SHIKSHA CLASSES

Subject : Geometry | **Question Paper** | **Total Marks** : 20

Class : X | **5. Co – ordinate Geometry** | **Time** : 1 Hour

Q.1: A) Choose the correct alternative from the following questions. **2**

1) Seg AB is parallel to Y – axis and coordinates of point A are (1, 3) then co-ordinates of point B can be .....

a) (3, 1) b) (5,3) c) (3,0) d) (1, –3)

2) Distance of point (–3, 4) from the origin is .....

a) 7 b) 1 c) 5 d) –5

B) Solve the following question. **1**

Find the slope of the line whose inclination is 45^0.

Q.2 A) Attempt any ONE of the following. **2**

1) Find the slopes of the lines passing through the points, L(-2,-3) and M(-6,-8)

L(–2, –3) = (x_1, y_1)

M(–6, –8) = (x_2, y_2)

Slope of line LM = $\frac{\square}{\square}$

$= \frac{-8-(-3)}{-6-(-2)} = \frac{\square}{\square}$

$= \frac{5}{4}$

2) Find the distance between the points A(2,3) and B(4,1)

Q.2 B) Attempt any ONE of the following. **2**

1) If A (3,5), B (7,9) and point Q divides seg AB in the ratio 2:3 then find co-ordinates of point Q.

2) Find the co-ordinates of a point on y-axis which is equidistant from M(–5, –2) and N(3, 2).

Q. 3 A) Attempt any ONE of the following. **3**

1) Verify, whether points P (6, -6), Q (3,-7) and R (3, 3) are collinear.

2) Find the value of K, if the points A(2,1), B (k, 3) and c(-3, -4) are collinear.

Let A(2, 1) = (x_1, y_1)

B(k, 3) = (x_2, y_2) ,

C(–3, –4) = (x_3, y_3)

The given points are collinear

$\therefore$ Slope of line AB = Slope of line BC

$$\frac{\square}{\square} = \frac{\square}{\square}$$

$$\frac{3-1}{k-2} = \frac{-4-3}{-3-k}$$

$$\frac{2}{k-2} = \frac{-7}{-3-k}$$

$$\square = \square$$

$$-2k + 7k = 14 + 6$$

$$5k = 20$$

$\therefore$ k = $\square$

Q. 3 B) Attempt any ONE of the following. **3**

1) Point p is the centre of the circle and AB is a diameter Find the co-ordinates of point B if co-ordinates of point A and P are (2, -3) and (-2, 0) respectively.

2) Show that A (-4, -7), B (-1, 2), C (8, 5) and D (5,-4) are the vertices of a parallelogram.

Q. 4 : Attempt any ONE of the following. **4**

1) The line seg AB is divided into five congruent parts at P, Q, R and S such that A –P –Q-R-S-B. If point Q (12, 14) and S(4,18) are given find the coordinates of A, P, R, B.

2) A (-3, -4), B (-5, 0), C (3,0) are the vertices of ΔABC. Find the co-ordinates of the circumcenter of ΔABC.

Q.5: Attempt any ONE of the following. **3**

1) Find the type of the quadrilateral if points A(-4,-2), B(-3, -7), C(3, -2) and D (2, 3) are joined serially.

2) Find the co-ordinates of the points of trisection of the line segment AB with

A (2,7) and B (-4, -8)

****