COORDINATE GEOMETRY

MCQs & A and R WORK SHEET

My CBSE My Guide...

Test / Exam Name: Coordinate Geometry   **Standard: 10th**   **Subject: Mathematics**

Student Name: _____   **Section:** _____   **Roll No.:** _____

Questions: 40	Time: 01:30 hh:mm	Negative Marks: 0	Marks: 40

Instructions

1. MULTIPLE CHOICE QUESTIONS.

Q1. The distance of the point (4, 7) from the x-axis is: **1 Mark**

A 4   **B** 7   **C** 11   **D** $\sqrt{65}$

Q2. The distance of the point (5, 12) from the y-axis is: **1 Mark**

A 5 units   **B** 12 units   **C** 13 units   **D** -5 units

Q3. The distance of the point P(x, y) from the origin O(0, 0) is given by: **1 Mark**

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

Q4. A circle has its centre at the origin and a point P(5, 0) lies on it. Then the point Q(8, 6) lies _____ the circle.   **1 Mark**

A out side   **B** in side   **C** on   **D** None of these

Q5. If A and B are the points (-6, 7) and (-1, -5) respectively, then the distance 2AB is equal to   **1 Mark**

A 20 units   **B** 15 units   **C** 26 units   **D** 13 units

Q6. The distance between the points (m, - n) and (-m, n) is: **1 Mark**

A $\sqrt{m^2 + n^2}$ **B** m + n   **C** $2\sqrt{m^2 + n^2}$ **D** $\sqrt{2m^2 + n^2}$

Q7. If the distance between the points (4, p) and (1, 0) is 5, then p =   **1 Mark**

A ±4   **B** 4   **C** −4   **D** 0

Q8. The coordinates of a point on x-axis which lies on the perpendicular bisector of the line segment joining the points (7, 6) and (-3, 4) are,   **1 Mark**

A (0, 2)   **B** (3, 0)   **C** (0, 3)   **D** (2, 0)

Q9. A is a point on the x-axis whose abscissa is 5 and B is the point (1, -3), then the distance AB is   **1 Mark**

A 8 units   **B** 5 units   **C** 9 units   **D** 25 units

Q10. The points (-4, 0), (4, 0), (0, 3) are the vertices of a: **1 Mark**

A Right angled triangle.   **B** Sosceles triangle.   **C** Equilateral triangle.   **D** Scalene triangle.

Q11. ABCD is a rectangle whose three vertices are B(4, 0), C(4, 3) and D(0, 3). The length of one of its diagonals is: **1 Mark**

A 5   **B** 4   **C** 3   **D** 25

Q12. The distance between the points (a cos θ + b sin θ, 0) and (0, a sin θ − b cos θ) is: **1 Mark**

A $a^2 + b^2$ **B** a + b   **C** $a^2 - b^2$ **D** $\sqrt{a^2 + b^2}$

Q13. The mid-point of segment AB is P(0, 4). If the coordinates of B are (-2, 3), then the coordinates of A are: **1 Mark**

A (2, 5)   **B** (-2, -5)   **C** (2, 9)   **D** (-2, 11)

Q14. The coordinates of the midpoint of the line joining the points (3p, 4) and (-2, 4) are (5, p). The value of p is: **1 Mark**

A 1   **B** 3   **C** 4   **D** 2

Q15. The points A(-1, 0), B(3, 1), C(2, 2) and D(-2, 1) are the vertices of a: **1 Mark**

A Rectangle.   **B** Rhombus.   **C** Square.   **D** Parallelogram.

Q16. The coordinates of the fourth vertex of the rectangle formed by the points (0, 0), (2, 0), (0, 3) are,   **1 Mark**

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

Q17. The vertices of a square are (0, -1), (2, 1), (0, 3) and (-2, 1). The side of the square is: **1 Mark**

A $2\sqrt{2}$ units   **B** 2 units   **C** $\sqrt{2}$ units   **D** $2\sqrt{3}$ units

Q18. If the coordinates of one end of a diameter of a circle are (2, 3) and the coordinates of its centre are (-2, 5), then the coordinates of the other end of the diameter are: **1 Mark**

A (0, 4)   **B** (6, − 7)   **C** (− 6, 7)   **D** (0, 8)

Q19. Find the value of k, if the point (0, 2) is equidistant from the points (3, k) and (k, 5):   **1 Mark**

| **A** -1 | **B** 0 | **C** 2 | **D** 11 |

Q20. The point on the y-axis which is equidistant from the points (6, 5) and (-4, 3) is: **1 Mark**

| **A** (9, 0) | **B** (-9, 0) | **C** (0, 9) | **D** (0, -9) |

Q21. If the point P(x, y) is equidistant from A(5, 1) and B(-1, 5), then **1 Mark**

| **A** $5x = y$ | **B** $x = 5y$ | **C** $3x = 2y$ | **D** $2x = 3y$ |

Q22. The fourth vertex D of a parallelogram ABCD whose three vertices are A(-2, 3), B(6, 7) and C(8, 3) is: **1 Mark**

| **A** (0, 1) | **B** (0, -1) | **C** (-1, 0) | **D** (1, 0) |

Q23. In Figure 2, P(5, - 3) and Q(3, y) are the points of trisection of the line segment joining A(7, –2) and B(l, –5). **1 Mark**
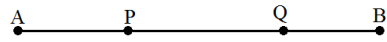Then y equals

Figure 2

| **A** 2 | **B** 4 | **C** –4 | **D** $-\frac{5}{2}$ |

Q24. In what ratio does the y-axis divide the join of P(-4, 2) and Q(8, 3)? **1 Mark**

| **A** 3 : 1 | **B** 1 : 3 | **C** 2 : 1 | **D** 1 : 2 |

Q25. If points (a, 0), (0, b) and (1, 1) are collinear, then $\frac{1}{a} + \frac{1}{b} =$ **1 Mark**

| **A** 1 | **B** 2 | **C** 0 | **D** -1 |

Q26. If the point P(2, 1) lies on the line segment joining points A(4, 2) and B(8, 4), then: **1 Mark**

| **A** $AP = \frac{1}{3} AB$ | **B** $AP = PB$ | **C** $PB = \frac{1}{3} AB$ | **D** $AP = \frac{1}{2} AB$ |

Q27. If A(2, 2), B(-4, -4) and C(5, -8) are the vertices of a triangle, then the length of the median through vertices **1 Mark**
C is:

| **A** $\sqrt{65}$ | **B** $\sqrt{117}$ | **C** $\sqrt{85}$ | **D** $\sqrt{113}$ |

Q28. If points A(5, p), B(1, 5), C(2, 1) and D(6, 2) form a square ABCD, then p = **1 Mark**

| **A** 7 | **B** 3 | **C** 6 | **D** 8 |

Q29. If the point C(k, 4) divides the join of the points A(2, 6) and B(5, 1) in the ratio 2 : 3 then the value of k is: **1 Mark**

| **A** 16 | **B** $\frac{28}{5}$ | **C** $\frac{16}{5}$ | **D** $\frac{8}{5}$ |

Q30. The coordinates of the point which is equidistant from the three vertices of a △AOB as shown in the figure is: **1 Mark**
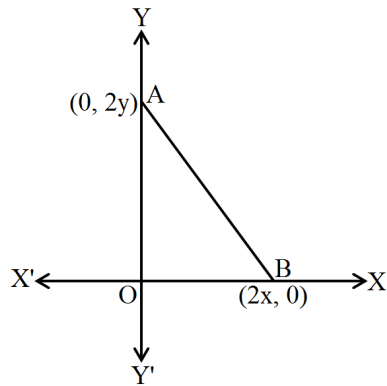
| **A** (x, y) | **B** (0, 0) | **C** (y, x) | **D** $(\frac{x}{2} = \frac{y}{2})$ |

Q31. The ratio in which (4, 5) divides the join of (2, 3) and (7, 8) is: **1 Mark**

| **A** -2 : 3 | **B** -3 : 2 | **C** 3 : 2 | **D** 2 : 3 |

Q32. The point where the medians of a triangle meet is called the _____ of the triangle: **1 Mark**

| **A** circumcentre | **B** None of these | **C** centroid | **D** orthocentre |

Q33. If P(x, y) is any point on the line joining the points A(a, 0) and B(0, b), then **1 Mark**

| **A** $\frac{x}{a} + \frac{y}{b} = 0$ | **B** $\frac{x}{a} - \frac{y}{b} = 1$ | **C** $\frac{x}{a} + \frac{y}{b} = 1$ | **D** $\frac{x}{a} - \frac{y}{b} = 0$ |

Q34. The ares of a triangle with vertices A(3, 0) and B(7, 0) and C(8, 4) is: **1 Mark**

| **A** 14 | **B** 28 | **C** 8 | **D** 6 |

Q35. The perimeter of a triangle with vertices (0, 4), (0, 0) and (3, 0) is: **1 Mark**

| **A** 5 | **B** 12 | **C** 11 | **D** $7 + \sqrt{5}$ |

Q36. **Directions:** In the following questions, a statement of assertion (A) is followed by a statement of reason (R). **1 Mark**
Mark the correct choice as:

Assertion: Points (3, 2), (-2, -3) and (2, 3) form a right triangle.

Reason: If (x, y) is equidistant from (3, 6) and (-3, 4), then 3x + y = 5.

A A is true, R is true; R is a correct explanation for A. **B** A is true, R is true; R is not a correct explanation for A.
C A is true; R is False. **D** A is false; R is true.

Q37. **Assertion:** The point (0, 4) lies on y - axis. **1 Mark**

Reason: The x - coordinate on the point on y - axis is zero.

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.

Q38.Assertion: In quadrilateral ABCD, if AB = BC = CD = DA and AC = BD, then ABCD is a square.   **1 Mark**

  Reason: A quadrilateral is a square if all its sides are equal and the diagonals are equal.

  A A is true, R is true; R is a correct explanation for A.   **B** A is true, R is true; R is not a correct explanation for A.
  C A is true; R is False.   **D** A is false; R is true.

Q39.Assertion: The distance of a points P(x, y) from the origin is $\sqrt{x^2 - y^2}$.   **1 Mark**

  Reason: The distance between two points $(x_1, y_1,)$ and (x_2, y_2) is $\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

  A A is true, R is true; R is a correct explanation for A.   **B** A is true, R is true; R is not a correct explanation for A.
  C A is true; R is False.   **D** A is false; R is true.

Q40.Assertion: There is no such point or X - axis which are at a distance c(c < 3) from the point (2, 3).   **1 Mark**

  Reason: The distance between two points $(x_1, y_1,)$ and (x_2, y_2) is $\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

  A A is true, R is true; R is a correct explanation for A.   **B** A is true, R is true; R is not a correct explanation for A.
  C A is true; R is False.   **D** A is false; R is true.