Sri Raghavendra Tuition Center

Unit 5

10th Standard

Maths

Date : 23-10-24

Reg.No. :

Exam Time : 01:30 Hrs

Total Marks : 40

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Centum Book Available

I. Multiple Choice Question 5 x 1 = 5

1) The area of triangle formed by the points (−5, 0), (0, −5) and (5, 0) is

(a) 0 sq. units (b) 25 sq. units (c) 5 sq. units (d) none of these

2) If (5, 7), (3, p) and (6, 6) are collinear, then the value of p is

(a) 3 (b) 6 (c) 9 (d) 12

3) The slope of the line which is perpendicular to a line joining the points (0, 0) and (– 8, 8) is

(a) −1 (b) 1 (c) $\frac{1}{3}$ (d) -8

4) A man walks near a wall, such that the distance between him and the wall is 10 units. Consider the wall to be the Y axis. The path travelled by the man is

(a) x = 10 (b) y = 10 (c) x = 0 (d) y = 0

5) When proving that a quadrilateral is a parallelogram by using slopes you must find

(a) The slopes of two sides (b) The slopes of two pair of opposite sides (c) The lengths of all sides

(d) Both the lengths and slopes of two sides

II. Answer any Five question. 6 x 2 = 12

6) Show that the points (-2, 5), (6, -1) and (2, 2) are collinear

7) A cat is located at the point (-6, -4) in xy plane. A bottle of milk is kept at (5,11). The cat wishes to consume the milk travelling through shortest possible distance. Find the equation of the path it needs to take its milk.

8) Find the equation of a line passing through the point (3, - 4) and having slope $\frac{-5}{7}$

9) Find the equation of a straight line which has Slope $\frac{-5}{4}$ passing through the point (–1, 2).

10) Find the slope of the line which is parallel to 3x - 7y = 11

11) Find the equation of a straight line passing through the point P(-5, 2) and parallel to the line joining the points Q(3, -2) and R(-5, 4).

III. Answer any Five question. 7 x 5 = 35

12) If the points P(-1, -4), Q (b, c) and R(5, -1) are collinear and if 2b + c = 4, then find the values of b and c.

13) Find the area of the quadrilateral formed by the points (8, 6), (5, 11), (-5, 12) and (-4, 3).

14) Find the value of k, if the area of a quadrilateral is 28 sq. units, whose vertices are (–4, –2), (–3, k), (3, –2) and (2, 3)

15) If the points A(- 3, 9) , B(a, b) and C(4, - 5) are collinear and if a + b = 1 , then find a and b.

16) A quadrilateral has vertices A(- 4, - 2), B(5, - 1), C(6, 5) and D(- 7, 6). Show that the mid-points of its sides form a parallelogram.

17) Find the equation of the median and altitude of Δ ABC through A where the vertices are A(6, 2), B(-5,-1) and C(1, 9)

18) Find the equation of the perpendicular bisector of the line joining the points A(-4, 2) and B(6, -4).

All the best

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