

**DEPARTMENT OF GENERAL EDUCATION
DIET ERNAKULAM
VAIBHAVAM 2021
SSLC ACADEMIC SUPPORT**

MATHEMATICS

T13

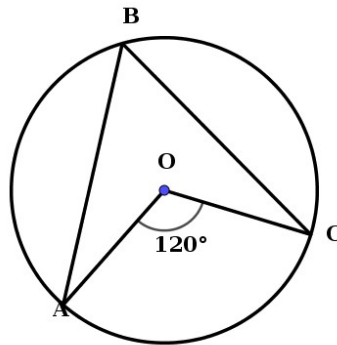
**Time : 45 Minutes
Marks : 20**

Instructions

*** Answer the maximum of 10 questions within the time**

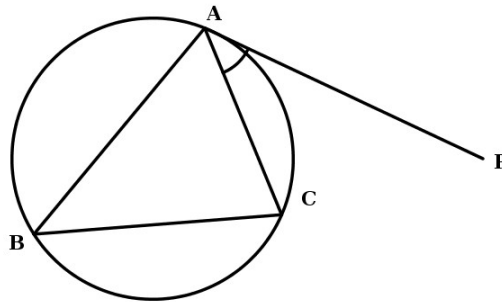
*** Write the steps required to reach the answer should write on the paper**

1. In the figure O is the centre of the circle. If $\angle AOC = 120^\circ$, What is $\angle B$?



(1 mark)

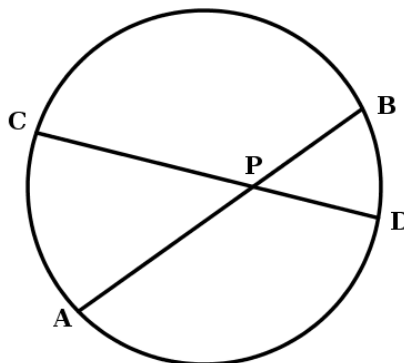
2. In the figure PA is a tangent to the circle . Write angle which is equal to $\angle PAC$.



(1 mark)

3. Chords AB , CD intersect at P . AB = 10 cm , PB = 4 cm , PD = 3 cm

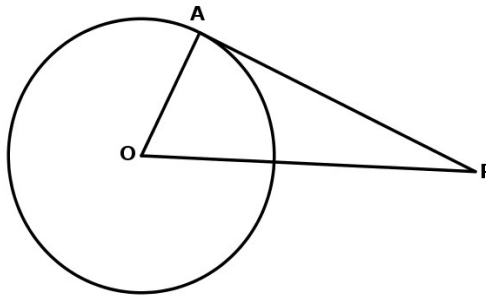
- a) What is the length of PA?
b) Find the length of PC.



(2 Marks)

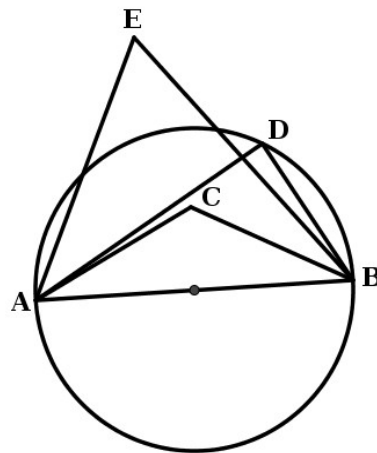
4. In the figure PA is the tangent to the circle.

- a) What is $\angle OAP$?
 b) If $OA = 6 \text{ cm}$, $OP = 10 \text{ cm}$,
 Find the length of the tangent .



(2 marks)

5. In the figure AB is the diameter of the circle and D is a point on the circle.
 $\angle ACB + \angle ADB + \angle AEB = 270^\circ$ and the measure of one of these angles is 110° ,
 Find $\angle ADB$, $\angle ACB$, $\angle AEB$.



(3 marks)

6. Draw a circle of radius 3 cm . Mark a point P 7 cm away from the centre of the circle. Draw tangents from P to the circle . Write the length of the tangent.

(3 marks)

7. The circumradius of triangle ABC is 3.5 cm . $\angle A = 50^\circ$, $\angle B = 60^\circ$, draw the triangle.

(4 marks)

8. Draw a rectangle of sides 4 cm , 3 cm and construct a square of area equal to that of the rectangle.

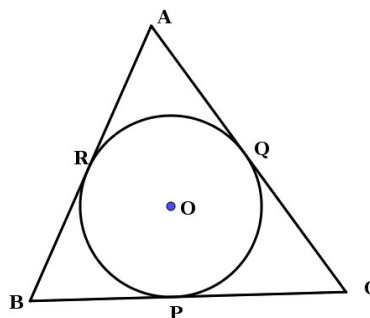
(4 marks)

9. Draw a rectangle of sides 5 cm , 4cm . Draw a rectangle of same area with one side 6 cm

(5 marks)

10. The circle with centre O touches the triangle at P, Q, R . $AB = AC$, $AQ = 4 \text{ cm}$, $CQ = 6 \text{ cm}$.

- a) Find the length of CP , AC
 b) Find the length of AP
 c) Find the perimeter and area of the triangle
 d) Find the radius of the circle



(5 marks)