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

Angle *ABD* = 81°
Angle *BDC* = 42°

(a) Work out the size of angle *CAB*.

.... °

(1)

(b) Work out the size of angle *ACD*.

.... °

(1)

(c) Work out the size of angle *AEB*.

.... °

(1)

(d) Work out the size of angle *BEC*.

.... °

(1)

(Total for Question 1 is 4 marks)

1

2 *A*, *B* and *C* are points on the circumference of a circle with centre *O*.
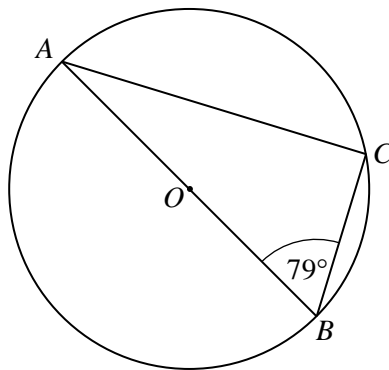
Angle *ABC* = 79°

(a) Work out the size of angle *CAB*.

.... °

(1)

(b) Give a reason for your answer to part (a)

....

....

(1)

(Total for Question 2 is 2 marks)

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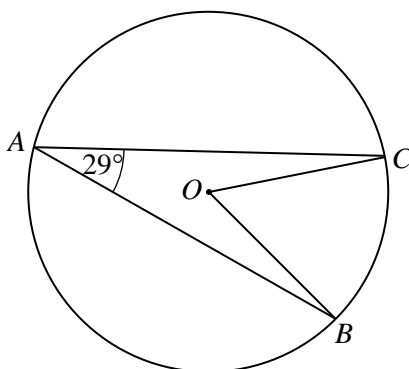

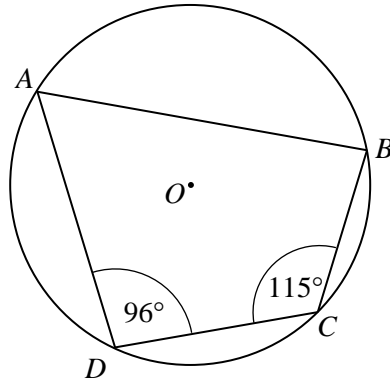Angle *CAB* = 29°

(a) Work out the size of angle *COB*.

.... °

(1)

(b) Give a reason for your answer to part (a)

....

....

(1)

(Total for Question 3 is 2 marks)

1st

2

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

Angle *ADC* = 96°
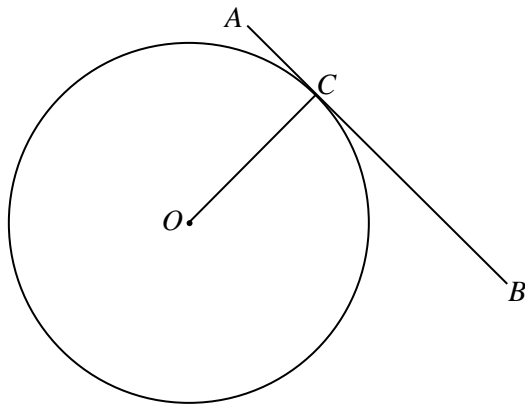Angle *BCD* = 115°

(a) Work out the size of angle *ABC*.

.... °

(1)

(b) Give a reason for your answer to part (a)

....

....

(1)

(Total for Question 4 is 2 marks)

5 *A*, *B*, and *C* are points on the circumference of a circle with centre *O*.
AB is the tangent to the circle at point *C*.
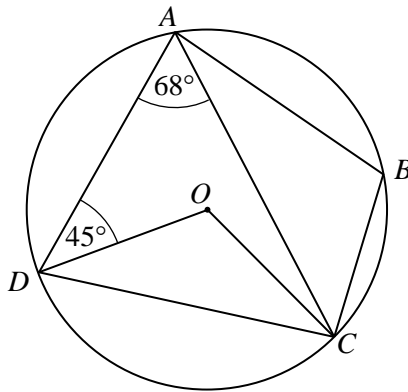
(a) Write down the size of angle *OCB*.

.... °

(1)

(b) Give a reason for your answer to part (a)

....

....

(1)

(Total for Question 5 is 2 marks)

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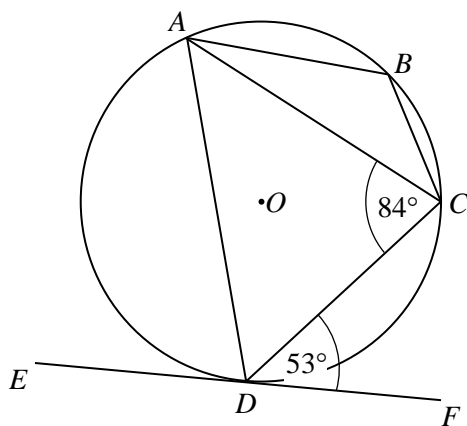

Angle *DAC* = 68°
Angle *ADO* = 45°

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

....

(Total for Question 6 is 4 marks)

7 *A*, *B*, *C* and *D* are points on the circumference of a circle with centre *O*.
EF is the tangent to the circle at point *D*.
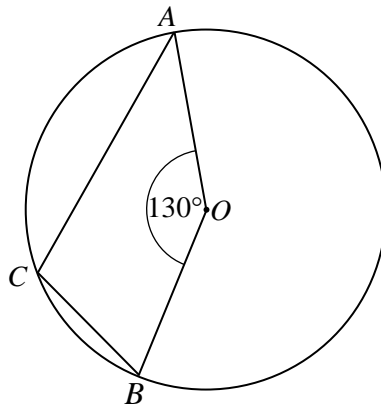

Angle *ACD* = 84°
Angle *CDF* = 53°

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

....

(Total for Question 7 is 4 marks)

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

Angle *AOB* = 130°

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

(Total for Question 8 is 3 marks)

9 *A*, *B*, *C* and *D* are points on the circumference of a circle with centre *O*.
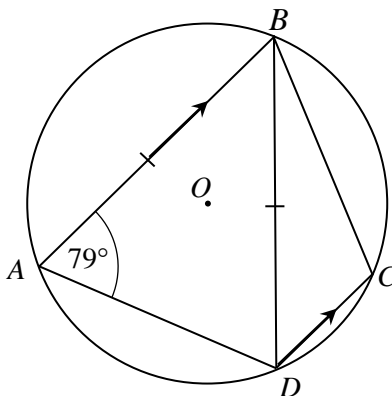
Angle *BAD* = 79°
BA = *BD*
Lines *AB* and *DC* are parallel.

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

(Total for Question 9 is 5 marks)

10 *A*, *B* and *C* are points on the circumference of a circle with centre *O*.
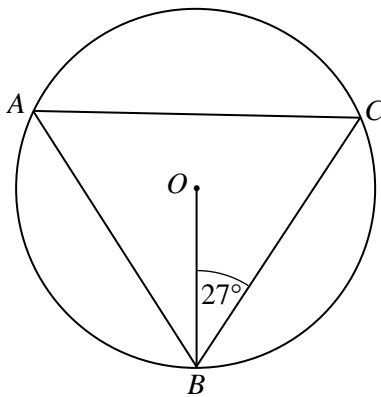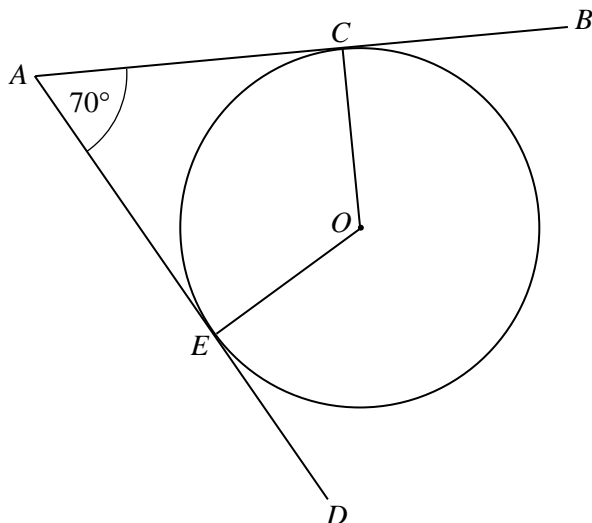
Angle *CBO* = 27°

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

....°

(Total for Question 10 is 3 marks)

11 *C* and *E* are points on the circumference of a circle with centre *O*.

AB and *AD* are tangents to the circle at *C* and *E*.
Angle *EAC* = 70°

(a) Work out the size of angle *COE*.

.... °

(2)

OC = 5 cm

(b) Work out the length of *CA*.
Give your answer to 1 decimal place.
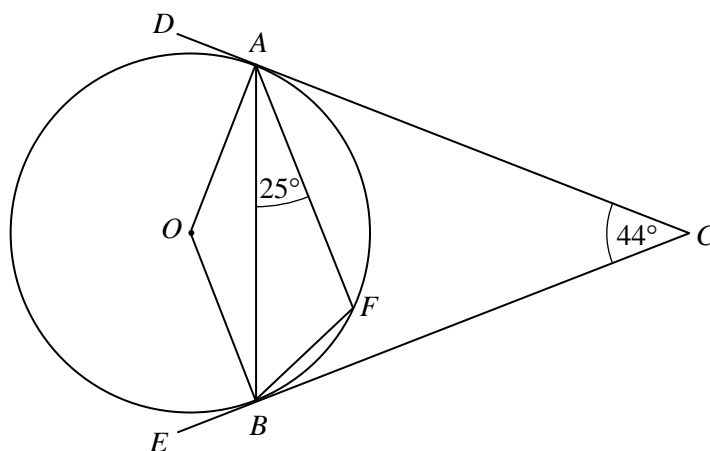
.... cm

(2)

(Total for Question 11 is 4 marks)

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

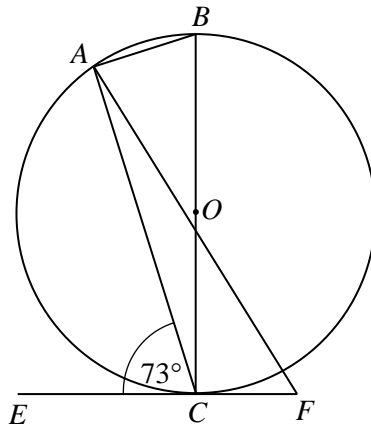*DC* and *EC* are tangents to the circle at *A* and *B*.
Angle *ACB* = 44°
Angle *BAF* = 25°

Work out the size of angle *FBC*.

....°

(Total for Question 12 is 4 marks)

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

EF is the tangent to the circle at *C*.
Angle *ACE* = 73°
Angle *FAB* = 5 × Angle *CAF*

Work out the size of angle *AFC*.

°

....

(Total for Question 13 is 4 marks)

14 *A, B* and *C* are points on the circumference of a circle with centre *O*.
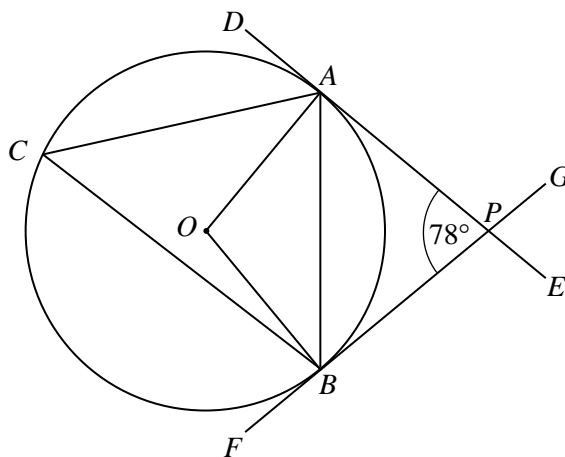
DE and *FG* are tangents to the circle at *A* and *B* that intersect at the point *P*.
Angle *APB* = 78°

(a) Work out the size of angle *ACB*.

.... °

(2)

(b) Work out the size of angle *ABP*.
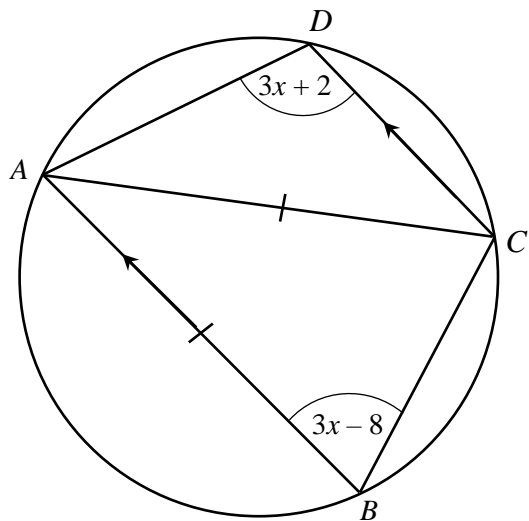
.... °

(2)

(Total for Question 14 is 4 marks)

15

A, B, C and D are points on the circumference of a circle.
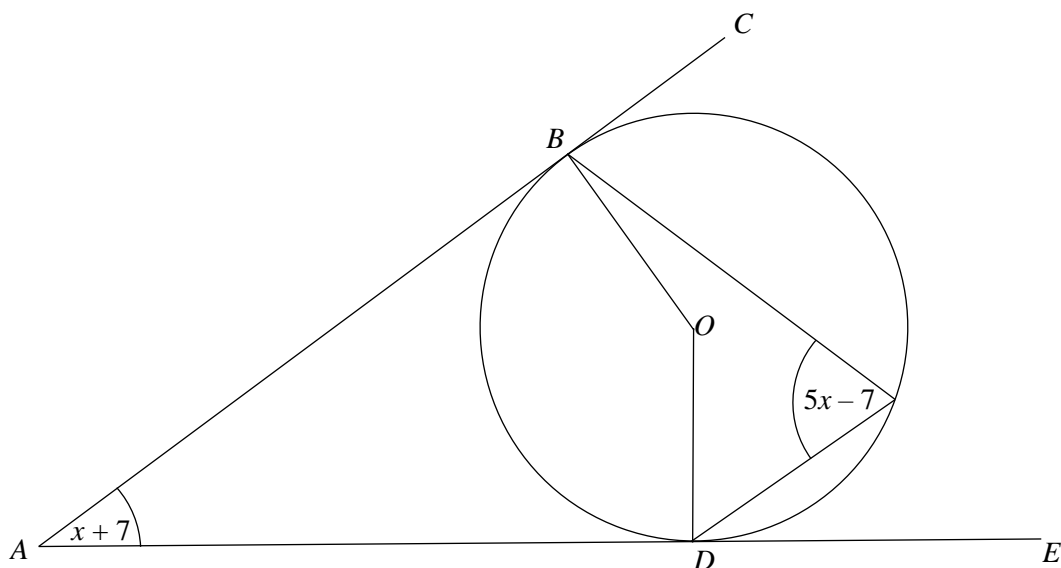$ABCD$ is a trapezium with AB parallel to DC.

$AB = AC$

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

....°

(Total for Question 15 is 5 marks)

16

B and *D* are points on the circumference of a circle, centre *O*.
ABC and *ADE* are tangents to the circle.

(a) Work out value of *x*.
   You must show all your working.

$$x = \text{...} \degree$$

(3)

AD = 30 cm

(b) Work out the radius of the circle.
   Give your answer to three significant figures.

.... cm

(3)

(Total for Question 17 is 6 marks)