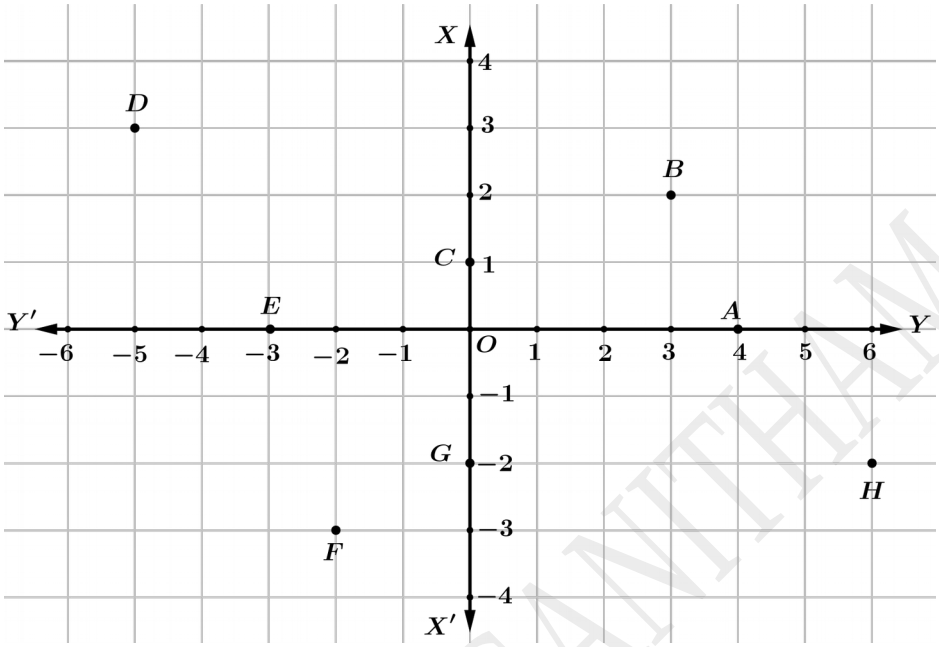
WANDOOR GANITHAM SSLC MATHEMATICS STUDY MATERIAL : 2023

COORDINATES

QUESTION - 1



Write the coordinates of the points given in the figure .

O , A , B , C , D . E , F . G , H

QUESTION - 2

Complete the following table using the following points .

$(1,2)$, $(4,1)$, $(0,0)$, $(3,2)$, $(4,3)$, $(0,4)$, $(5,0)$

Point	Coordinates
Origin	.....
Point on the x axis other than the origin	.....
Point on the y axis other than the origin	.....
Points on a line parallel to the x axis	.....
Points on a line parallel to the y axis	.....

QUESTION - 3

a) What are the coordinates of the origin ?

b) What is the x coordinate of the points on the y axis ?

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c)Write the coordinates of the point at which the line parallel to the *x* axis passing through (2 , 3) cuts the *y* axis ?

d) If (10 , *n*) is a point on the line parallel to the *x* axis passing through (2 , 3) , what is the value of *n* ?

QUESTION – 4

A circle is drawn with origin as centre and radius 10 .

a) Write the coordinates of the points at which the circle cuts the *x* axis .

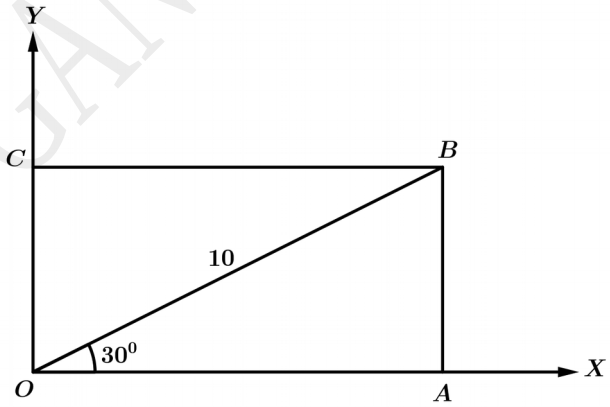
b) Write the coordinates of the points at which the circle cuts the *y* axis .

c) What is the *y* coordinate of a point on this circle if its *x* coordinate is 8 .

QUESTION - 5

In the figure OABC is a rectangle .

OB = 10 centimetres , ∠ AOB = 30^0 .

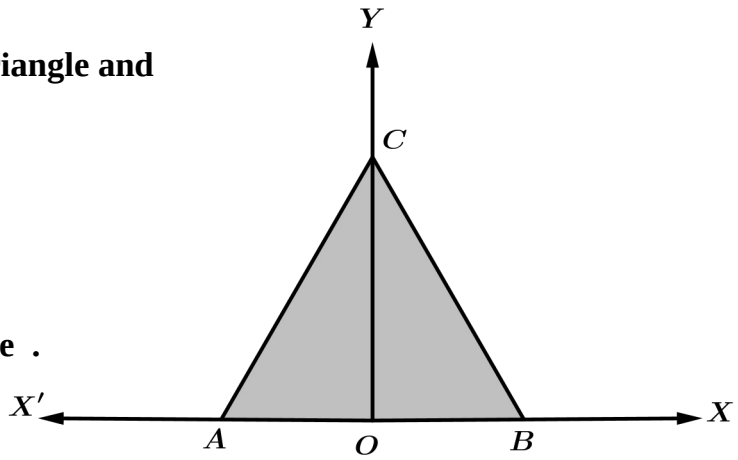


a) What is the measure of ∠ OBA ?

b) Write the coordinates of the vertices of the rectangle .

QUESTION - 6

In the figure ABC is an equilateral triangle and its perimeter 18 centimetres



a) What is the length of AB ?

b) Write the coordinates of the triangle .

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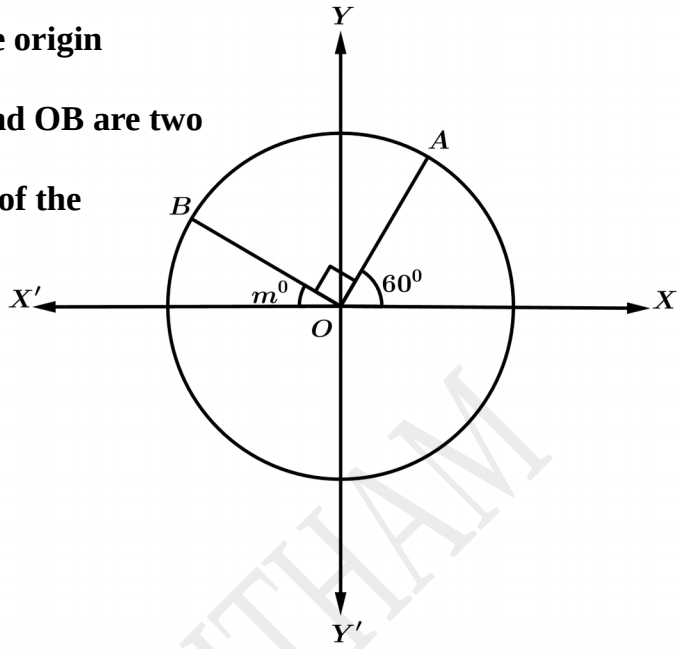
QUESTION - 7

In the figure the centre O of the circle is the origin and A , B are points on the circle . OA and OB are two perpendicular radii of the circle .Perimeter of the circle is 12π centimetres.



a) Write the coordinates of the origin .

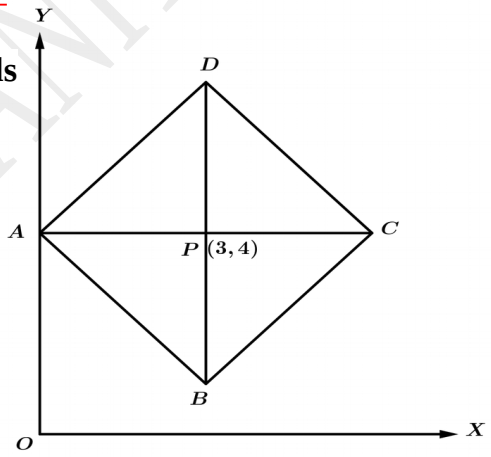
b) What is the length of OA ?

c) What is the value of *m* ?

d) Calculate the coordinates of A and B .

QUESTION – 8

In the figure , ABCD is a rectangle and its diagonals intersect at a point P (3 , 4) . The diagonals are parallel to the coordinate axes .

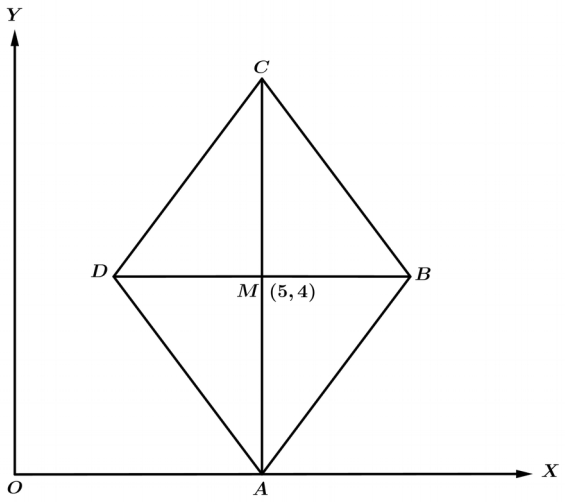


a) Compute the length of a diagonal .

b) What are the coordinates of the square ?

QUESTION – 9

In the figure , ABCD is a rhombus and its diagonals intersect at a point M (5 , 4) . The diagonals are parallel to the coordinate axes . Area of the rhombus is 24 square centimetres .



a) What is the length of the diagonal AC ?

b) What are the coordinates of the rhombus ?

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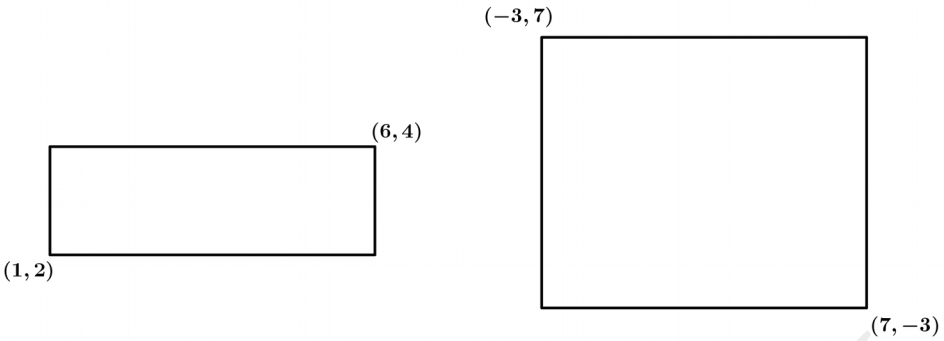
QUESTION – 10



All the rectangles above have sides parallel to the axes . Find the coordinates of the remaining vertices of each .

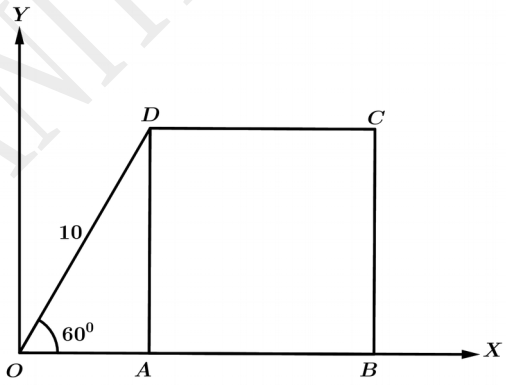
QUESTION – 11

In the figure , the sides of the square ABCD are parallel to the axes . ∠ AOD = 60^0 ,

OD = 10 centimetres .

a) What is the length of a side of the square ?

b) What are the coordinates of the square ?



QUESTION – 12

a) Draw the axes and mark the following points

$A(-3,1)$, $B(6,1)$, $C(5,4)$, $D(0,4)$

b) Write the most suitable name for the quadrilateral ABCD .

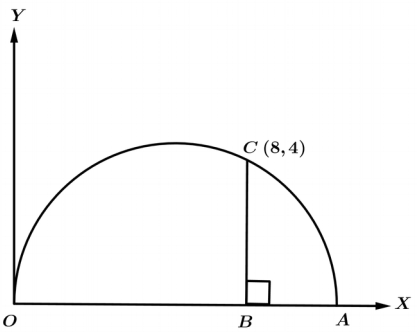
c) What is the perpendicular distance from C to its opposite side ?

d) Calculate the area of the quadrilateral .

QUESTION – 13

In the figure OA is the diameter of the semicircle .

B is a point on the diameter . The perpendicular drawn through B to the diameter meets the semicircle at C .



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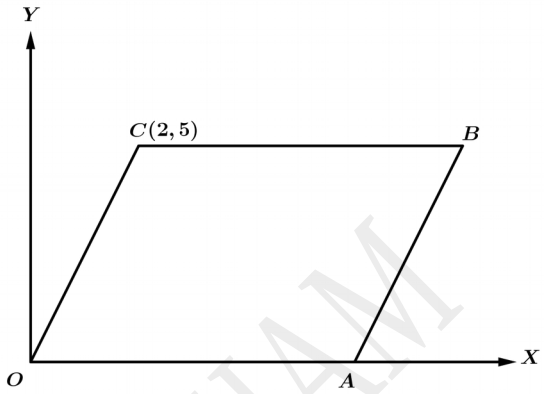
a) What are the lengths of the lines OB and BC ?

b) Write the coordinates of O , A and B .

QUESTION – 14

In the figure OABC is a parallelogram and its area is 40 square centimetres .



a) What is the perpendicular distance from C to its opposite side ?

b) What is the length of OA ?

c) Write down the coordinates of the vertices O , A and B .

QUESTION – 15

The vertices of a triangle are $A(2\,,\,1)$, $B(10\,,\,5)$ and $C(4\,,\,7)$

a) What is the length of AB ?

b) Prove that ABC is an isosceles right triangle .

QUESTION – 16

The vertices of a triangle are $O(0\,,\,0)$, $A(2\,,\,0)$ and $B(1\,,\,\sqrt{3})$.

a) What is the length of OA ?

b) Prove that OAB is an equilateral triangle .

QUESTION – 17

A circle of radius 13 is drawn with the origin as the centre .

a) Find the coordinates of the points at which the circle cuts the axes .

b) If a point with coordinates (m,n) is a point on this circle ,prove that $m^2 + n^2 = 169$

c) Check whether each of the points with coordinates $(4,11)$, $(5,12)$, $(7,11)$ is inside , outside or on this circle .

d) Write the coordinates of 4 points on this circle which are not on the axes .

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QUESTION – 18

A point with coordinates (4 , 5) is a point on the circle centred on the point with coordinates (2 , 2) .

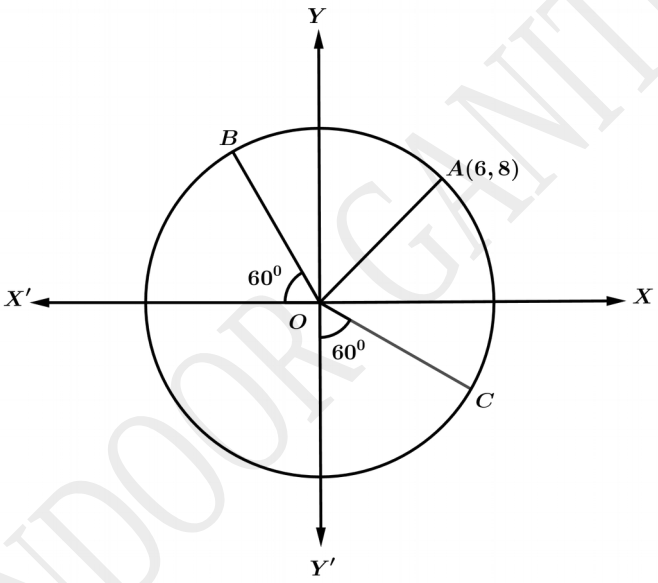
a) What is the radius of the circle ?

b) Check whether a point with coordinates (5 , 0) is a point on this circle or not .

c) What are the coordinates of the point at which the circle cuts the *y* axis ?

d) What are the coordinates of the point at which the circle cuts the *x* axis ?

QUESTION – 19



In the figure origin is the centre of the circle and A , B , C are the points on it .

Coordinates of A are (6 , 8) .

a) What is the radius of the circle ?

b) What are the coordinates of O , B and C ?

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