

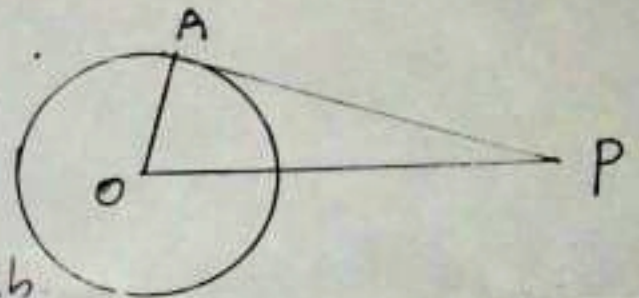
Questions 1-4 carry 1 mark each.

1. In a right triangle, the smallest angle is 30° and the smallest side is 6 cm. Find the length of the largest side.

2. A man sees the top of a tree which is 10 m away from him at an angle of elevation 45° . What is the height of the tree?

3. The y coordinate of any point on a line parallel to X axis and passing through the point (2, 5).

4. In the figure PA is tangent to the circle. What is $\angle A$?



Questions 5-7 carry 2 mark each.

5. $(-3, 4)$ is a point on a circle centred at the origin. Find the radius of the circle. Also find the coordinates of the points where the circle cuts the y-axis.

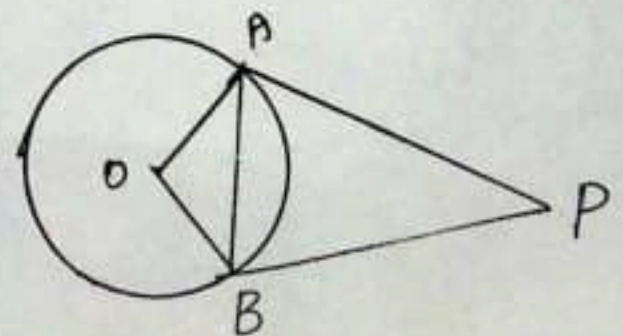
6. The sides of a rectangle are parallel to the coordinate axes. The coordinates of two opposite vertices are $(2, 8)$ and $(6, 1)$. Draw the figure and find the coordinates of other two vertices.

7. In $\triangle ABC$, $\angle A = 90^\circ$, $\angle B = 45^\circ$, $AB = 2$ cm. Find
 (i) $\angle C$ (ii) AC (iii) Area of $\triangle ABC$

Questions 8-11 carry 3 mark each.

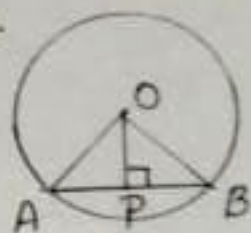
8. Prove that $P(4, 5)$, $Q(4, 2)$ and $R(8, 2)$ form a right triangle.

9. In the figure AB is a chord. PA, PB are tangents drawn through the ends of the chord. If $\angle APB = 50^\circ$. Find (i) $\angle AOB$ (ii) $\angle OAB$
 (iii) $\angle PAB$



10 Draw a circle of radius 3 cm and construct two parallel tangents on it.

11 AB is a chord of a circle with centre O. $\angle AOB = 60^\circ$, $AB = 6$ cm. Find (i) $\angle OAB$ (ii) AP (iii) Diameter of the circle.



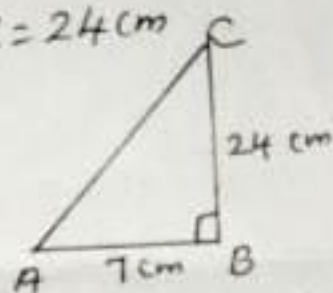
Questions 12-13 carry 4 mark each.

12. Draw the X, Y coordinate axes and mark the points L (-3, 2), M (5, 2), N (1, 5). Join these points using line segments. Give suitable name for the figure thus got.

13. In the figure $\angle B = 90^\circ$, $AB = 7$ cm, $BC = 24$ cm

(a) If $\sin A = \frac{24}{k}$, Find k

(b) Find $\cos C$ and $\sin C$



Questions 14-15 carry 5 mark each.

14 Draw a circle of radius 3.5 cm. Draw a triangle with two angles 50° , 70° and the sides of the triangle touching the circle.

15. A tower is built in a river of width 80 m. One sees the top of the tower at an elevation of 60° and 30° from either banks of the river.

a) Draw a rough figure using the measurements.

(b) Find the distances from the water level of river to the top of the tower.

(c) Find the distances to either banks from the foot of the tower.