



VIVEK TUTORIALS

X (English)

(Special Test)

Mathematics Part - II-(5)

DATE: 21-02-19

TIME: 1 Hr

MARKS: 40

SEAT NO:

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Q.1 Multiple Choice Questions

3

- Out of the following, point lies to the right of the origin on X- axis.
a. (-2,0) b. (0,2) c. (2,3) d. (2,0)
- Point P is the midpoint of seg AB. If co-ordinates of A and B are (-4, 2) and (6, 2) respectively then find the co-ordinates of point P.
a. (- 1, 2) b. (1, 2) c. (1, - 2) d. (- 1, - 2)
- 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)

Q.2 Solve the following

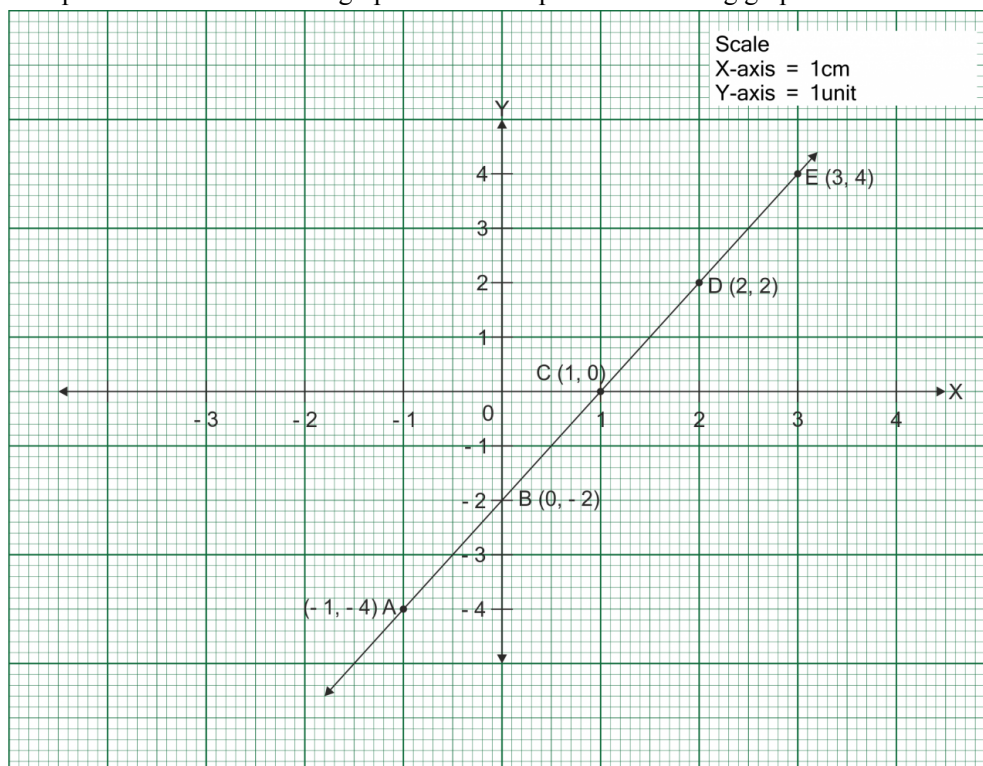
4

- Find the distance between each of the following pairs of points.
P (- 5, 7), Q (- 1, 3)
- Find the distance between each of the following pairs of points.
R (0, - 3), S $\left(0, \frac{5}{2}\right)$

Q.3 Attempt the following

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- Complete the table below the graph with the help of the following graph.



Write your observation from the table.

Sr.	First	Second	Co-ordinates of first point (x_1 ,	Co-ordinates of second point (x_2 ,	
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No.	point	point	y_1	y_2	$\frac{y_2 - y_1}{x_2 - x_1}$
1	C	E	(1, 0)	(3, 4)	$\frac{\quad}{\quad} = \frac{\quad}{\quad}$
2	A	B	(-1, -4)	(0, -2)	$\frac{\quad}{\quad} = \frac{\quad}{\quad}$
3	B	D	(0, -2)	(2, 2)	$\frac{\quad}{\quad} = \frac{\quad}{\quad}$

\therefore For any two points (x_1, y_1) and (x_2, y_2) on a line graph, the ratio $\frac{y_2 - y_1}{x_2 - x_1}$ is always constant.

- 2 Angles made by the line with the positive direction of X-axis are given. Find the slope of these lines. 45°

Here $\theta = 45^\circ$

\therefore slope of the line = $\frac{\quad}{\quad}$
 $= \tan \quad^\circ$
 $= \quad$

Q.4 Answer the following

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- Find k, if B(k, -5), C(1, 2) and slope of the line is 7.
- Write the equation of a line passing through the point (-3, -1) and having slope $\frac{2}{3}$.
- If the slope of the line joining points (k, -3) and (4, 5) is $\frac{1}{2}$, then find the value of k.

Q.5 Solve the following

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- Find the equation of the line passing through (2, -1) and parallel to $3x + 4y = 10$.
- Find the point on the X-axis which is equidistant from A (-3, 4) and B (1, -4).
- Find the ratio in which point P (k, 7) divides the segment joining A (8, 9) and B (1, 2). Also find k.

Q.6 Answer the following

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- Find the equation of the straight line passing through the origin and the point of intersection of the lines $x + 2y = 7$ and $x - y = 4$.
- In the following examples, can the segment joining the given points form a triangle? If triangle is formed, state the type of the triangle considering sides of the triangle. L (6,4), M (-5,-3), N (-6,8)

Q.7 Answer the following

6

- Show that the line joining the points A (4, 8) and B (5, 5) is parallel to the line joining the points C (2,4) and D (1,7).
- In each of the following examples find the co-ordinates of point A which divides segment PQ in the ratio a : b.
P (-3, 7), Q (1, -4), a : b = 2 : 1