) 4:3
- Q29. The point which divides the line segment joining the points (7, -6) and (3, 4) in ratio 1:2 internally lies in the:
 (a) I quadrant (b) II quadrant (c) III quadrant (d) IV quadrant

- Q30. The point which lies on the perpendicular bisector of the line joining the points $(-2, -5)$ and $(2, 5)$ is given by:
 (a) $(0, 0)$ (b) $(0, 2)$ (c) $(2, 0)$ (d) $(-2, 0)$
- Q31. 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) $(1, 0)$
- Q32. If the point $P(6, 3)$ divides the line joining $A(4, 2)$ and $B(8, 4)$, then:
 (a) $AP = \left(\frac{1}{3}\right)AB$ (b) $AP = PB$ (c) $PB = \left(\frac{1}{3}\right)AB$ (d) $AP = AB$
- Q33. What type of triangle do the points $(3, 2)$, $(-2, -3)$ and $(2, 3)$ form?
 (a) right triangle (b) equilateral triangle (c) isosceles triangle (d) None of these
- Q34. The values of y for which the distance between the points $P(2, -3)$ and $Q(10, y)$ is 10 units, is:
 (a) $-9, 5$ (b) $-9, 3$ (c) $-9, 2$ (d) $-9, 6$
- Q35. The area of the triangle whose vertices are $(1, -1)$, $(-4, 6)$ and $(-3, -5)$, is
 (a) 26 sq.units (b) 34 sq.units (c) 24 sq.units (d) 28 sq.units
- Q36. In which quadrant does the point $(2, -5)$ lie?
 (a) 1st (b) 2nd (c) 3rd (d) 4th
- Q37. The distance between the points $A(b, 0)$ and $B(0, a)$ is:
 (a) $\sqrt{a^2 + b^2}$ (b) $\sqrt{a^2 - b^2}$ (c) $\sqrt{a + b}$ (d) $\sqrt{a - b}$
- Q38. Two of the vertices of a $\triangle ABC$ are $A(-1, 4)$ and $B(5, 2)$ and its centroid is $(0, -3)$.
 The coordinates of the vertex C are:
 (a) $(4, 3)$ (b) $(4, 15)$ (c) $(-4, -15)$ (d) $(-15, -4)$
- Q39. The equation of a line parallel to x-axis at a distance of 5 units below x-axis is:
 (a) $x = 5$ (b) $x = -5$ (c) $y = -5$ (d) $y = -5x$
- Q40. Three villages A, B and C are situated in such a way that they form a scalene triangle on flat land (see the figure below). A well needs to be constructed on the same flat land in such a way that it is equidistant from the three villages.



The well should be built at:

- (a) the incentre of $\triangle ABC$ (b) the centroid of $\triangle ABC$
 (c) the circumcentre of $\triangle ABC$ (d) the orthocenter of $\triangle ABC$

ANSWERS KEY

Q01. c	Q02. c	Q03. d	Q04. a	Q05. d	Q06. c	Q07. c
Q08. d	Q09. b	Q10. b	Q11. b	Q12. a	Q13. a	Q14. a
Q15. b	Q16. c	Q17. c	Q18. d	Q19. c	Q20. b	Q21. c
Q22. c	Q23. b	Q24. b	Q25. a	Q26. c	Q27. a	Q28. d
Q29. d	Q30. a	Q31. b	Q32. b	Q33. a	Q34. b	Q35. c
Q36. d	Q37. a	Q38. c	Q39. c	Q40. c		

Dear math scholars,

We have taken utmost care while preparing this draft. Still chances of human error can't be ruled out. Please inform us about any Typing error / mistake in this document. This will help many future learners of Mathematics.

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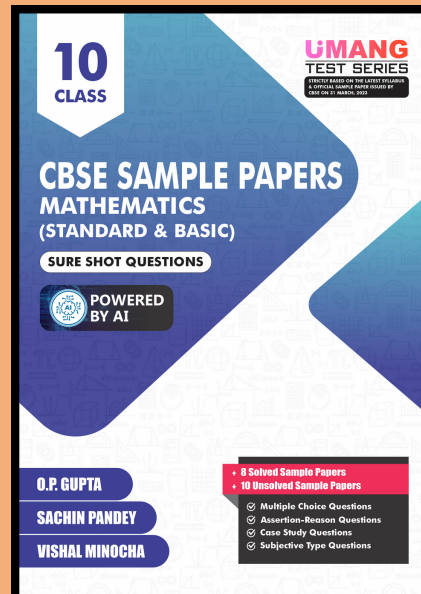
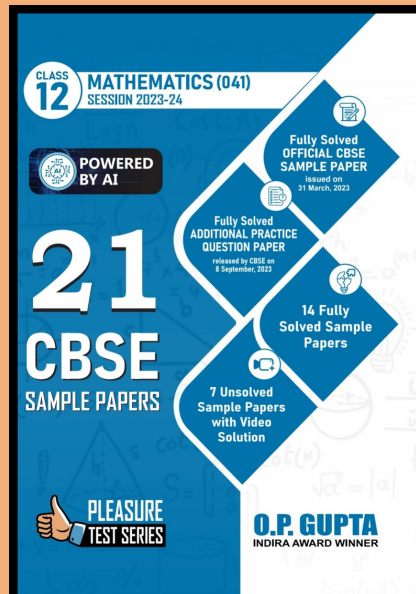
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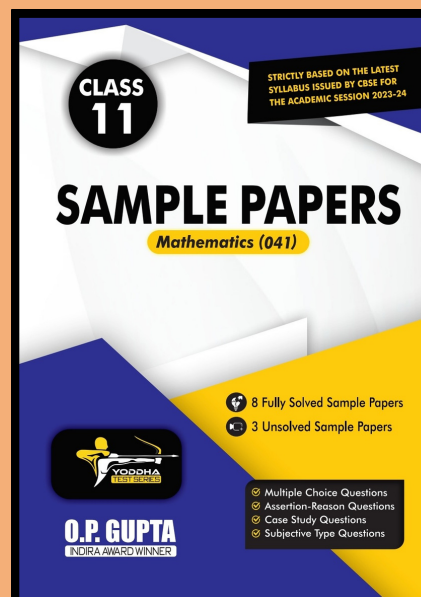
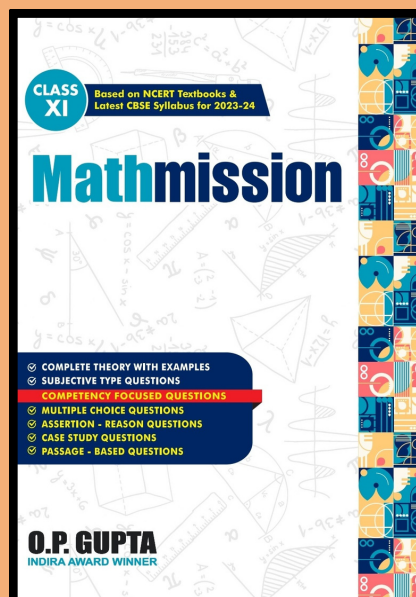
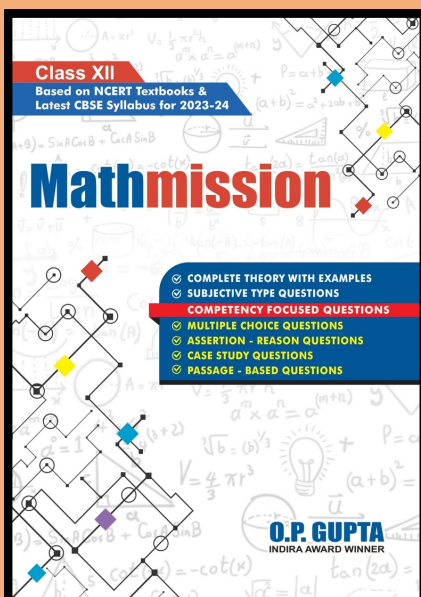
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