



SCAN ME

Circle Theorems

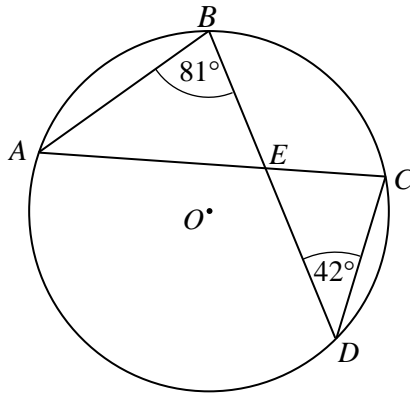


SCAN ME

REVISE THIS TOPIC

CHECK YOUR ANSWERS

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



Angle $ABD = 81^\circ$

Angle $BDC = 42^\circ$

(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)

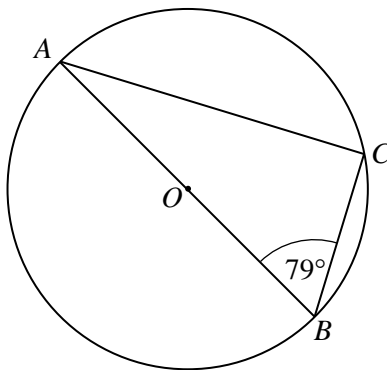
(d) Work out the size of angle BEC .

.....
(1)

(Total for Question 1 is 4 marks)



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



Angle $ABC = 79^\circ$

(a) Work out the size of angle CAB .

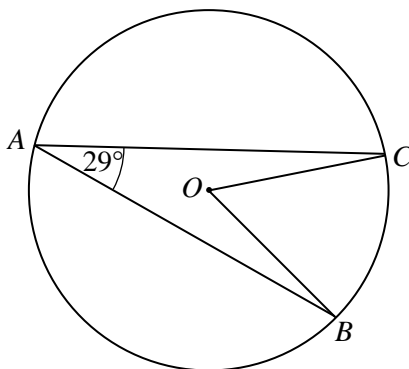
.....
(1)

(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 $CAB = 29^\circ$

(a) Work out the size of angle COB .

.....
(1)

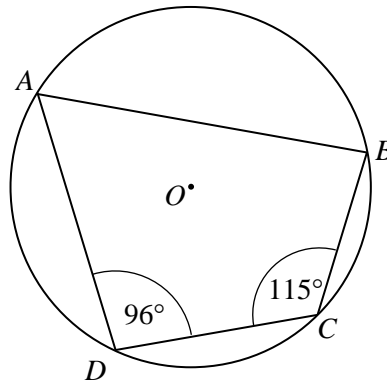
(b) Give a reason for your answer to part (a)

.....
.....
(1)

(Total for Question 3 is 2 marks)



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



Angle $ADC = 96^\circ$
 Angle $BCD = 115^\circ$

(a) Work out the size of angle ABC .

.....
 (1)

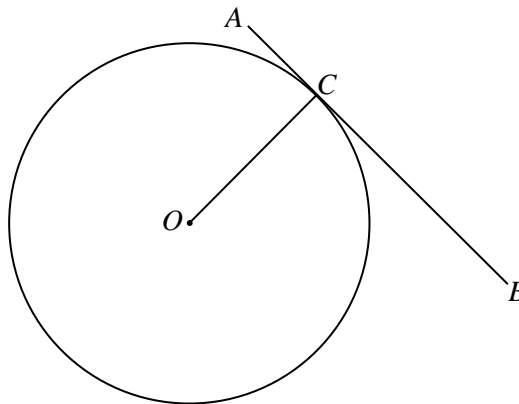
(b) Give a reason for your answer to part (a)

.....

 (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)

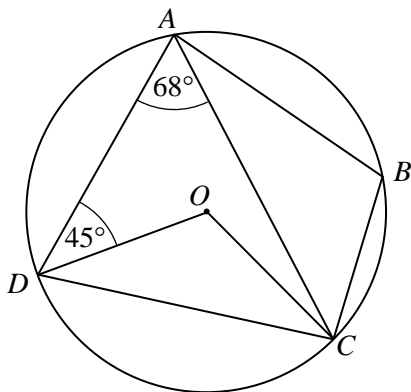
.....

 (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 $DAC = 68^\circ$

Angle $ADO = 45^\circ$

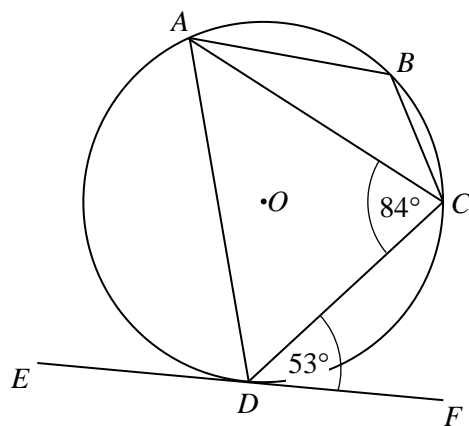
Work out the size of angle ABC .

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 $ACD = 84^\circ$

Angle $CDF = 53^\circ$

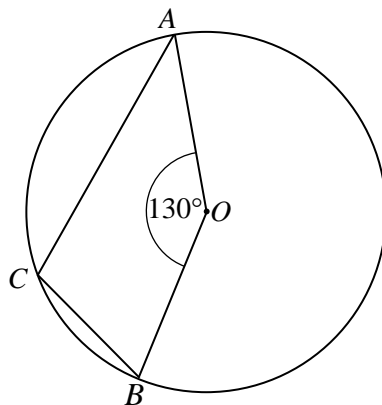
Work out the size of angle ABC .

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 $AOB = 130^\circ$

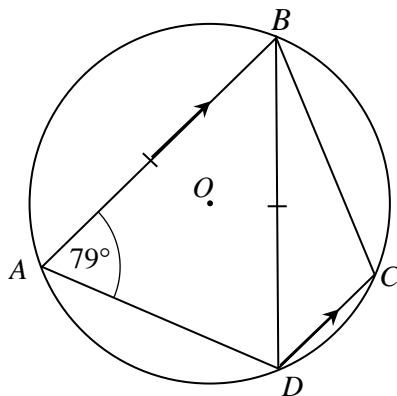
Work out the size of angle ACB .

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 $BAD = 79^\circ$

$BA = BD$

Lines AB and DC are parallel.

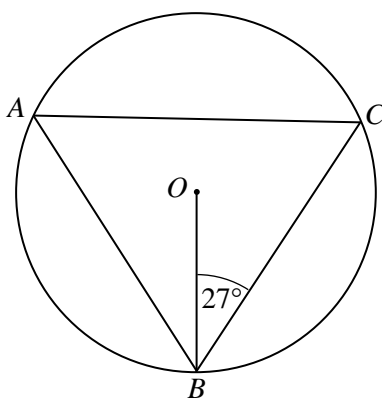
Work out the size of angle DBC .

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 $CBO = 27^\circ$

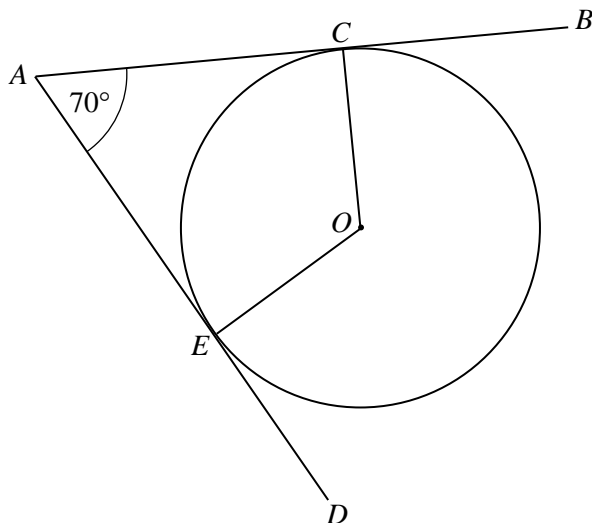
Work out the size of angle BAC .

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 $EAC = 70^\circ$

(a) Work out the size of angle COE .

$OC = 5$ cm

.....
(2)

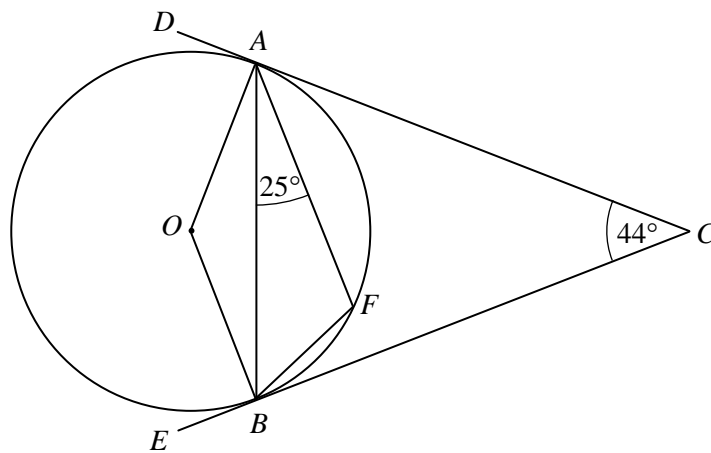
(b) Work out the length of CA .
Give your answer to 1 decimal place.

..... cm
(2)

(Total for Question 11 is 4 marks)



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



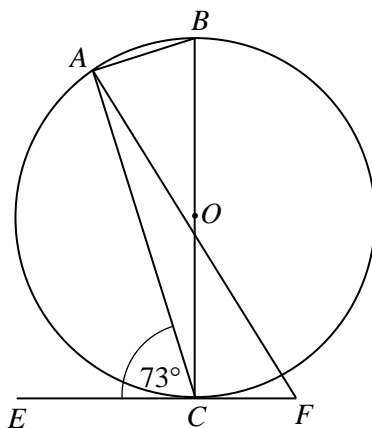
DC and EC are tangents to the circle at A and B .
 Angle $ACB = 44^\circ$
 Angle $BAF = 25^\circ$

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 $ACE = 73^\circ$

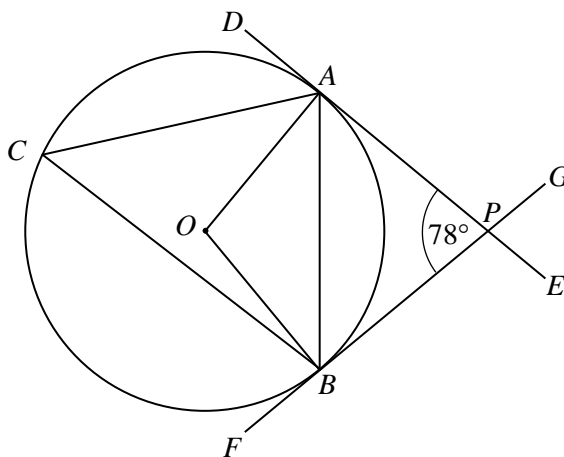
Angle $FAB = 5 \times$ Angle CAF

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 $APB = 78^\circ$

(a) Work out the size of angle ACB .

(b) Work out the size of angle ABP .

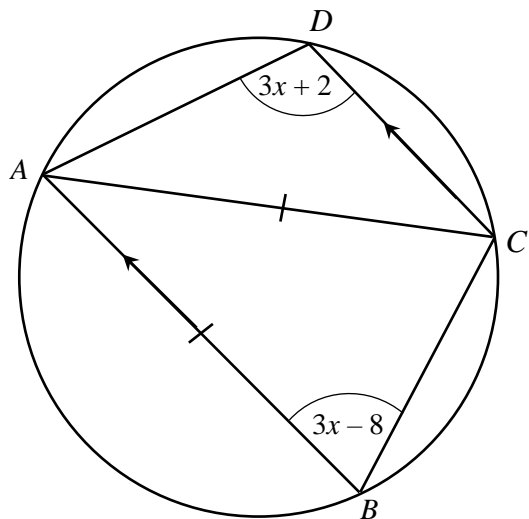
.....
(2)

.....
(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 .

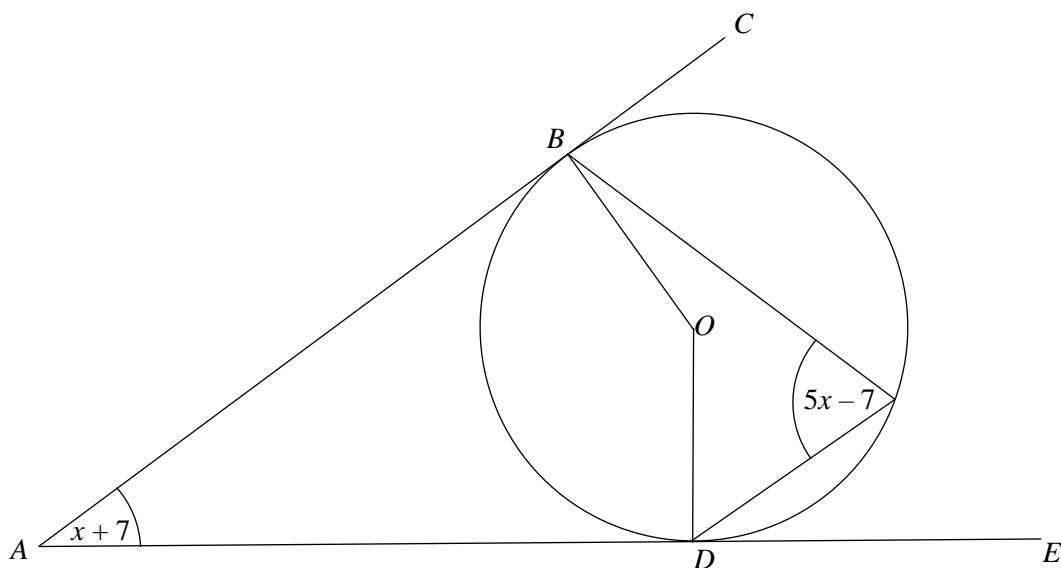
$AB = AC$

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.

$x = \dots\dots\dots$ (3)

$AD = 30$ cm

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

$\dots\dots\dots$ cm (3)

(Total for Question 17 is 6 marks)

