Questions

Q1.

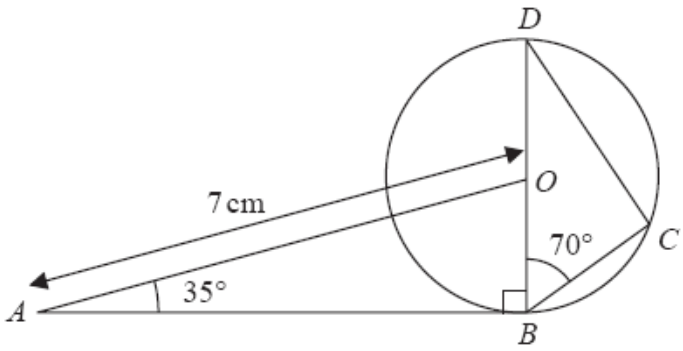

Diagram **NOT** accurately drawn

B, *C* and *D* are points on the circumference of a circle, centre *O*.
BOD is a diameter of the circle.

$AO = 7$ cm Angle $ABO = 90°$ Angle $OAB = 35°$ Angle $DBC = 70°$

*(a) Explain why angle *BCD* is 90°

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.....

(1)

(b) Calculate the length of *BC*.
Give your answer correct to 3 significant figures.

..... cm

(4)

(Total for question = 5 marks)

Q2.

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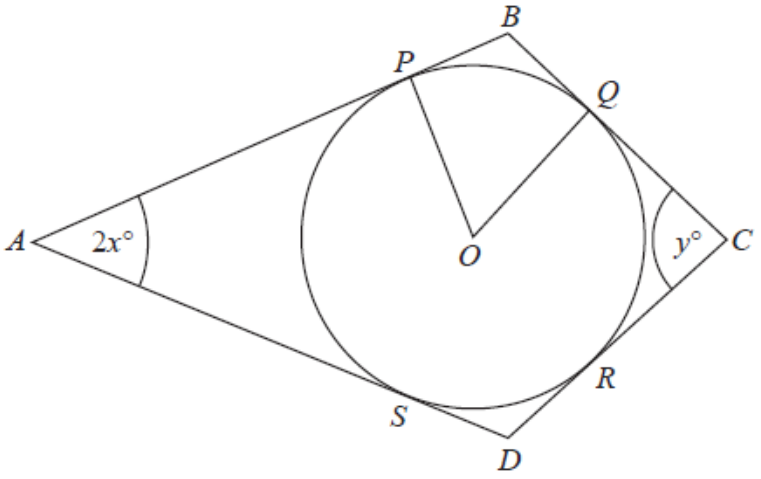

Diagram **NOT** accurately drawn

P, *Q*, *R* and *S* are points on the circumference of a circle, centre *O*.
APB, *BQC*, *CRD* and *DSA* are tangents to the circle.
ABCD is a kite.

Angle *PAS* = 2*x*°
Angle *QCR* = *y*°

Find an expression in terms of *x* and *y* for the size, in degrees, of the angle *POQ*.
Give your expression in its simplest form.
Give reasons for your answer.

(Total for question = 5 marks)

Q3.

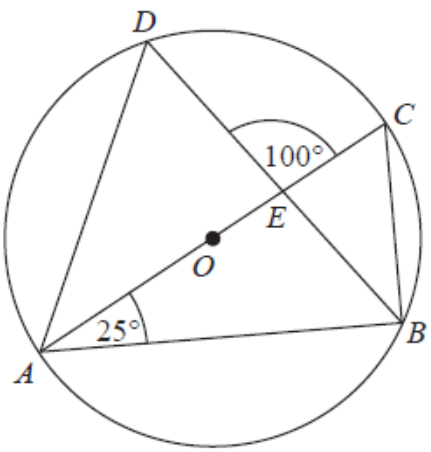

Diagram **NOT** accurately drawn

A, *B*, *C* and *D* are points on the circumference of a circle, centre *O*.
AC is a diameter of the circle.
AC and *BD* intersect at *E*.

Angle *CAB* = 25°
Angle *DEC* = 100°

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

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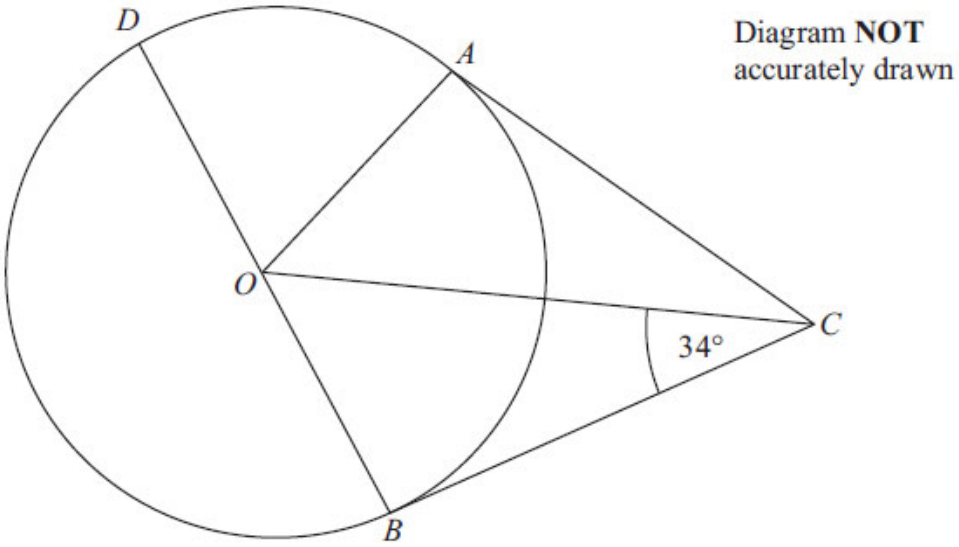
(Total for question = 4 marks)

Q4.



A, *B*and *D*are points on the circumference of a circle, centre *O*.
*BOD*is a diameter of the circle.
*BC*and *AC*are tangents to the circle.
Angle *OCB*= 34°.

Work out the size of angle *DOA*.

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(Total for Question is 3 marks)

Q5.

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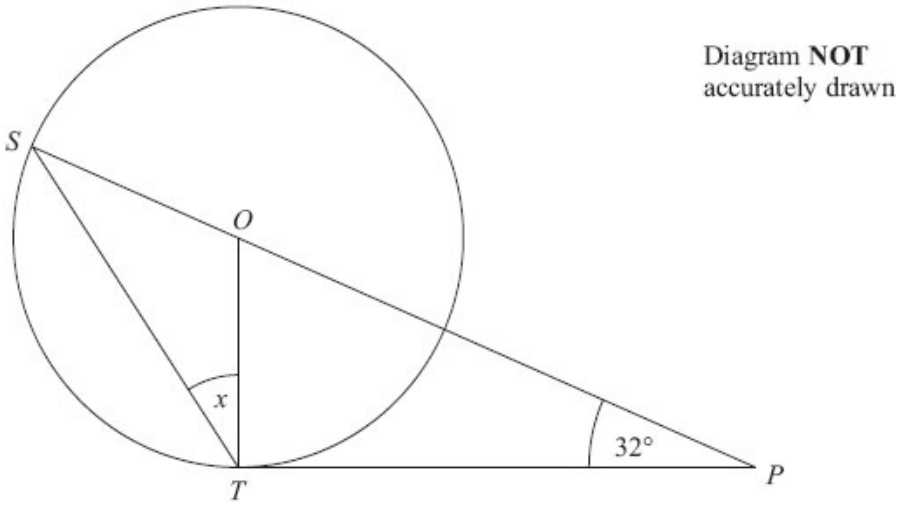

*S*and *T*are points on the circumference of a circle, centre *O*.
*PT*is a tangent to the circle.
*SOP*is a straight line.

Angle *OPT*= 32°

Work out the size of the angle marked *x*.
Give reasons for your answer.

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(Total for Question is 5 marks)

Q6.

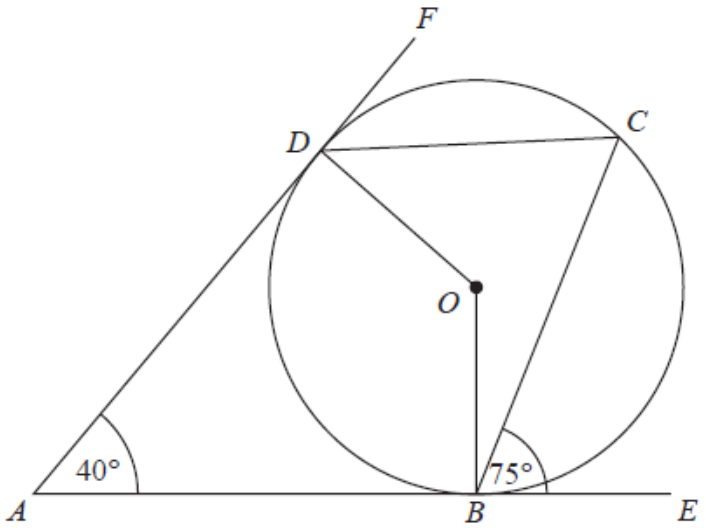


Diagram **NOT** accurately drawn

B, *C* and *D* are points on the circumference of a circle, centre *O*.
ABE and *ADF* are tangents to the circle.

Angle *DAB* = 40°
Angle *CBE* = 75°

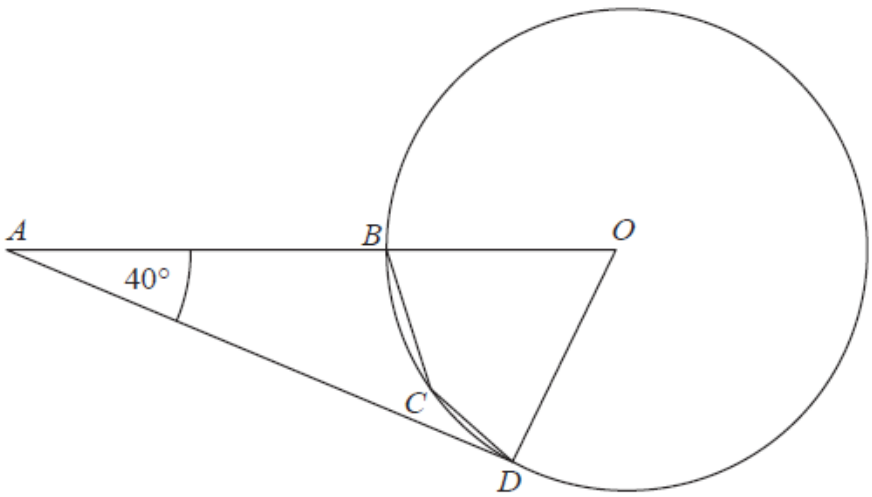
Work out the size of angle *ODC*.

.....°

(Total for Question is 3 marks)

Q7.

Diagram **NOT** accurately drawn

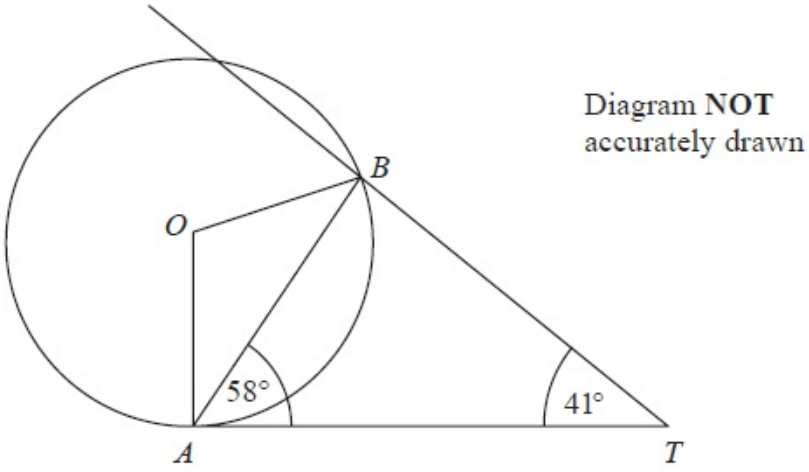


**B*, *C* and *D* are points on the circumference of a circle, centre *O*.
ABO is a straight line.
AD is the tangent at *D* to the circle.
Angle *DAO* = 40°

Work out the size of angle *BCD*.
Give a reason for each stage of your working.

(Total for question = 5 marks)

Q8.



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

AT is a tangent to the circle.

Angle *TAB* = 58°.

Angle *BTA* = 41°.

Calculate the size of angle *OBT*.

You must give reasons at each stage of your working.

(Total for Question is 5 marks)

Q9.

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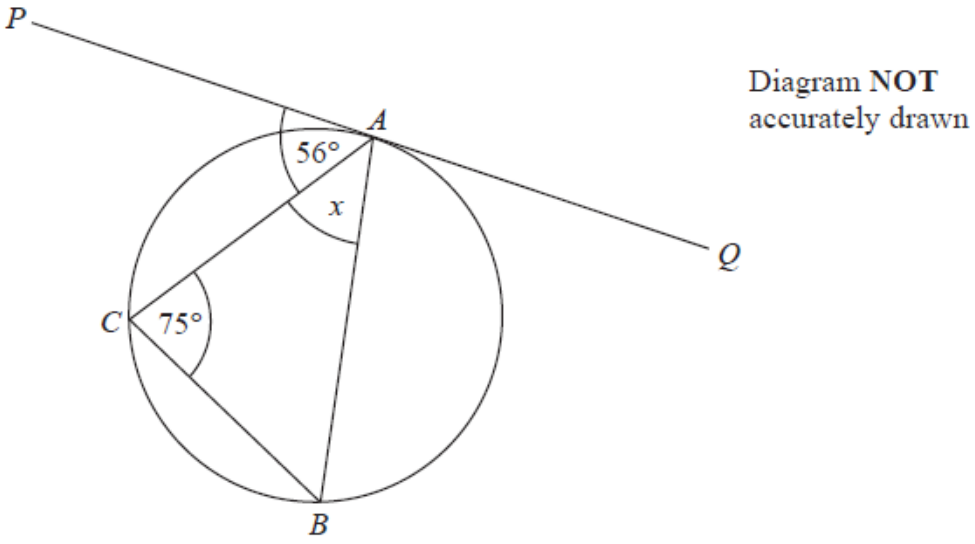

A, *B* and *C* are points on the circumference of a circle.
The straight line *PAQ* is a tangent to the circle.
Angle *PAC* = 56°
Angle *ACB* = 75°

Work out the size of the angle marked *x*.
Give reasons for each stage of your working.

(Total for question = 3 marks)

Q10.

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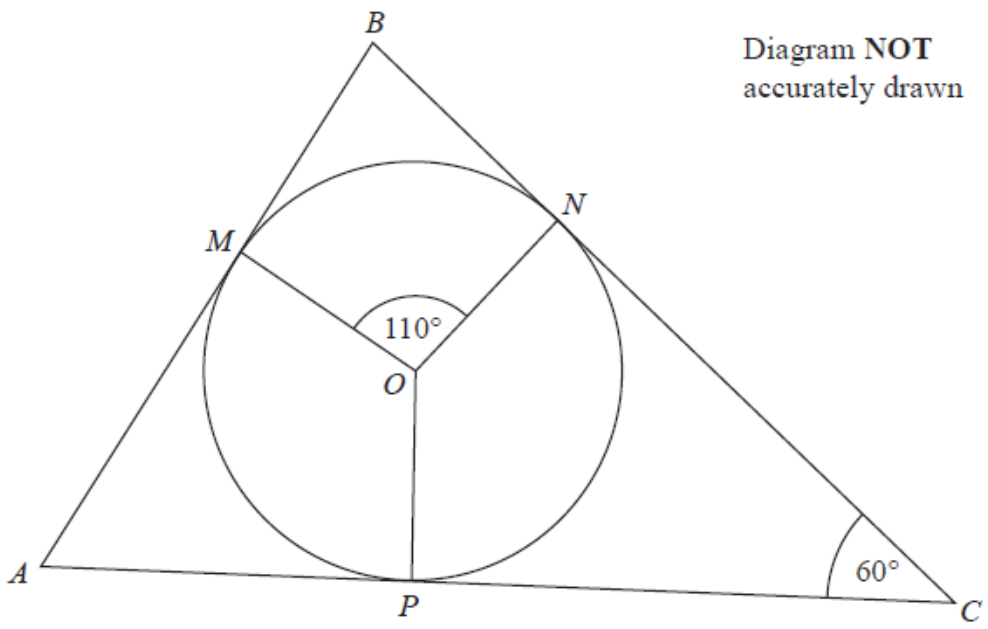

M, *N* and *P* are points on the circumference of a circle, centre *O*.
AMB, *BNC*, and *CPA* are tangents to the circle.

Angle *MON* = 110°
Angle *BCA* = 60°

Work out the size of angle *BAC*.
Give reasons for each stage of your working.

(Total for question = 4 marks)