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MATHEMATICS TEST - CHAPTER 7: COORDINATE GEOMETRY

Name:		Roll No.		Section:

Total Time: 2:30 Hour **Total Marks: 150**
Time Allowed: 150 Minutes

PAPER OBJECTIVE
SECTION-A (MARKS 150)

NOTE: Section-A is compulsory. All parts of this section are to be answered on these pages and handed over to the center superintendent. Deleting / overwriting is not allowed. Do not use lead pencil.

Q.1 Fill the relevant bubble for each part. All parts carry one mark.

Questions	A	B	C	D	A B C D
1. The distance between points on a coordinate line with coordinates a and b is	$\|b - a\|$	$b - a$	$a + b$	$(a + b)/2$	●○○○
2. The distance between two points is	Always negative	Never negative	Always zero	Always an integer	○●○○
3. d(A, B) is always equal to	$-d(B, A)$	$d(A, A)$	$2d(B, A)$	$d(B, A)$	○○○●
4. The distance of the point (x, y) from the origin is	$\sqrt{(x - y)}$	$x + y$	$\|x + y\|$	$\sqrt{(x^2 + y^2)}$	○○○●
5. The distance between $P_1(x_1, y_1)$ and $P_2(x_2, y_2)$ is	$\sqrt{((x_2 - x_1)^2 + (y_2 - y_1)^2)}$	$\sqrt{((x_2 + x_1)^2 + (y_2 + y_1)^2)}$	$(x_2 - x_1) + (y_2 - y_1)$	$\|x_2 - x_1\| + \|y_2 - y_1\|$	●○○○
6. The distance formula is derived using	The sine rule	Similar triangles only	The Pythagoras theorem	The midpoint formula	○○●○
7. The distance of a point (x, y) from the x-axis is	$\|x\|$	$x + y$	$\|y\|$	$\sqrt{(x^2 + y^2)}$	○○●○
8. The distance of a point (x, y) from the y-axis is	$\|y\|$	$x + y$	$\sqrt{(x^2 + y^2)}$	$\|x\|$	○○○●
9. The abscissa of a point on the y-axis is	One	Zero	x	y	○●○○
10. The ordinate of a point on the x-axis is	One	x	Zero	y	○○●○
11. The origin has coordinates	(1, 1)	(0, 1)	(0, 0)	(1, 0)	○○●○
12. The ordered pair (x, y) and (y, x) are equal if and only if	$x = -y$	$x = y$	$x = 0$	$y = 0$	○●○○
13. The ordered pairs (2, 3) and (3, 2) are	Equal	Collinear	Not equal	Opposite	○○●○
14. Points that lie on the same straight line are called	Collinear points	Non-collinear points	Coplanar points	Parallel points	●○○○

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Questions	A	B	C	D	A B C D
15. Points that do not lie on the same line are called	Collinear points	Coincident points	Non-collinear points	Parallel points	○○●○
16. If A, B, C are collinear with B between A and C, then	AB = AC + BC	AC = AB + BC	BC = AB + AC	AB = BC	○●○○
17. The vertices of a triangle are	Non-collinear points	Collinear points	Equal points	Parallel points	●○○○
18. Three points with AB + BC = AC are	Non-collinear	Vertices of a triangle	Vertices of a square	Collinear	○○○●
19. In a right triangle, the longest side is the	Base	Hypotenuse	Perpendicular	Median	○●○○
20. To prove a triangle is right-angled using the distance formula, we use	The Pythagoras theorem	The sine rule	The midpoint formula	Collinearity	●○○○
21. A triangle with all sides equal is called	Isosceles	Scalene	Right-angled	Equilateral	○○○●
22. A triangle with exactly two equal sides is called	Isosceles	Equilateral	Scalene	Right only	●○○○
23. A triangle with all sides different is called	Scalene	Isosceles	Equilateral	Regular	●○○○
24. A quadrilateral is a square if all four sides are equal and	The diagonals are unequal	Opposite sides are unequal	The diagonals are equal	Only two angles are right	○○●○
25. A quadrilateral is a rectangle if opposite sides are equal and	The diagonals are unequal	All sides are equal	Adjacent sides are equal	The diagonals are equal	○○○●
26. A quadrilateral is a parallelogram if	Opposite sides are equal	All sides are different	Only diagonals are equal	Diagonals are perpendicular only	●○○○
27. In a parallelogram, the diagonals	Are equal	Bisect each other	Are perpendicular	Never meet	○●○○
28. A rhombus has	All angles equal	Equal diagonals always	All sides equal	Only two equal sides	○○●○
29. The minimum number of sides in a polygon is	2	3	4	5	○●○○
30. Are (−2, −1), (0, −4) and (3, −6) collinear?	Yes	Only if y = 0	Cannot say	No	○○○●
31. The perimeter of triangle (2, 3), (5, 3), (2, 1) is	10	7	5 + √5	5 + √13	○○○●

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Questions	A	B	C	D	A B C D
32. The distance of the point (−5, 12) from the origin is	14	17	13	12	○○●○
33. Distance between points with coordinates 7 and −2 on a line is	9	5	11	10	●○○○
34. Distance between (2, 8) and (−1, 7) is	2	√13	√10	√226	○○●○
35. Distance between (0, 4) and (4, −4) is	2√3	9	4√5	√79	○○●○
36. Are (0, −5), (3, 7) and (5, 15) collinear?	No	Yes	Only if x = 0	Cannot say	○●○○
37. Distance between (−1, 5) and (4, −3) is	√13	4√6	3√10	√89	○○○●
38. Hypotenuse of triangle (7, 4), (7, 1), (−3, 1) is	√109	9	3	10	●○○○
39. Distance between (−2, −3) and (−5, 4) is	√57	√58	5√2	√10	○●○○
40. Distance between (−8, 1) and (8, −8) is	7	√337	2√86	13√2	○●○○
41. Distance between (−3, 8) and (1, −5) is	√187	√186	√17	√185	○○○●
42. Are (6, 3), (14, 7) and (−6, −3) collinear?	Yes	No	Only if x = 0	Cannot say	●○○○
43. Distance between (4, 4) and (−1, −7) is	√151	4	3√2	√146	○○○●
44. Distance between points with coordinates 3 and 9 on a line is	13	8	6	12	○○●○
45. Are (0, 0), (1, −2) and (3, −3) collinear?	Yes	No	Only if y = 0	Cannot say	○●○○
46. Distance between (−6, −5) and (8, 2) is	√247	2√61	7√5	√21	○○●○
47. Distance between (8, 1) and (1, −7) is	√15	√114	3√13	√113	○○○●
48. Distance between (−1, −5) and (2, 5) is	√109	√110	√114	6√3	●○○○

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Questions	A	B	C	D	A B C D
49. The distance of the point (−3, 4) from the origin is	7	4	10	5	○○○●
50. Distance between (5, −6) and (8, 8) is	√173	√205	√17	4√13	○●○○
51. Distance between (1, −6) and (−7, 1) is	√118	√61	√15	√113	○○○●
52. Distance between (5, 6) and (−2, −1) is	√14	10	7√2	√34	○○●○
53. Distance between (−2, 6) and (4, 6) is	6	2√37	√35	√39	●○○○
54. Distance between (−5, 3) and (−3, −6) is	3√10	√85	√86	√73	○●○○
55. Distance between (7, 6) and (4, −5) is	√122	2√65	√130	√129	○○●○
56. Distance between (0, 5) and (−6, 6) is	√37	√7	√74	√157	●○○○
57. Vertices (0, 0), (4, 0), (0, 3) form a	right isosceles triangle	isosceles triangle	equilateral triangle	right triangle	○○○●
58. If the distance between A(c, 10) and B(0, −1) is 20, then c =	279	3√31	±√279	3	○○●○
59. Distance between (7, 6) and (−5, 5) is	5√5	√146	√145	√290	○○●○
60. Distance between (4, −4) and (4, −3) is	1	√2	2	√113	●○○○
61. Distance between (−2, 2) and (6, −7) is	√17	√290	2√38	√145	○○○●
62. If A(c, 10) and B(0, −1) are 20 units apart, c^2 =	400	121	279	20	○○●○
63. Vertices (1, 1), (5, 2), (2, 7) form a	scalene triangle	right triangle	isosceles triangle	equilateral triangle	●○○○
64. Distance between (8, 4) and (2, −6) is	2√34	4√17	4	3√15	●○○○
65. Distance between (−4, −4) and (−5, 5) is	√83	√89	√82	9	○○●○

Questions	A	B	C	D	A B C D
66. Are (−4, −3), (−1, −1) and (2, 1) collinear?	No	Yes	Only if y = 0	Cannot say	○●○○
67. Distance between (4, −7) and (5, 1) is	√65	√130	8	3	●○○○
68. Are (2, 5), (3, 3) and (5, 2) collinear?	Yes	No	Only if y = 0	Cannot say	○●○○
69. d(A, B) with A(−6) and B(−4) on a coordinate line is	−2	6	10	2	○○○●
70. Are (4, 3), (5, 4) and (7, 6) collinear?	Yes	No	Only if y = 0	Cannot say	○●○○
71. Distance between (5, 1) and (1, 5) is	4√2	6√2	√39	2√2	●○○○
72. Are (2, 3), (5, 4) and (8, 5) collinear?	No	Only if y = 0	Yes	Cannot say	○○●○
73. Distance between (−2, −1) and (−7, 1) is	√58	√29	√30	9	○●○○
74. Distance between (−6, 6) and (5, −2) is	√370	√185	8√3	√186	○●○○
75. Distance between (7, 1) and (−2, 6) is	√105	√111	√74	√106	○○○●
76. A(3, 4), B(−1, 7), C(x, y) collinear, B is the midpoint of AC. (x, y) =	(1, 5.5)	(2, 11)	(−5, 10)	(5, 10)	○○●○
77. Distance between (1, −5) and (−3, 2) is	√65	√11	√13	√130	●○○○
78. Distance between (−4, 1) and (5, −8) is	18	√161	9√2	3√2	○○●○
79. Are (4, 3), (6, 0) and (7, −1) collinear?	Yes	No	Only if y = 0	Cannot say	○●○○
80. Are (−1, −4), (0, −1) and (1, 2) collinear?	No	Yes	Only if y = 0	Cannot say	○●○○
81. Distance between (7, 6) and (−4, 8) is	√205	3√14	5√5	2√33	○○●○
82. Distance between (−2, 1) and (−1, 3) is	√5	√6	2	√3	●○○○

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Questions	A	B	C	D	A B C D
83. Distance between (−1, −2) and (−2, 8) is	√11	√103	√101	3√5	○○●○
84. Vertices (3, 4), (3, 1), (8, 4) form a	right isosceles triangle	right triangle	equilateral triangle	isosceles triangle	○●○○
85. Distance between (−8, 4) and (1, −7) is	√201	2√101	√202	√203	○○●○
86. A(1, 2), B(7, 2), C(7, 8), D(1, 8): length of each diagonal is	12	6√2	√6	6	○●○○
87. Distance between (4, −8) and (2, 1) is	√11	√85	√170	√86	○●○○
88. Vertices (0, 0), (2, 0), (1, 2) form a	right triangle	right isosceles triangle	equilateral triangle	isosceles triangle	○○○●
89. The midpoint of the segment joining (x_1, y_1) and (x_2, y_2) is	$((x_1 - x_2)/2, (y_1 - y_2)/2)$	$(x_1 + x_2, y_1 + y_2)$	$((x_1 + y_1)/2, (x_2 + y_2)/2)$	$((x_1 + x_2)/2, (y_1 + y_2)/2)$	○○○●
90. The midpoint of two points a and b on a number line is	(a − b)/2	(a + b)/2	a + b	ab/2	○●○○
91. If M is the midpoint of LN, then LN : MN is	2 : 1	1 : 2	1 : 1	1 : 3	●○○○
92. If two lines bisect each other, their midpoint is	Different	The same	Zero	Undefined	○●○○
93. The diagonals of a parallelogram have	Different midpoints	Equal lengths always	The same midpoint	No midpoints	○○●○
94. The bisectors of a line segment always pass through its	Midpoint	Origin	Endpoints only	x-axis	●○○○
95. The segment joining midpoints of two sides of a triangle is	Half the third side	Equal to the third side	Double the third side	Perpendicular to the third side	●○○○
96. Segment joining midpoints of two sides of a triangle is	Perpendicular to it	Parallel to the third side	Equal to it	Twice it	○●○○
97. Mid-points of the sides of a quadrilateral always form a	Parallelogram	Square	Rhombus	Kite	●○○○
98. If x < 0 and y > 0, the point (x, y) lies in quadrant	I	III	IV	II	○○○●
99. If x < 0 and y > 0, the point (−x, y) lies in quadrant	II	III	I	IV	○○●○

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Questions	A	B	C	D	A B C D
100. A point with x > 0 and y < 0 lies in quadrant	I	II	IV	III	○○●○
101. A point with x < 0 and y < 0 lies in quadrant	I	II	IV	III	○○○●
102. The point (3, 5) is at minimum distance from the	x-axis	Origin	y-axis	Both axes	○○●○
103. The centre of a circle is the midpoint of its	Radius	Chord only	Diameter	Tangent	○○●○
104. The coordinates of the centre of a circle with diameter endpoints (4, 5) and (6, 9) is the	Origin	Midpoint of those points	Sum of the points	Difference of the points	○●○○
105. Coordinate geometry helps in analysing	Only numbers	Properties of 2-D shapes	Only fractions	Only angles	○●○○
106. Coordinates of a point are written as	An ordered pair	An unordered pair	A set	A fraction	●○○○
107. Descartes is famous for contribution to	Trigonometry	Coordinate geometry	Statistics	Logarithms	○●○○
108. Midpoint of (−9, −9) and (7, 4) is	(−1, −2.5)	(−8, −6.5)	(−2, −5)	(−2.5, −1)	●○○○
109. Midpoint of (−2, −8) and (−3, 6) is	(2.5, 1)	(−1.5, −1)	(0.5, −7)	(−2.5, −1)	○○○●
110. Midpoint of (7, −2) and (−7, −3) is	(2, −4.5)	(0, −2.5)	(0, −5)	(0, 2.5)	○●○○
111. Diagonals of rhombus A(−3, −1), B(0, 0), C(1, 3), D(−2, 2) bisect at	(0, 0)	(1, −1)	(−1, 1)	(−2, 2)	○○●○
112. Hassan at (6, 0), Ali at (0, 6). Their start-point distance is	36	√6	6	6√2	○○○●
113. Midpoint of (−1, −2) and (−1, −1) is	(1, 1.5)	(0, −0.5)	(0, −1.5)	(−1, −1.5)	○○○●
114. Same quadrilateral: midpoint H of DA =	(−1, 1)	(−2, 2)	(1, 1)	(−1, −1)	●○○○
115. Midpoint of (−2, −3) and (−3, −4) is	(−2.5, −3.5)	(0.5, 0.5)	(−1.5, −3.5)	(2.5, 3.5)	●○○○
116. Midpoint of (−9, −7) and (6, −2) is	(−7.5, −2.5)	(−5.5, −0.5)	(−1.5, −5.5)	(−1.5, −4.5)	○○○●

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Questions	A	B	C	D	A B C D
117. Midpoint of (−9, −5) and (4, 7) is	(2.5, −1)	(−5, 2)	(−1, −0.5)	(−2.5, 1)	○○○●
118. Midpoint of (1, −1) and (2, −1) is	(3, −2)	(2.5, −1)	(1.5, −1)	(0, 0.5)	○○●○
119. Triangle A(3, 7), B(−4, 0), C(4, 0): DE compared to BC is	Double	Equal	One third	Half	○○○●
120. Midpoint of (6, −5) and (−3, 0) is	(2.5, −2.5)	(−1.5, 2.5)	(4.5, −2.5)	(1.5, −2.5)	○○○●
121. If (1, 4) is the midpoint of (6, b) and (a, 2), then a =	4	−4	2	−6	○●○○
122. Midpoint of (−4, −4) and (−4, 0) is	(−4, −2)	(0, −2)	(−3, −2)	(4, 2)	●○○○
123. The midpoints of the sides of quadrilateral ABCD form a	Parallelogram	Rectangle	Square	Trapezium	●○○○
124. Midpoint of (6, 8) and (9, −8) is	(8.5, 0)	(7.5, 0)	(−7.5, 0)	(−1.5, 8)	○●○○
125. Point (−2, −7) lies in quadrant	First	Second	Fourth	Third	○○○●
126. Midpoint of (−4, −4) and (−2, −4) is	(−3, −4)	(3, 4)	(−3, −5)	(−4, −3)	●○○○
127. The midpoint of the hypotenuse of right triangle (4, 0), (2, 1), (−1, −5) is	(2, 1/2)	(1/2, −2)	(3/2, 5/2)	(3/2, −5/2)	○○○●
128. A point (a, b) lies on the y-axis if	b = 0	a = b	a = 0	a + b = 0	○○●○
129. The midpoint of (−3, −5) and (3, 5) is	(1, 0)	(0, 0)	(0, 1)	(2, 0)	○●○○
130. Quadrilateral ABCD: A(1, 0), B(5, 2), C(2, 6), D(−3, 2). Midpoint E of AB =	(3, 1)	(6, 2)	(2, 1)	(3, 2)	●○○○
131. The midpoint of (2, 5) and (6, 9) is	(4, 7)	(7, 4)	(4, 8)	(5, 7)	●○○○
132. Midpoint of (4, −6) and (−3, −6) is	(−1, −4.5)	(−0.5, 6)	(3.5, 0)	(0.5, −6)	○○○●
133. If P(2, 3) is the midpoint of A(x, 4) and B(−3, y), then (x, y) =	(7, 2)	(−1, 3.5)	(5, −1)	(−7, 2)	●○○○

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Questions	A	B	C	D	A B C D
134. Point (−4, −(−6)) lies in quadrant	First	Third	Fourth	Second	○○○●
135. Midpoint of (9, 6) and (−9, 4) is	(0, −5)	(1, 5)	(0, 5)	(6.5, −1.5)	○○●○
136. Midpoint of (−6, 8) and (−7, −4) is	(−6.5, 1)	(6.5, −2)	(−5.5, 2)	(−6.5, 2)	○○○●
137. Midpoint of (9, 6) and (−4, −4) is	(−2.5, −1)	(3.5, 1)	(2.5, 0)	(2.5, 1)	○○○●
138. Point (−7, 0) lies on the	y-axis	Second quadrant	x-axis	Origin	○○●○
139. Same quadrilateral: midpoint G of CD =	(−1, 8)	(1/2, 4)	(−1/2, 4)	(−1/2, 2)	○○●○
140. Midpoint of (9, 5) and (−9, 4) is	(0, −4.5)	(0, 4.5)	(0, 9)	(0, 3.5)	○●○○
141. Midpoint of (−5, 9) and (−3, 7) is	(−1, 1)	(−4, 8)	(−4, 7)	(−3, 8)	○●○○
142. Midpoint of (3, 4) and (8, −4) is	(11, 0)	(6.5, 0)	(5.5, 0)	(−5.5, 0)	○○●○
143. Midpoint of (2, 8) and (9, 8) is	(11, 16)	(5.5, 8)	(−3.5, 0)	(5, 8.5)	○●○○
144. Midpoint of (3, −3) and (−4, −6) is	(−0.5, −4.5)	(−1, −9)	(−1.5, −3.5)	(3.5, 1.5)	●○○○
145. Midpoint of (4, 2) and (5, −1) is	(5.5, 0.5)	(−0.5, 1.5)	(−4.5, −0.5)	(4.5, 0.5)	○○○●
146. Midpoint of (9, 4) and (−1, −7) is	(1, 1.5)	(4, −1.5)	(5, 5.5)	(−4, 1.5)	○●○○
147. Midpoint of (−4, −3) and (2, −8) is	(−1, −5.5)	(1, 5.5)	(0, −5.5)	(−2, −11)	●○○○
148. Point (6, 9) lies in quadrant	Second	First	Third	Fourth	○●○○
149. Midpoint of (3, −7) and (−4, 2) is	(3.5, −4.5)	(0.5, 2.5)	(−1, −5)	(−0.5, −2.5)	○○○●
150. Midpoint of the segment joining (−3, 5) and (3, −5) is	(0, 0)	(−3, 5)	(3, −5)	(6, 0)	●○○○

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