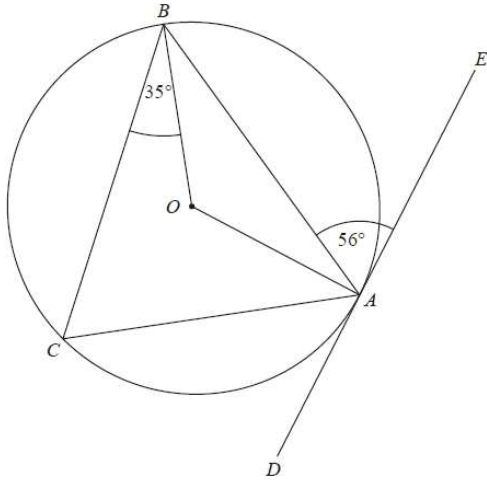


GCSE QUESTIONS

Q1. NON-CALCULATOR



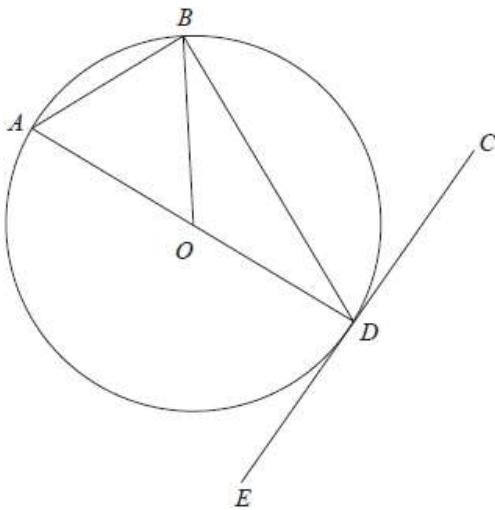
A , B and C are points on the circumference of a circle, centre O .
 DAE is the tangent to the circle at A .

Angle $BAE = 56^\circ$
 Angle $CBO = 35^\circ$

Work out the size of angle CAO . You must show all your working.

.....
 (Total for question = 3 marks)

Q2. NON-CALCULATOR



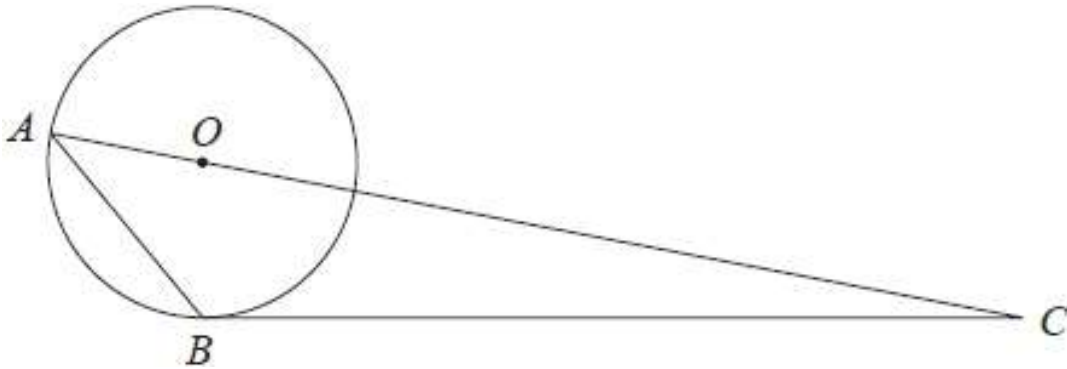
A , B and D are points on the circumference of a circle centre O .
 EDC is a tangent to the circle.

Angle $BDC = 57^\circ$

Find the size of angle AOB .
 You must give a reason for each stage of your working.

(Total for question = 4 marks)

Q3. NON-CALCULATOR



A and B are points on a circle, centre O .

BC is a tangent to the circle.

AOC is a straight line.

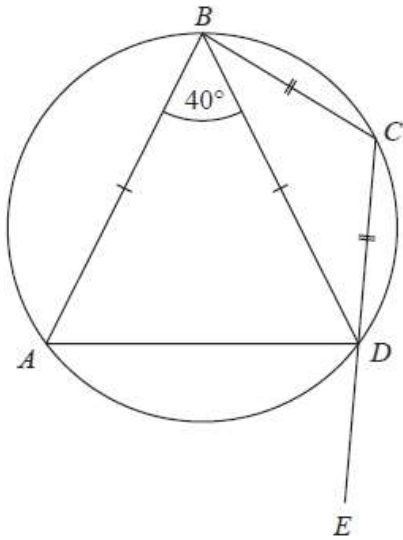
Angle $ABO = x^\circ$.

Find the size of angle ACB , in terms of x .

Give your answer in its simplest form. Give reasons for each stage of your working.

(Total for question = 5 marks)

Q4. CALCULATOR ALLOWED



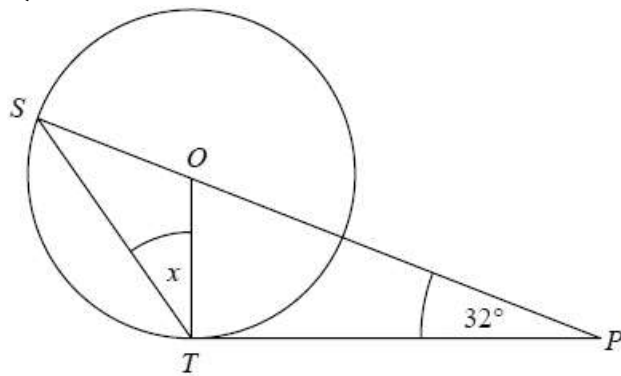
The points A , B , C and D lie on a circle.
 CDE is a straight line.

$BA = BD$
 $CB = CD$
 Angle $ABD = 40^\circ$

Work out the size of angle ADE .
 You must give a reason for each stage of your working.

(Total for question = 5 marks)

Q5. CALCULATOR ALLOWED

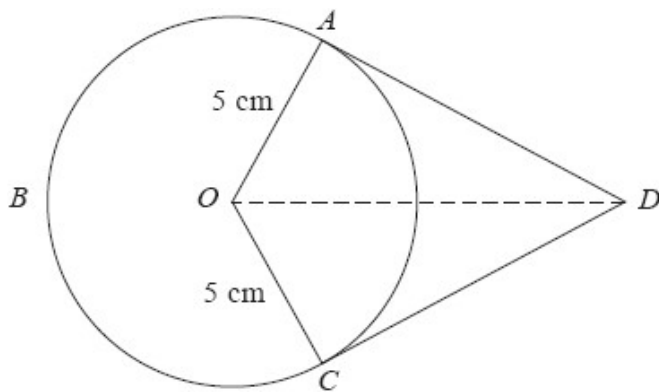


S and T are points on the circumference of a circle, centre O .
 PT is a tangent to the circle.
 SOP is a straight line.
 Angle $OPT = 32^\circ$

Work out the size of the angle marked x .
 You must give a reason for each stage of your working.

Q6. CALCULATOR ALLOWED

(Total for question = 4 marks)



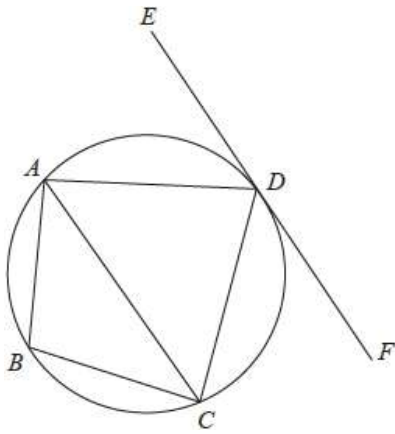
A , B and C are points on a circle of radius 5 cm , centre O .
 DA and DC are tangents to the circle.
 $DO = 9\text{ cm}$

Work out the length of arc ABC .
 Give your answer correct to 3 significant figures.

..... cm

(Total for question = 5 marks)

Q7. CALCULATOR ALLOWED



A, B, C and D are points on a circle.
 EDF is the tangent to the circle at D .

Angle $ADE = 54^\circ$
 Angle $ABC = 114^\circ$

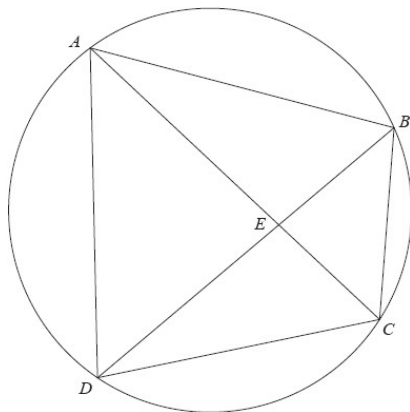
Work out the size of angle CAD .
 You must give a reason for each stage of your working.

.....
 (Total for question = 4 marks)

Q8. CALCULATOR ALLOWED

A, B, C and D are four points on the circumference of a circle.

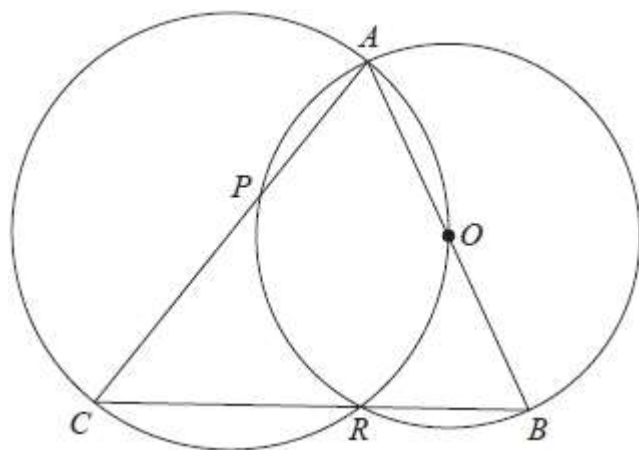
AEC and BED are straight lines.



Prove that triangle ABE and triangle DCE are similar.
 You must give reasons for each stage of your working.

(Total for question = 3 marks)

Q9. CALCULATOR ALLOWED



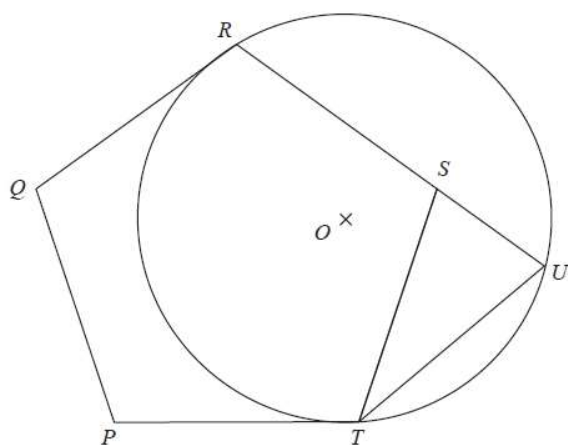
A, B, R and P are four points on a circle with centre O .
 A, O, R and C are four points on a different circle.
 The two circles intersect at the points A and R .

CPA, CRB and AOB are straight lines.

Prove that angle $CAB =$ angle ABC .

(Total for question = 4 marks)

Q10. CALCULATOR ALLOWED

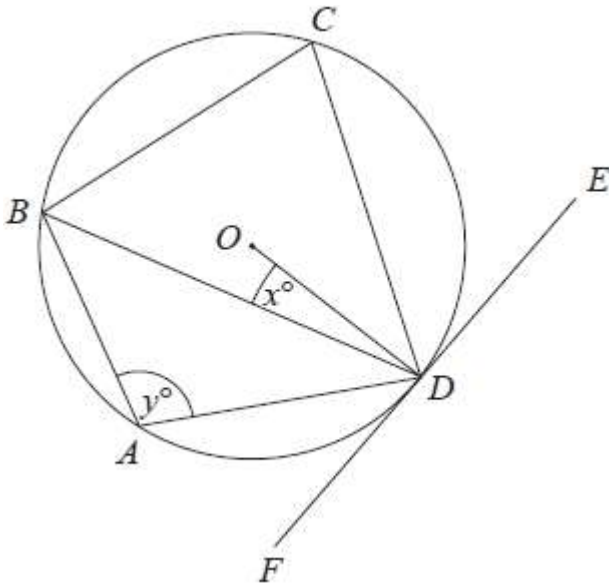


$PQRST$ is a regular pentagon.
 R, U and T are points on a circle, centre O .
 QR and PT are tangents to the circle.
 RSU is a straight line.

Prove that $ST = UT$.

Q11. CALCULATOR ALLOWED

(Total for question = 5 marks)



A, B, C and D are points on the circumference of a circle, centre O .

FDE is a tangent to the circle.

(a) Show that $y - x = 90$

You must give a reason for each stage of your working.

(3)

Dylan was asked to give some possible values for x and y .

He said,

" y could be 200 and x could be 110, because $200 - 110 = 90$ "

(b) Is Dylan correct? You must give a reason for your answer.

.....

(1)

(Total for question = 4 marks)