



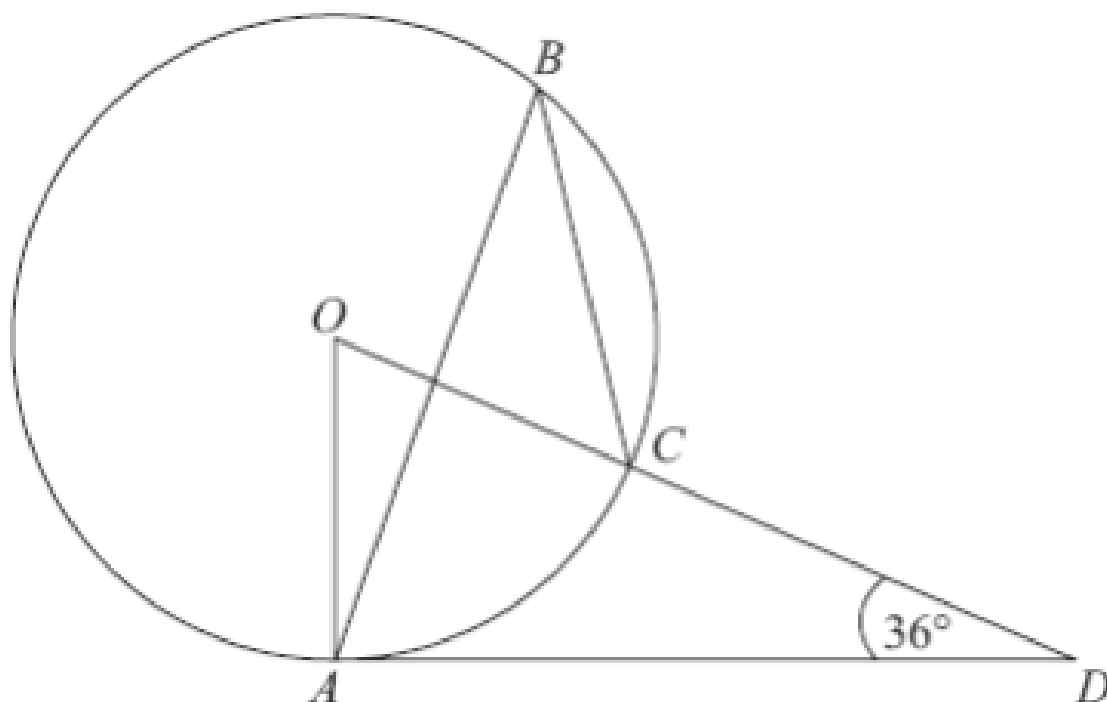
CIRCLE THEOREMS

Name: _____

Total Marks: _____

Q.	Max	Actual	RAG
1	4		
2	4		
3	4		
4	4		
5	4		
6	4		
7	5		
8	4		
9	2		
10	5		
11	4		

Q1.



The diagram shows a circle centre O . A , B and C are points on the circumference.

DCO is a straight line. DA is a tangent to the circle.

Angle $ADO = 36^\circ$

(a) Work out the size of angle AOD .

..... $^\circ$

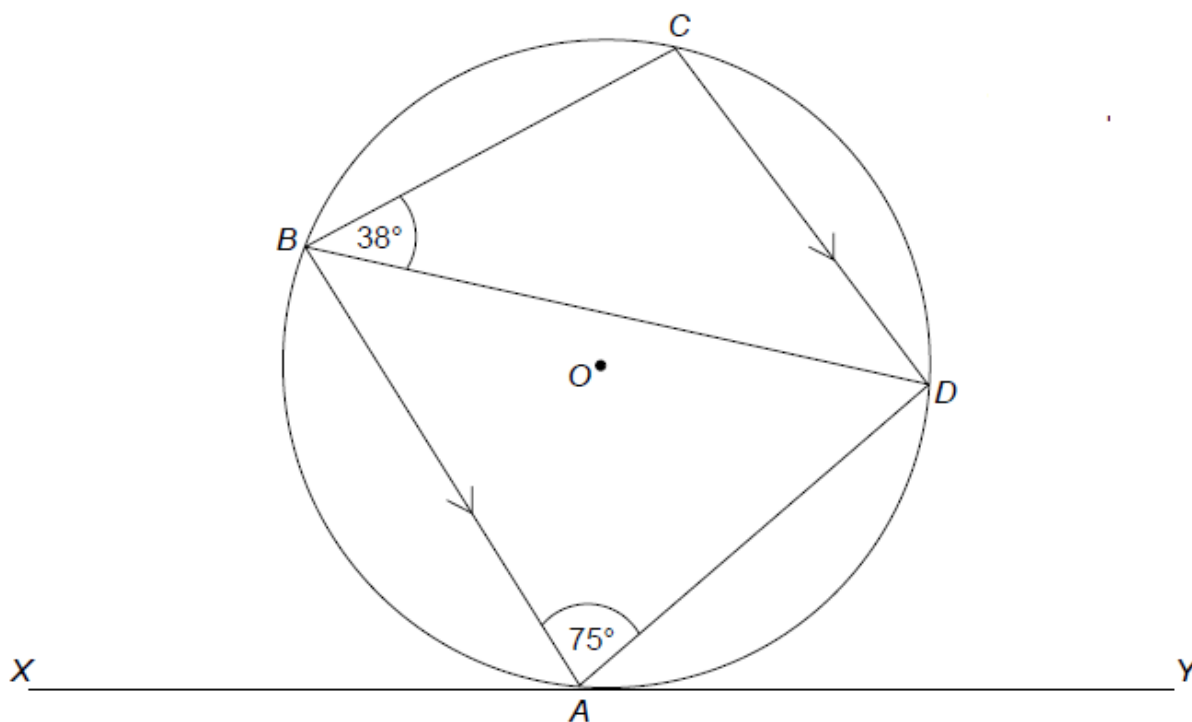
(b) Work out the size of angle ABC .

..... $^\circ$

Give reasons for your answers.

(5 Marks)

Q2.



$ABCD$ is a cyclic quadrilateral within a circle centre O . XY is the tangent to the circle at A . CD is parallel to AB .

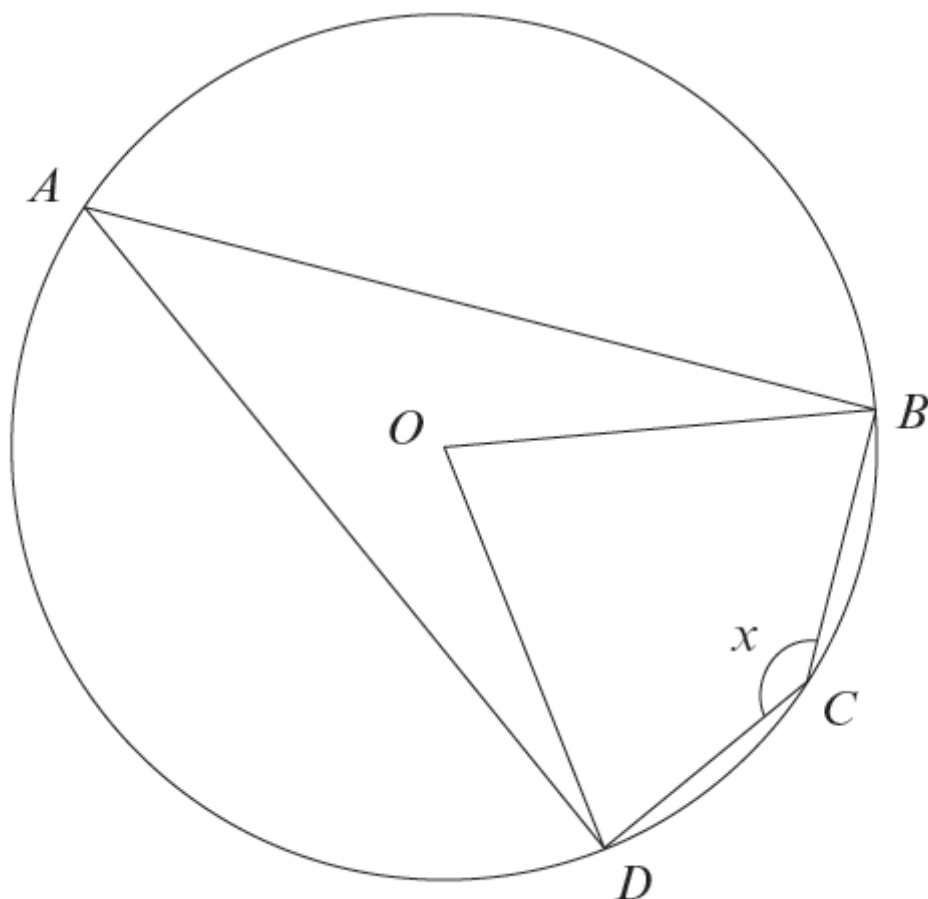
Angles BAD is 75° and angle CBD is 38°

a) Give a reason why angle $BCD = 105^\circ$

b) Work out the value of angle BAX . Give reasons for your answer.

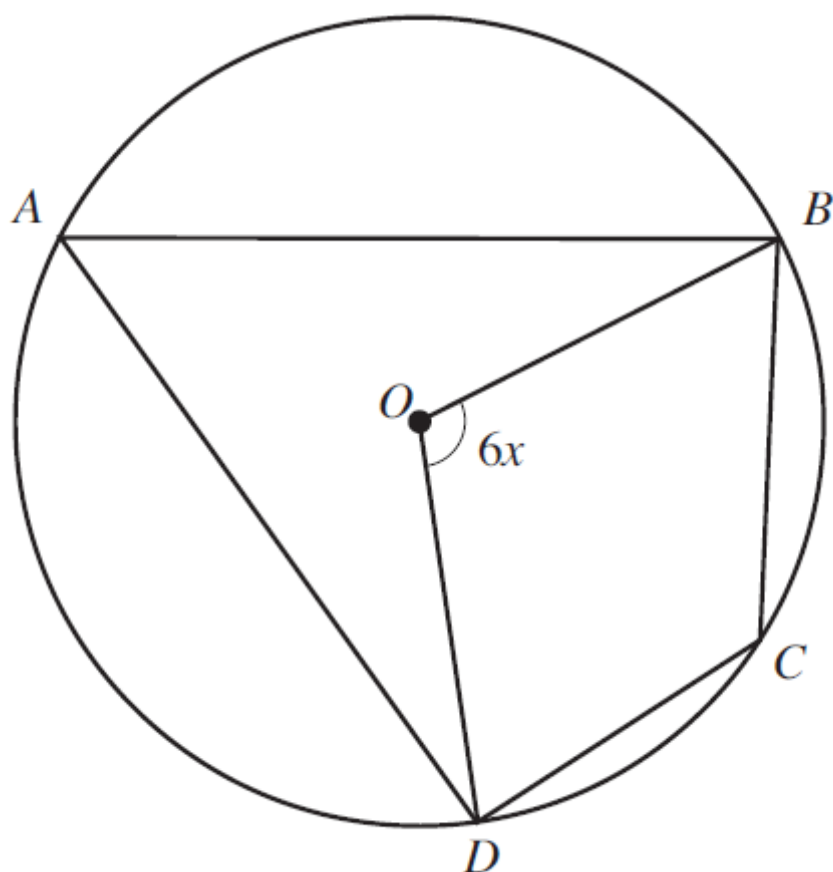
(4 Marks)

Q3.



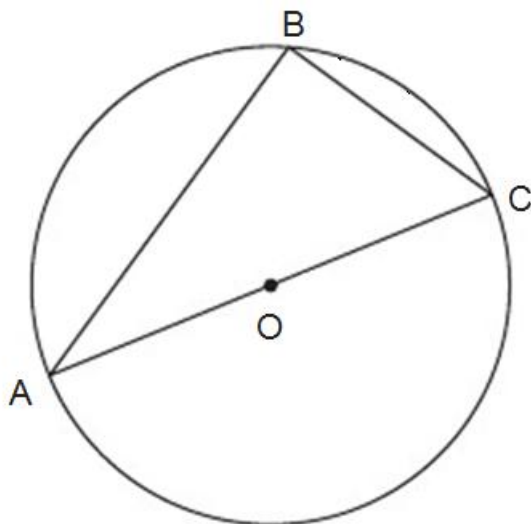
The points A , B , C and D lie on the circumference of the circle with centre O . Angle $BCD = x$, where x is measured in degrees. Show giving reasons in your answer, that the size of angle DOB in degrees is $360 - 2x$.

(4 Marks)



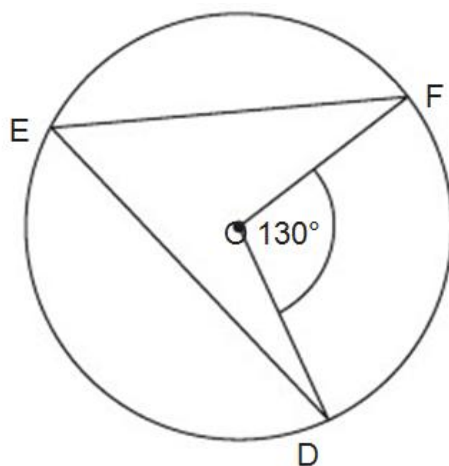
The points A , B , C and D lie on the circumference of the circle with centre O . Angle $BOD = 6x$, Find the size of angle BCD in terms of x .

(4 Marks)



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

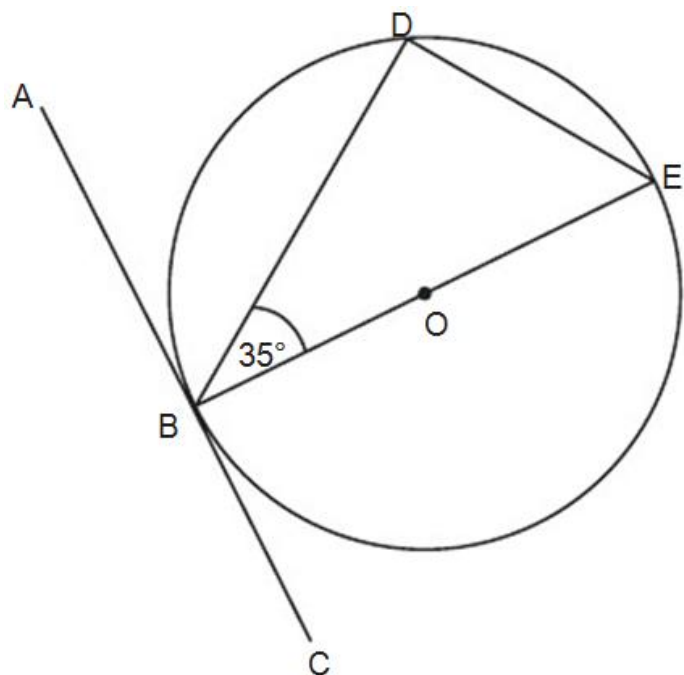
a) Write down the size of angle ABC. Give a reason from your answer



D, E and F are points on the circumference of a circle, centre O. Angle DOF = 130°

b) Work out the size of angle DEF. Give a reason for your answer.

(4 Marks)

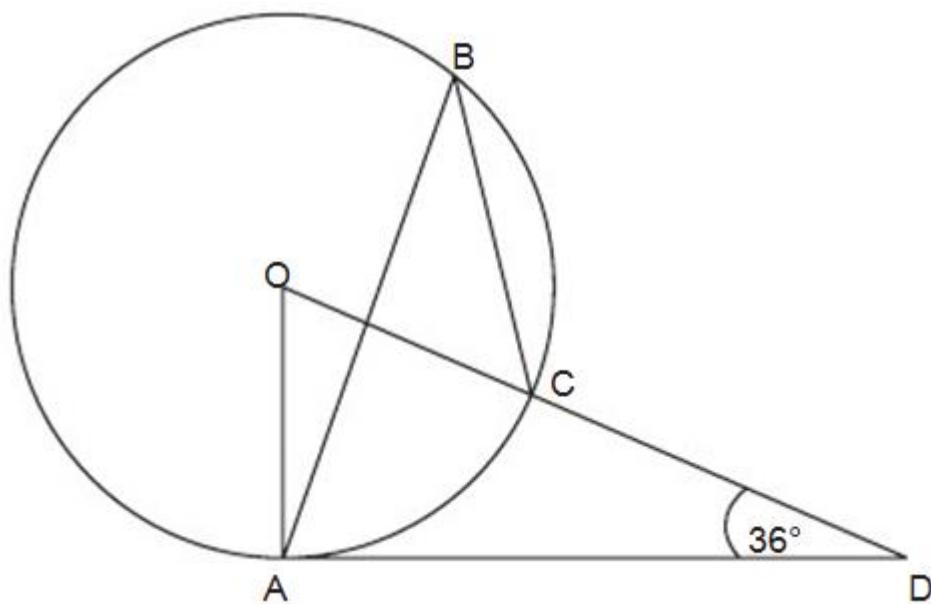


B, D and E are points on the circumference of a circle, centre O. ABC is a tangent to the circle. BE is a diameter of the circle. Angle DBE is 35°

a) Find the size of angle ABD. Give a reason from your answer

b) Work out the size of angle DEB. Give a reason for your answer.

(4 Marks)



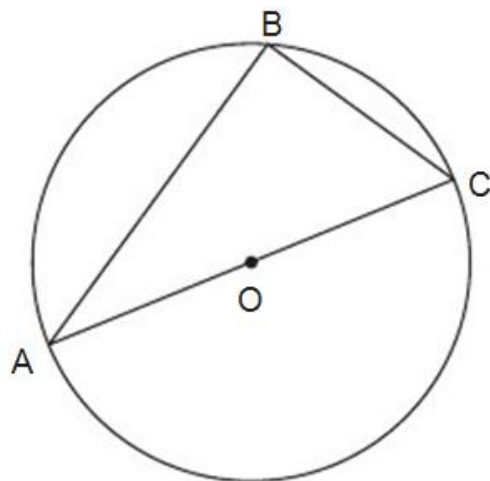
The diagram shows a circle, centre O. A, B and C are points on the circumference. DCO is a straight line and DA is a tangent to the circle.

Angle ADO is 36°

a) Work out the size of angle AOD. Give a reason from your answer

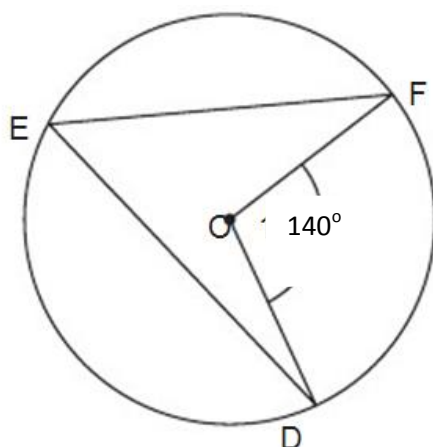
b) Work out the size of angle ABC. Give a reason for your answer.

(5 Marks)



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

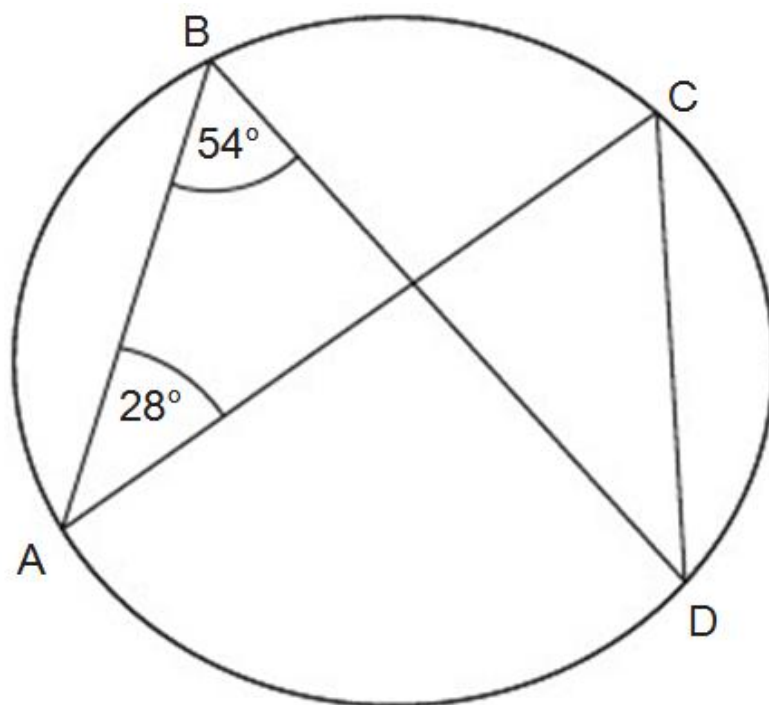
a) Work out the size of angle ABC. Give a reason from your answer



D, E and F are points on the circumference of a circle, centre O. Angle DOF is 140°

b) Work out the size of angle DEF. Give a reason for your answer.

(4 Marks)

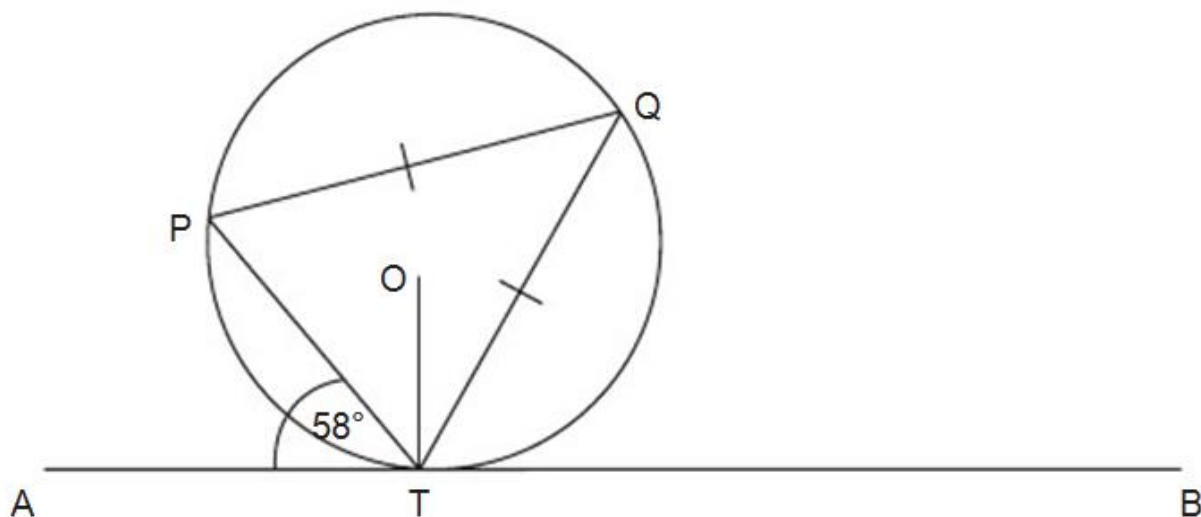


A, B, C and D are points on the circumference of a circle. Angle $ABD = 54^\circ$ and angle $BAC = 28^\circ$

a) Find the size of angle ACD .

b) Give a reason for your answer

(2 Marks)

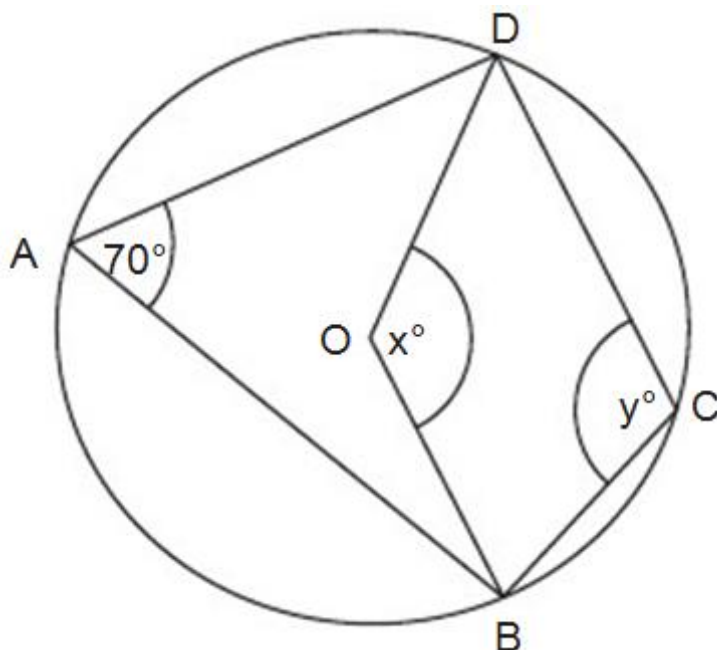


P, Q and T are points on the circumference of a circle, centre O. The line ATB is the tangent at T to the circle.

$PQ = TQ$ and angle $ATP = 58^\circ$

Calculate the size of angle OTQ. Give a reason for each stage of your working.

(5 Marks)



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

Angle BAD = 70°

Angle BOD = x°

Angle BCD = y°

a) Work out the value of x. Give a reason for your answer.

b) Work out the value of y. Give a reason for your answer.

(4 Marks)