7.COORDINATE GEOMETRY

1. For each point on X-axis, Y-coordinate is equal to _____
2. The distance of the point (3, 4) from X-axis is _____
3. The distance of the point (5, −2) from origin is _____
4. The point equidistant from the points (0, 0), (2, 0) and (0, 2) is _____
5. If the distance between the points (3, a) and(4,1) is $\sqrt{10}$, then the value of a is___
6. If the point (x, y) is equidistant from the points (2, 1) and (1, −2) then _____
7. The closed figure with vertices (−2, 0), (2, 0), (2, 2), (0, 4) and (−2, 2) is a _____
8. If the coordinates of P and Q are (acosθ, bsinθ) and (−asinθ, bcosθ) then $OP^2 + OQ^2 =$ _____
9. In _____ quadrant does the point (−3, −3) lie?
10. If the distance between (k, 3) and (2, 3) is 5 then the value of k is _____
11. _____ is the condition that A, B, C are the successive points of a line.
12. The coordinates of the point, dividing the join of the point (5, 0) and (0, 4) in the ratio 2:3 internally are _____
13. If the point (0, 0), (a, 0) and (0, b) are colinear then _____
14. The coordinates of the centroid of the triangle whose vertices are (8, −5), (−4, 7) and (11, 13) are _____
15. The coordinates of vertices A, B and C of the triangle ABC are (0, −1), (2, 1) and (0, 3). the length of the median through B is _____
16. The vertices of a triangle are (4, y), (6, 9) and (x, 4). The coordinates of its centroid are (3, 6). The values of x and y are _____
17. If a vertex of a parallelogram is (2, 3) and the diagonals cut at (3, −2). _____ is the opposite vertex.
18. Three consecutive vertices of a parallelogram are (−2, 1), (1, 0) and (4, 3). The fourth vertex is _____
19. If the points (1, 2), (−1, x) and (2, 3) are collinear then the value of x is _____
20. If the points (a, 0), (0, b) and (1, 1) are collinear the 1/a+1/b _____
21. The coordinates of the point of intersection of X-axis and Y-axis are _____

22. For each point on Y-axis, X-coordinate is equal to _____
23. The distance of the point (3, 4) from Y-axis is _____
24. The distance between the points (0, 3) and (–2, 0) is _____
25. The opposite vertices of a square are (5,–4) and (–3, 2). The length of its diagonal is _____
26. The distance between the points $(a\cos\theta + b\sin\theta, 0)$ and $(0, a\sin\theta - b\cos\theta)$ is _____
27. The coordinates of the centroid of the triangle with vertices (0, 0), (3a, 0) and (0, 3b) are _____
28. If OPQR is a rectangle where O is the origin and P(3, 0) and R (0, 4), then the coordinates of Q are _____
29. If the centroid of the triangle (a, b), (b, c) and (c, a) is 0 (0, 0) then the value of $a^3 + b^3 + c^3$ is _____
30. If (–2, –1), (a, 0), (4, b) and (1, 2) are the vertices of a parallelogram then the value of a and b are _____
31. The area of the triangle whose vertices are (0, 0), (a, 0) and (0, b) is

   _____
32. One end of a line is (4, 0) and its middle point is (4, 1), then the coordinates of the other end _____
33. The distance of the mid point of the line segment joining the points (6, 8) and (2, 4) from the point (1, 2) is _____
34. The area of the triangle formed by the points (0, 0), (3, 0) and (0, 4) is _____
35. The coordinates of the mid point of the line segment joining the points (x_1, y_1) and (x_2, y_2) are _____
36. The distance between the points $(a\cos 25^0, 0)$ and $(0, a\cos 65^0)$ is _____
37. The line segment joining points (–3, –4) and (1, –2) is divided by Y-axis in the ratio _____
38. If A (5, 3), B (11, –5) and P (12, y) are the vertices of a right angled triangle if right angled at p, then y is _____
39. The perimeter of the triangle formed by the points (0, 0), (1, 0) and (0, 1) is _____
40. The coordinates of the circumcentre of the triangle formed by the points 0(0, 0), A(a, 0) and B (0, b) is _____

ANSWERS

1) 0; 2) 4; 3) $\sqrt{29}$; 4) (1, 1); 5) 4, −2;

   6) x+3y = 0; 7) pentagon; 8) a^2+b^2; 9) 3; 10) 7; 11) AB + BC = AC;

   12) (3, 8/5); 13) ab = 0; 14) (5, 5); 15) 2; 16) −1, −5; 17) (4, −7);

   18) (1, 4); 19) 0; 20) 1;

   21) (0, 0); 22) 0; 23) 3; 24) $\sqrt{13}$; 25) 10;

   26) $\sqrt{a^2 + b^2}$; 27) (a, b); 28) (3, 4);

   29) 3abc; 30) a=1, b=3; 31) 1/2ab;

   32) (4, 2); 33) 5; 34) 6; 35) $\dfrac{x_1 + x_2}{2}, \dfrac{y_1 + y_2}{2}$

   36) a; 37) 3:1; 38) 2 or − 4; 39) 2+$\sqrt{2}$;

   40) (a/2, b/2).