0. Tick the correct answer:

1) A line segment is of length 10 units. If the coordinates of its one end are (1, 4) and the ordinate of the other end is -2, then its abscissa is
   a) 7, 9  b) 9, -7  c) -7, -9  d) 9, 7

2) The area of a triangle with vertices (a, b+c), (b, c+a) & (c, a+b) is
   a) (a+b+c)^2  b) 0  c) a+b+c  d) abc

3) The perpendicular bisector of the line segment joining the points A(1, 5) and B(4, 6) cuts the y-axis at
   a) (0, 13)  b) (0, -13)  c) (0, 12)  d) (12, 0)

4) If the area of a triangle formed by the points (k, 2k), (-2, 6) and (3, 1) is 20 square units, then k =
   a) 5  b) 4  c) 3/2  d) 2/3

5) The points which lie on the perpendicular bisector of the line segment joining the points A(-2, -5) and B(2, 5) is
   a) (0, 0)  b) (0, 2)  c) (2, 0)  d) (-2, 0)

6) The coordinates of the points A and B are (3, -5) & (1, -2) respectively. Then the ordinate of a point C on the line segment AB, such that \frac{AC}{AB} = \frac{4}{7}
   a) \frac{83}{7}  b) -\frac{93}{7}  c) \frac{86}{7}  d) -\frac{96}{7}

7) The perimeter of a triangle with vertices (0, 4), (0, 0) & (3, 0) is
   a) 5  b) 12  c) 11  d) 7.5

8) If the points (1, x), (5, 2) & (9, 5) are collinear, then value of x is
   a) 5/2  b) -5/2  c) -1  d) 1

9) The end points of diameter of circle are (2, 4) & (3, -1). The radius of the circle is
   a) \frac{5\sqrt{2}}{2}  b) 5\sqrt{2}  c) 3\sqrt{2}  d) \frac{\pm 5\sqrt{2}}{2}
Maths Worksheet

Class X, Chapter 7, Coordinate Geometry

1. Tick the correct answer:
   4) A line segment is of length 10 units. If the coordinates of its one end are (1, 4) and the ordinate of the other end is -2, then its abscissa is:
      a) $7, 9$     b) $9, -7$     c) $-7, 9$     d) $9, 7$

2) The area of a triangle with vertices $(a+b+c)$, $(b, c+a)$ and $(c, a+b)$ is:
   a) $(a+b+c)^2$     b) 0     c) $a+b+c$     d) abc

3) The perpendicular bisector of the line segment joining the points $A(1,5)$ and $B(4,6)$ cuts the y-axis at:
   a) $(0, 13)$     b) $(0, -13)$     c) $(0, 12)$     d) $(13, 0)$

4) If the area of a triangle formed by the points $(k, 2k)$, $(-2, 6)$ and $(3, 1)$ is $20$ square units, then $k =$:
   a) $5$     b) $4$     c) $\frac{2}{3}$     d) $\frac{2}{5}$

5) The points which lie on the perpendicular bisector of the line segment joining the points $A (-2, -5)$ and $B (2, 5)$ is:
   a) $(0, 0)$     b) $(0, 2)$     c) $(2, 0)$     d) $(-2, 0)$

6) The co-ordinates of the points $A$ and $B$ are $(3, 5)$ & $(1, 2)$ respectively. Then the ordinate of a point $C$ on the line segment $AB$, such that $\frac{AC}{AB} = \frac{4}{7}$ is:
   a) $\frac{83}{7}$     b) $\frac{83}{4}$     c) $\frac{96}{7}$     d) $\frac{96}{4}$

7) The perimeter of a triangle with vertices $(0, 4)$, $(0, 0)$ & $(3, 0)$ is:
   a) $5$     b) $12$     c) $11$     d) $7.5$

8) If the points $(1, x)$, $(5, 2)$ & $(9, 5)$ are collinear, then value of $x$ is:
   a) $\frac{5}{2}$     b) $-\frac{5}{2}$     c) $-1$     d) $1$

9) The end points of diameter of circle are $(2, 4)$ & $(2, -1)$. The radius of the circle is:
   a) $\frac{5\sqrt{2}}{2}$     b) $5\sqrt{2}$     c) $3\sqrt{2}$     d) $\frac{5\sqrt{2}}{2}$
13. Find the ratio in which the line \(x + 3y - 14 = 0\) divides the line segment joining the points \(A(-2, 4)\) and \(B(3, 7)\).

14. If the points \((p, q), (m, n)\) and \((p - m, q - n)\) are collinear, show that \(pq = qn\).

15. In what ratio does the \(x\)-axis divide the line segment joining the points \((-4, -6)\) and \((-1, 7)\)? Find the coordinates of the point of division.

16. If \(D\left(\frac{1}{2}, \frac{1}{2}\right), E(7, 3)\) and \(F\left(\frac{1}{2}, \frac{7}{2}\right)\) are the mid-points of sides of \(\triangle ABC\), find the area of \(\triangle ABC\).

17. The centre of a circle is \((2a, a - 7)\). Find the values of \(a\) if the circle passes through the point \((11, -9)\) and has diameter 10 units.

18. Find the co-ordinates of the points which divide the line segment joining \(A(5, -6)\) and \(B(-1, 8)\) into four equal parts.

19. Find the third vertex of a triangle, if two of its vertices are at \((-3, 1)\) and \((0, -2)\) and the centroid is at the origin.

20. The area of a triangle is 5 square units. Two of its vertices are \((2, 1)\) and \((3, -2)\). The third vertex lies on the line \(y = x + 3\). Find the third vertex.

21. If the points \(A(1, 2), B(2, 3), C(0, 2)\) and \(D(-1, -3)\) form a parallelogram, find the value of parallelogram taking \(AB\) as base.

22. Show that the points \((a, a), (-a, -a)\) and \((-a, a), (a, -a)\) are the vertices of an equilateral triangle. Also find its area.

23. Find the area of the quadrilateral formed by joining the points \(A(-4, 2), B(-3, -5), C(3, -2)\) and \(D(2, 3)\).

24. Name the type of quadrilateral formed, if any, by the points \(A(2, -1), B(3, 4), C(-2, 3)\) and \(D(-3, 2)\). Give reasons.

25. If \((-4, 3)\) and \((4, 3)\) are the two vertices of an equilateral triangle, find the co-ordinates of the third vertex, given that the origin lies in the interior of the triangle.

26. If the vertices of a square are \((-2, 3)\) and \((4, 3)\), find the vertices of the square.