MATHS

BOOKS - NAVBODH MATHS (HINGLISH)

COORDINATE GEOMETRY

6 1 1 Mark Each

1. Distance of point (-3,4) from the origin is .....

A. 7

B. 1

C. 5

D. 4

Answer: C

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2. Seg AB is parallel to the Y-xais and coordinates of the point A are

(1,3) then coordinates of the point B each can be _ _ _ _ _ _ _ _

A. (3,1)

B. (5,3)

C. (3,0)

D. (1,-3)

Answer: D

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3. If P is the midpoint of line segment AB with A(-4 ,2) and B(6m2)

then coordinates of the point P are _ _ _ _ _ _ _

A. (1,2)

B. (2,1)

C. (2,0)

D. (0,2)

Answer: A

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4. The line segment joining the points (-3,-4) and (1, -2) is

divided by Y-axis in the ratio.

A. $2:3$

B. $3:2$

C. $3:1$

D. 1:3`

Answer: C

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5. If point P(-4,6) divides the line segment AB with A(-6,10) in the ratio $2:1$, then coordinates of the point B are

- - - - - - - -

A. (4,3)

B. (3,-4)

C. (3,4)

D. (-3,4)

Answer: D

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6. The slope of X-axis is _ _ _ _ _ _

A. 1

B. 0

C. undefined

D. none of these

Answer: B

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7. The slope of line joining point P(-1,1) and Q (5,-7) is _ _ _ _ _ _ _ _

A. $-\frac{4}{3}$

B. 16

C. -3

D. -2

Answer: A

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8. The distance between the point $P(-1, 1)$ and $Q(5, -7)$ is _____

A. 11

B. 10

C. 5

D. 7

Answer: B

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9. $A(4, 8), B(5, 5), C(2, 4)$ and D (1,7) are the vertices of the parallelogram .

Find the coordinates of the point of intersection of its diagonals .

A. (6,12)

B. (12,6)

C. (3,6)

D. (6,3)

Answer: C

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6 2 1 Mark Each

1. If L(5,-8) and M (-7,-3) then the distance between points

L and M is _ _ _ _ _ _

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2. Write the coodinates of midpoint of the segment joining (4,5) and (12,15).

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3. Write is the slope of the line which makes an angle of 60° with positive direction of X-axis .

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4. Wrtie the slope of X-axis and Y-axis .

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5. Wrtie down the coordinates of centroid of the triangle whose vertices

(4,7),(8,4) and (7,11).

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6 3 1 Mark Each

1. Determine whether the points A(1, -3) , B(2,-5) and

C(-4,7) are collinear or not .

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

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3. find the coordinates of poiny P, iff P divides the line segment

joining the point A(-2,7) and B(4,-3) in the ratio $2:3$.

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4. Find the ratio in which point P (k,7) divides the segment joining

A(8,9) and B(1,2) .

5. Find the coordintes of the midpoint of the segment joining

P(0,6) and Q (12 ,20).

6. Find the centroids of the triangles whose vertices have the coordinates $(-7, 6)(2, -2)$ and (8,5).

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7. Find k, If B (k, - 5), C (1,2) and slope of the line is 7.

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8. Find the slope of a lline passing through the point A(3,1) and B (5,3) .

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9. Find k, if PQ $||$ RS and P(2,4), Q (3,6), R (3,1), S(5,k).

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10. If P (-6,-3) and Q (-1, 9), then complete the following

acitvity to find PQ .

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11. The angle made by a line with the positive direction of X-axis is

45° . Complete the following activity to find the slope of the line .

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12. Complete the table below the graph with the help of the following graph Write your observation from the table .

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6 4 1 Mark Each

1. Show that the points (2,0), (-2,0) and (0,2) are the vertices of

a triangle. Also state with reason the type of the triangle .

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2. Find the point on the X-axis which is equidistant from (-3,4) and B(1,-4).

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3. Show that the points A(1,2),B(1,6), $C\left(1+2\sqrt{3}, 4\right)$ are the vertices of an equilateral triangle .

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4. A(h,-6),B(2,3) and C(-6,k) are the coordinates of vertices of a triangle whose centroid is G(1,5). Find h and k.

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5. Using slope concept , determine whether R(1,-4), S(-2,2)

and T(-3,4) are collinear or not .

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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).

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7. Given A(4,-3) ,B (8,5) . Find the coordinates of the point that

divides segment AB in the ratio $3:1$

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8. Find the ratio in which point P(6,7) divides the segment joining

A(8,9) and B(1,2) by completing the following activity .

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9. If the points A(-4, -2) , B (-3,-7) , C(3,-2) and D(2,3) are

joined serially , find the type of quadrilateral ABCD by completing

the following activity.

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6 5 1 Mark Each

1. Find the coordinates of centre of the circle passing through the points P(6,-6),Q (3,-7) and R(3,3)

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2. Show that points P(2,-2) , Q (7,3) ,R(11,-1) and S(6,-6) are vertices of a parallelogram.

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3. Find the lengths of the medians of triangle whose vertices are

A (-1,1) , B (5,-3) and C (3,5).

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Assignment 6 1

1. The distance between the point (-6,8) and the origin is _ _ _ _ _ _

A. 11

B. 10

C. 5

D. 7

Answer: B

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2. A line makes an anlge of 30° with the positive direction of X-axis.

So the slope of the line is _ _ _ _ _ _ _ _

A. $\frac{1}{2}$

B. $\frac{\sqrt{3}}{2}$

C. $\frac{1}{\sqrt{3}}$

D. $\sqrt{3}$

Answer: C

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3. If the slope of a line is $\sqrt{3}$, the angle made by the line with the positive direction of X-axis is _ _ _ _ _ _

A. 60°

B. 30°

C. 45°

D. 90°

Answer: A

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4. A(4,7) and B (2,1), P(3,a) is the midpoint of seg AB, then the value of a is _ _ _ _ _ _

A. 4

B. 8

C. 6

D. 3

Answer: A

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5. The sum of the x-coordinates of the vertices of the triangle is 15 and

that of y-coordinates is 21. The coordinates of centroid are _ _ _ _ _ _ _

A. (15,21)

B. (5,7)

C. (21,15)

D. (7,5)

Answer: B

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6. The slope of segment joining the points (2,k) and (-4,2) is $\frac{1}{2}$.

Find the value of k .

A. 2

B. 3

C. -4

D. 5

Answer: D

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7. If A (1,3),B(-1,2),C(2,5) and D(x,4) the vertices of $\square ABCD$ them find the value of x .

A. 0

B. 5

C. 6

D. 7

Answer: A

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Assignment 6 2

1. If $W\left(\frac{-7}{2}, 4\right)$ and X(11,4) then the distance between points W and X is _ _ _ _ _ _ _ _ _ _

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2. Write the slope of line passing through P(-3,1) and Q(5-2).

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3. Write the coordinates of controid of the triangle passing through

(3,-5),(4,3) and (11,-4)

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4. What is the slope of the line parallel to X-axis ?

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5. What is the slope of the line perpendicular to X-asis?

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Assignment 6 3

1. Find the slope of line passing through L(-2,-3) and M(-6,-8).

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2. Find the slope of the line, which makes an angle of $30o$ with the positive direction of yaxis measured anticlockwise.

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3. Write the coordinates of controid of the triangle passing through

(3,-5),(4,3) and (11,-4)

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4. If P(-2,-5) and Q(4,3) and point R divides the segment PQ is

the ratio $3:4$ then find the coordinates of points R.

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5. Find x,if distance between L (x,7) and M(1,15) is 10.

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6. Point P is the centre of the circle and AB is a diameter . Find the coordinates of point B. If coordinates of point A and Pare (2,-3) and (-2,0) respectively .

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7. In which ratio .Y-axis divides the segment joining the points A(5,-6) and B(-1,-4).

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8. Point C lies on a segment joining the points A(1,1) and B(2,-3)

and 3AC = BC . Find the coordinates of point C ,

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Assignment 6 4

1. Show that point (0,9) is equidistant from point (-4,1) and (4,1)

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2. Examine whethere point (3,3),(-4,-1) and (3,-5) are the vertices of an isosceles triangle .

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3. Using slope concept, show the points P(3,0),Q(6,-2) and R(-3,4) are colinear.

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4. Show that points A(-5,4),B(-2,-2) and C(3,-12) are colinear using distance formula .

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5. Given that A(-3,8) and B(-5,8)

Find the coordinates of midpoint of AB .

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6. Given that A(-3,8) and B(-5,8)

State the y-coordinate of point A and B

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7. Given that A(-3,8) and B(-5,8)

With your observation from , determine to which axis will

segment AB be parallel ?

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8. Two vertices of a triangle are $(3, -5) and (-7, 4)$. If its centroid is $(2, -1)$, find the third vertiex.

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9. Find a relation between x and y such that the point (x, y) is equidistant from the points $(3, 6)$ and $(-3, 4)$

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10. Point P divides the line segment joining the points A(-1,3) and B(9,8) such that $\frac{AP}{BP} = \frac{k}{1}$. If P lies on the line $x - y + 2 = 0$, find k.

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11. Do the points joining L(6,4), M(-5,-3) and N(-6,8) from a triangle ? Mention the type of triangle so formed .

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12. If the points $A(-1, -4)$, $B(b, c)$ and $C(5, -1)$ are collinear and $2b + c = 4$, find the values of b and c .

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13. Verify whether P(-2,2) , Q(2,2) and R(2,7) are the vertices of a

right angled triangle or not by completing the following acitvity.

$$PQ = \sqrt{[2-(-2)]^2 + (2-2)^2} = \square \text{ ...(1)}$$

$$QR = \sqrt{(2-2)^2 + 97-2}^2) = 5 \text{ ...(2)}$$

$$PR = \sqrt{[2-(-2)]^2 + (7-2)^2} = \square \text{ ...(3)}$$

from (1),(2),(3)

$$PR^2 = \square, QP^2 + QR^2 = \square$$

$$\therefore PR^2 \square PQ^2 + QR^2 [= \text{ or } \neq]$$

$\therefore \triangle$ PQR $\square$ a right angled triangle [is /is not]

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Assignment 6 5

1. Show that points A (-4, -7), B (-1,2) , C (8,5) and D(5,-4)

are the vertices pf rhomus ABCD.

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2. If A(-14,-10) , B (6,-2) is given . Find the coordinates of points

which divide segment AB into four equal points .

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3. A (-2,-1) , B (1,0), C (4,3) and D (1,2) are the vertices of

□ ABCD then

Using midpoint formula , find the coordinates of midponts of join

of A and C .

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4. A (-2,-1) , B (1,0), C (4,3) and D (1,2) are the vertices of

□ ABCD then

Using midpoint formula , find the coordinates of midpoints of

join of B and D .

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5. A (-2,-1) , B (1,0), C (4,3) and D (1,2) are the vertices of

□ ABCD then

Using midpoint formula , find the coordinates

of midpoints of

join of B and D .

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6. If the points $A(6,\ 1),\ B(8,\ 2),\ C(9,\ 4)$ and $D(k,\ p)$ are the vertices of a parallelogram taken in order, then find the values of k and p .

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7. If the point P(x, y) be equidistant from the points A(a + b, b - a) and B(a-b,a+b) , then prove that $bx = ay$

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8. $A(4, 2)$, $B(6, 5)$ and $C(1, 4)$ are the vertices of ABC . The median from A meets BC in D . Find the coordinates of the point D .

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9. A(4,2), B(6,5) and C(1,4) are the vertices of $\triangle ABC$

Find coordinates of points P on AD such that $AP:PD=2:1$.

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10. $A(4,\ 2),\ B(6,5)$ and $C(1,\ 4)$ are the vertices of ABC. Find the coordinates of the points Q and R on medians BE and CF

respectively such that $BQ:QE=2:1$ and $CR:RF=2:1$. What do you observe?

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11. A(4,2), B(6,5) and C(1,4) are the vertices of $\triangle ABC$ Using centroid formula , find coordinates of centroid G .

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12. Show that the points P(2,1), Q(-1,3) , R (-5,-3) and

S (-2,-5) are the vertices of a square .

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13. If (7,-6), (2,k) and (h,18) are the vetices of a triangle and

P(1,5) is the centroid , then find the values of h and k .

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