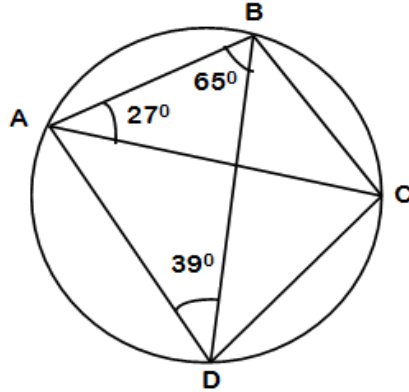


FORM 2 ANGLE PROPERTIES OF A CIRCLE MR. STEPHEN OGANA

SECTION A QUESTIONS

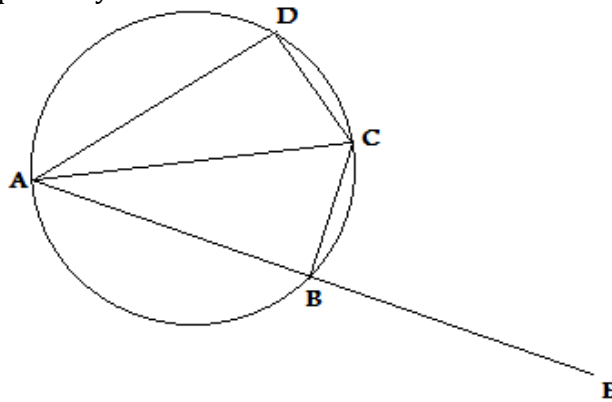
1. In the figure below, angle $CAB=27^\circ$, angle $ABD= 65^\circ$ and angle $ADB= 39^\circ$.



Find the size of $\angle CBD$

(3marks)

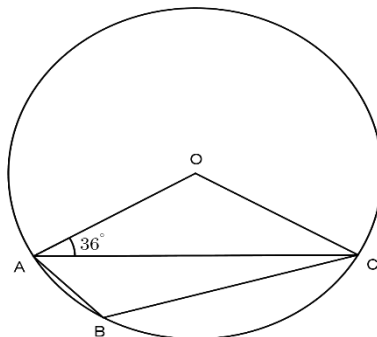
2. In the figure below, ABCD is acyclic quadrilateral. Angle DAC , angle ACB and angle CBE are 35° , 60° and 95° respectively.



Determine the size of angle DAB .

(3 marks)

3. In the figure below O is the centre of the circle and $\angle OAC = 36^\circ$. Find $\angle ABC$ (3 marks)

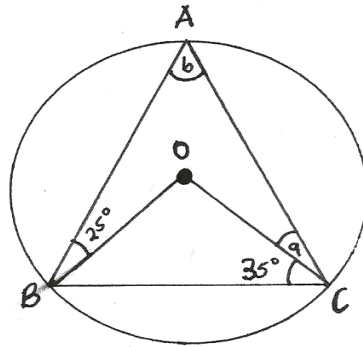


4. In the following figure, O is the centre. Find a and b

(2marks)

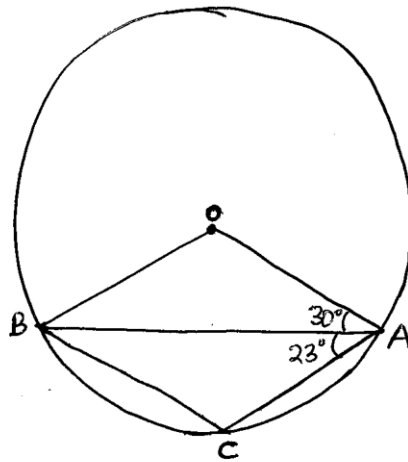
a _____

b _____

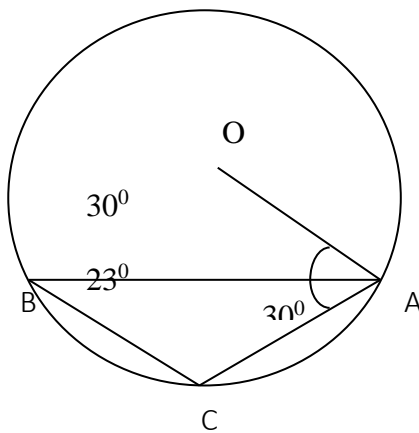


5. In the figure below, O is the centre of the circle. Angle OAB = 30° and angle BAC = 23°. Find angle ABC.

(3 Marks)

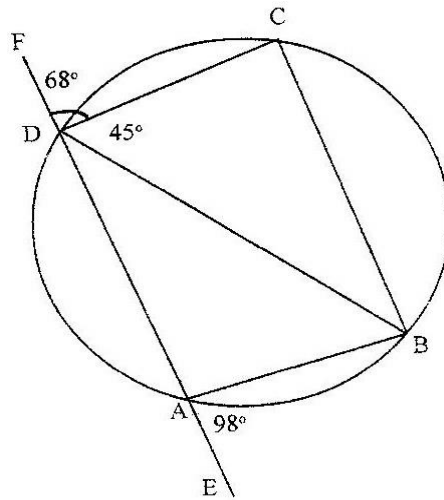


6. In the figure below, O is the centre of the circle. Angle OAB = 30° and angle BAC = 23°. Find angle ACB.



(3 marks)

7. In the figure below, ABCD is a cyclic quadrilateral and BD is a diagonal. EADF is a straight line. $\angle CDF = 68^\circ$, $\angle BDC = 45^\circ$ and $\angle BAE = 98^\circ$.



Calculate the size of

(a) $\angle ABD$

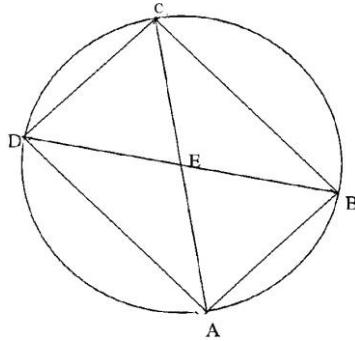
(2 marks)

(b) $\angle CBD$

(2 marks)

SECTION B QUESTIONS

1. In the figure **below**, ABCD is a cyclic quadrilateral and angle ABD = 42° , angle BAC = 58° and angle DBC = 36°



Giving reasons, find the value of:

(a) Angle DAC (2marks)

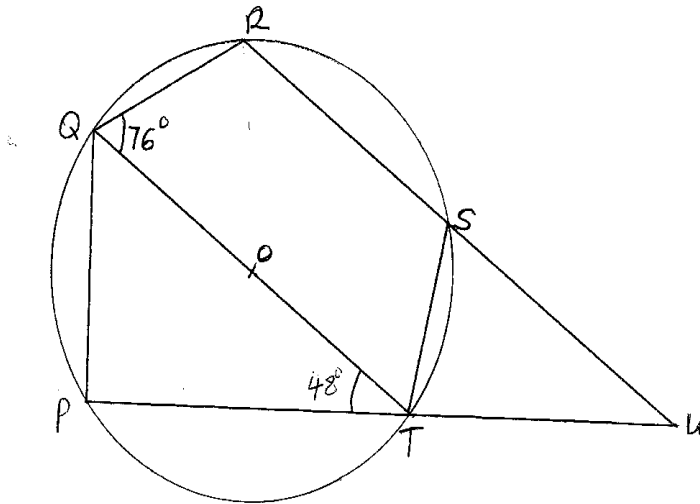
(b) Angle ADB (2marks)

(c) Angle ACD (2marks)

(d) Angle CDB (2marks)

(e) Angle CEB (2marks)

2. In the figure below QOT is a diameter. $\angle QTP = 48^\circ$, $\angle TQR = 76^\circ$ and $\angle SRT = 37^\circ$



Calculate:

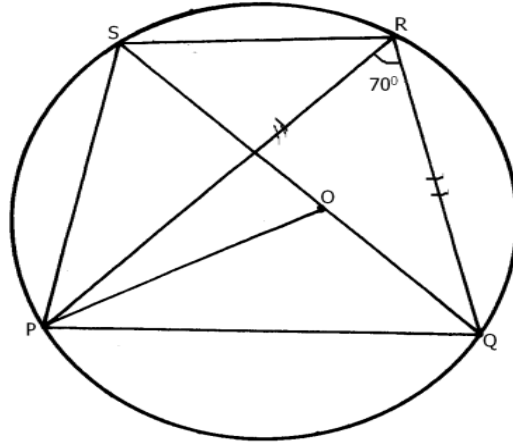
(a) $\angle RST$ (2marks)

(b) $\angle SUT$ (4marks)

(a) Obtuse angle ROT (2marks)

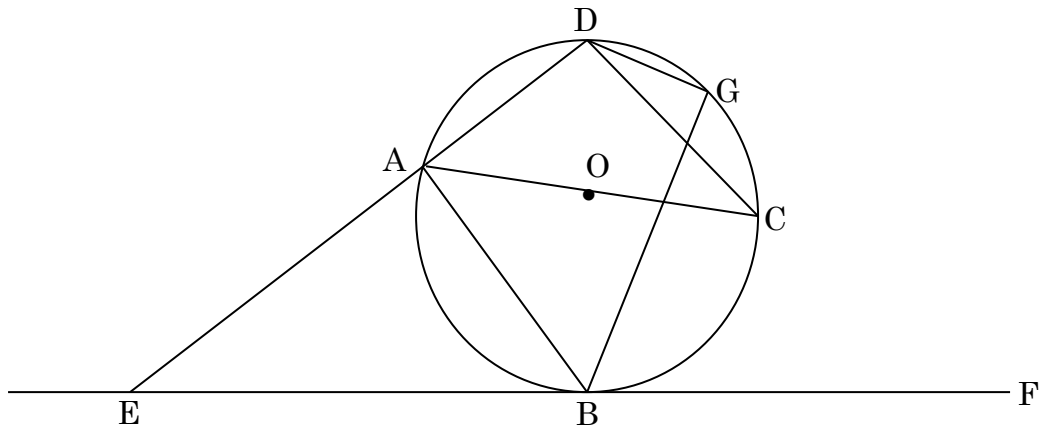
(b) Angle PST (2marks)

3. The figure below shows a circle centre O. PQRS is a cyclic quadrilateral and QOS is a straight line.



- a) Giving reasons for your answers, find the value of: $\angle PRS$. (2marks)
- b) $\angle POQ$. (2marks)
- c) $\angle RPS$. (2marks)
- d) $\angle PSR$. (2marks)
- e) Reflex $\angle POS$. (2marks)

4. In the figure below AOC is a diameter of the circle centre O . $AB = BC$ and $\angle ACD = 35^\circ$, EBF is a tangent to the circle at B . G is a point on minor arc CD .



Calculate the size of the following angles giving reasons in each case.

a) $\angle BCD$ (2marks)

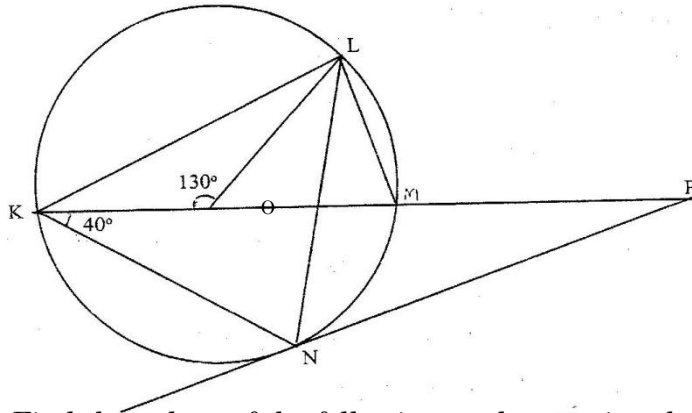
b) Obtuse angle BOD (2marks)

c) $\angle BAD$ (2marks)

d) $\angle CGD$ (2marks)

e) $\angle AEB$ (2marks)

5. In the figure below, K M and N are points on the circumference of a circle centre O. The points, O, M and P are on a straight line. PN is a tangent to the circle at N. Angle KOL = 130° and angle MKN = 40°



Find the values of the following angles, stating the reasons in each case:

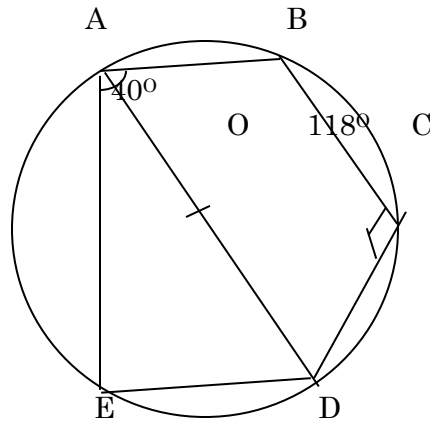
a) $\angle MLN$ (2marks)

b) $\angle OLN$ (3marks)

c) $\angle LNP$ (3marks)

d) $\angle MPN$ (2marks)

6. In the figure below, O is the centre of the circle and $\angle EAD=40^\circ$, $\angle BCD=118^\circ$



Find giving reasons

a) $\angle ADE$ (2mark)

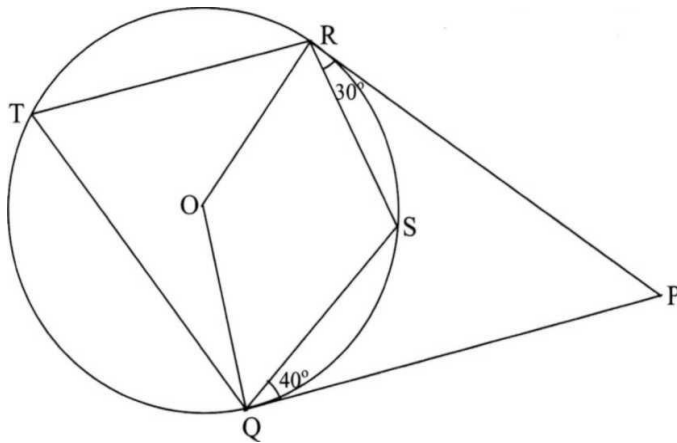
b) reflex $\angle EOD$ (2mark)

c) $\angle EBD$ (2mark)

d) $\angle EAB$ (2mark)

e) $\angle DAB$ (2mark)

7. In the figure below, O is the centre of the circle. PQ and PR are tangents. Angle PQS = 40° and angle PRS = 30°



Find the size of the following angles giving reasons

(i) $\angle RTQ$

(3 marks)

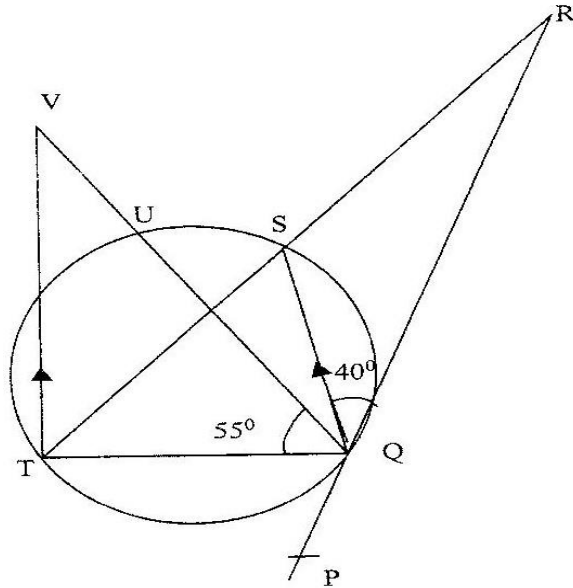
(ii) $\angle ORQ$

(3 marks)

(iii) $\angle RPQ$

(4 marks)

8. In the figure below PQR is the tangent to circle at Q. TS is a diameter and TSR and QUV are straight lines. QS is parallel to TV. Angles $\angle SQR = 40^\circ$ and $\angle TQV = 55^\circ$



Find the following angles, giving reasons for each answer

(10 marks)

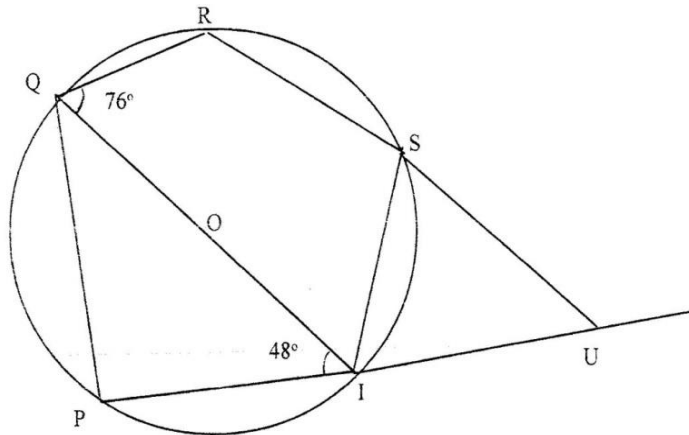
a. $\angle QST$

b. $\angle QRS$

c. $\angle QVT$

d. $\angle UTV$

9. In the figure below, QOT is a diameter. $\angle QTR = 48^\circ$, $\angle TQR = 76^\circ$ and $\angle SRT = 37^\circ$



Calculate

(a) $\angle RST$

(b) $\angle SUT$

(c) Obtuse $\angle RUT$

(d) $\angle PST$