S·4 TEST

CIRCLE PROPERTIES.

TIME: 60 MINUTES

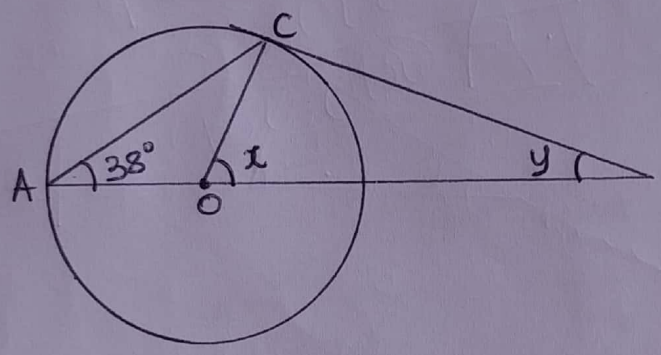
INSTRUCTIONS

→ Answer all questions in section A and any two from section B.

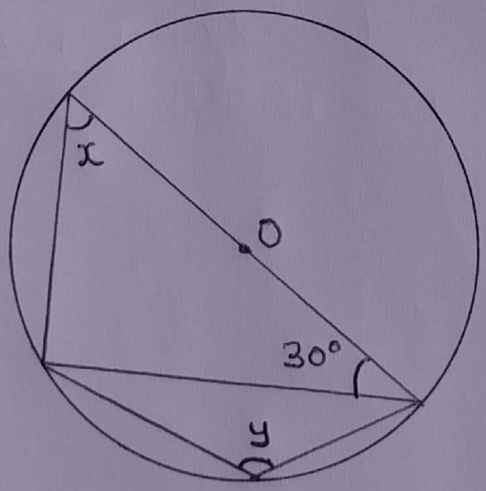
SECTION A (16 marks)

Answer all the questions in this section.

1. Given that O is the centre of the circle and TC is a tangent to the circle at C. Angle OAC = 38°. Determine the size of angle x and y. (4 marks)

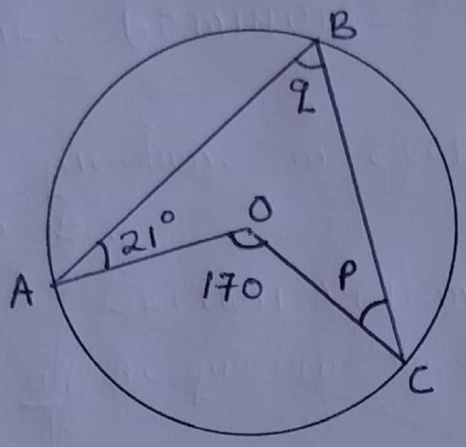


2. In the figure below, O is the centre of the circle.

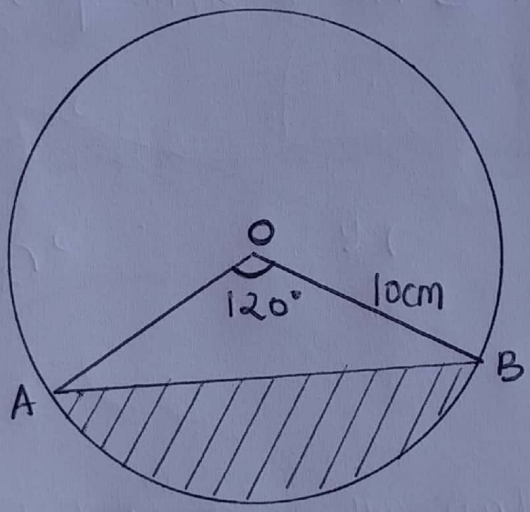


Find angle x and y.

3. In the figure below, O is the centre of the circle. Find the values of the angles p and q given that angle BAO = 21° and angle AOC = 170°.



4. O is the centre of the circle with radius 10cm. Angle AOB = 120°.

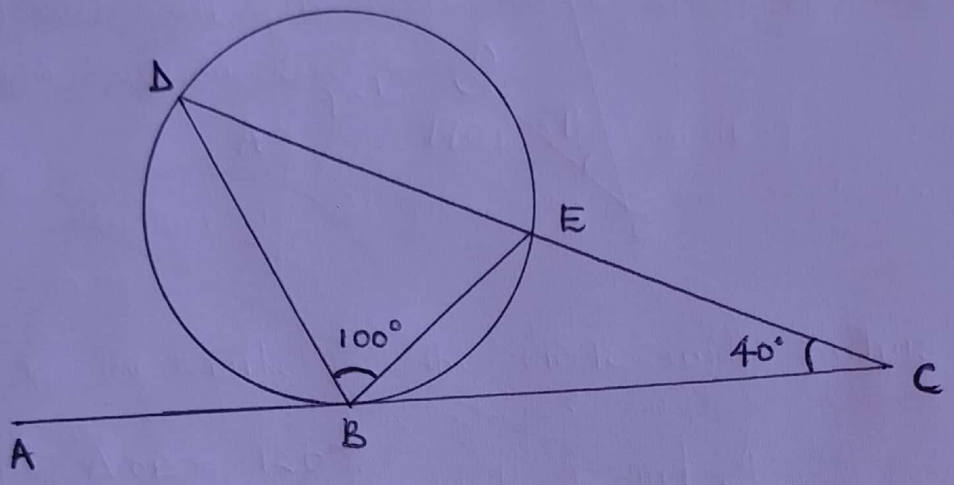


Calculate the area of the shaded part.

SECTION B (24 marks)

Attempt only two questions from this section.

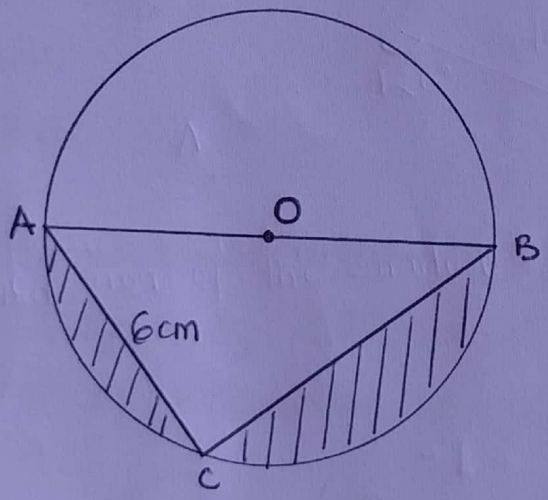
5a) In the figure below, ABC is a tangent to the circle, angle EBD = 100°, angle DCB = 40°.



(05 marks)

Find the angle ABE.

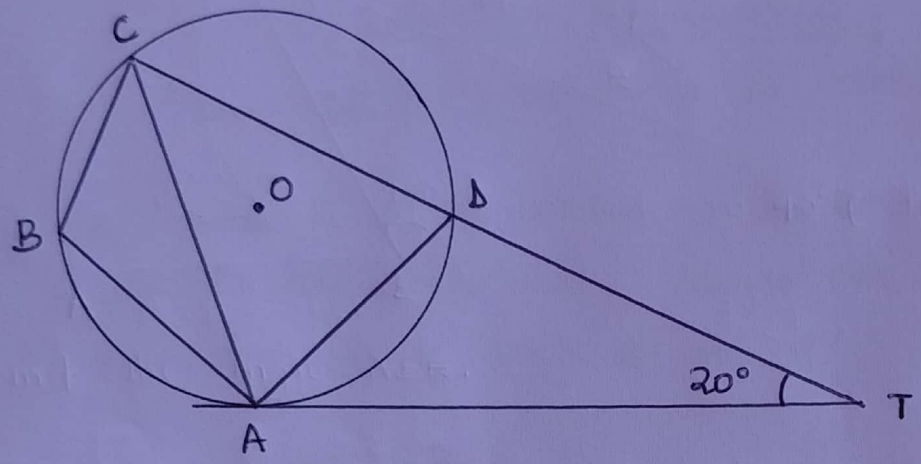
b) The diagram below shows a circle of radius 5cm and centre O.



If AC = 6cm, find the total area of the shaded part.

6a) The windscreen wiper of Mr. Kasolo's car sweeps through an angle of 150°, the blade of the wiper being 28cm long and the radius of the unswept sector is 7cm. What area of the glass is swept clean?

b) In the diagram below, AT is a tangent to the circle ABCD with O as its centre.

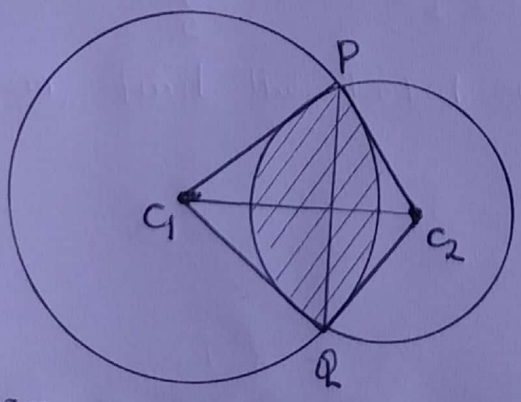


Given that angle ATD is 20° and angle DAT is twice angle CAD. Find;

(i) Angle DAT

(ii) Angle ABC. (12 marks)

7. The figure below shows intersecting circles whose centres are C_1 and C_2. $QP = 3cm$, $\angle PC_1M = 30°$ and $\angle PC_2M = 43°$. M is the point of intersection of PQ and C_1C_2.



Find the area of the shaded part.