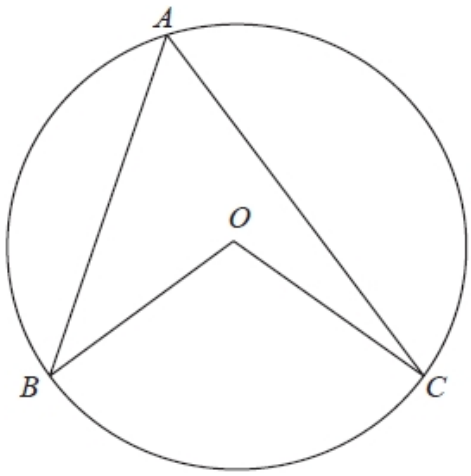
G218 Proofs of circle theorems

Q1.

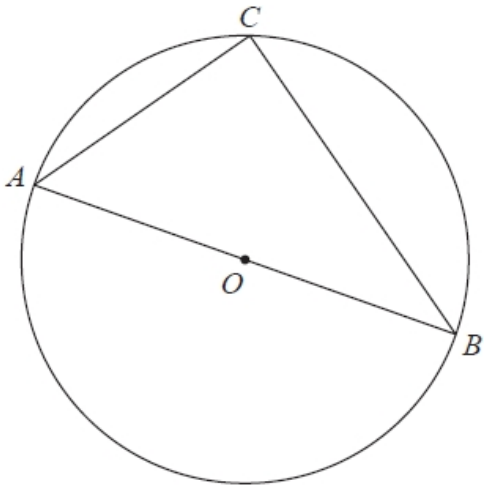
A, *B* and *C* are points on the circumference of a circle centre *O*.



Prove that angle *BOC* is twice the size of angle *BAC*.

(Total for question is 4 marks)

Q2.



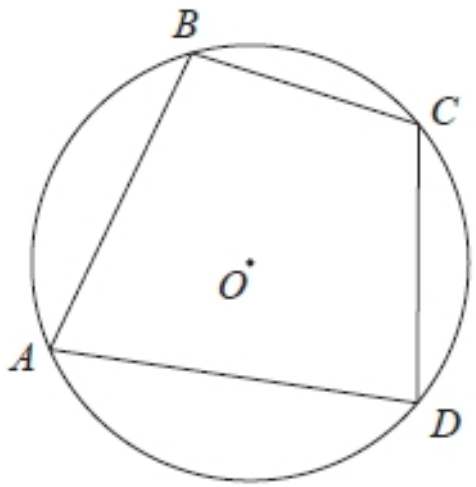
A, *B* and *C* are points on the circumference of a circle, centre *O*.
AOB is a diameter of the circle.

Prove that angle *ACB* is 90°

(Total for question = 4 marks)

Q3.

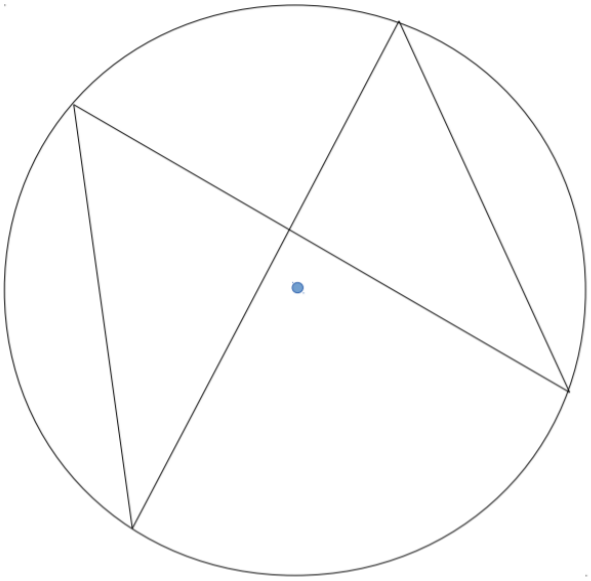
A, *B*, *C* and *D* are points on the circumference of a circle, centre *O*.



Prove that the sum of angle *ABC* and angle *ADC* is 180°

(Total for question = 4 marks)

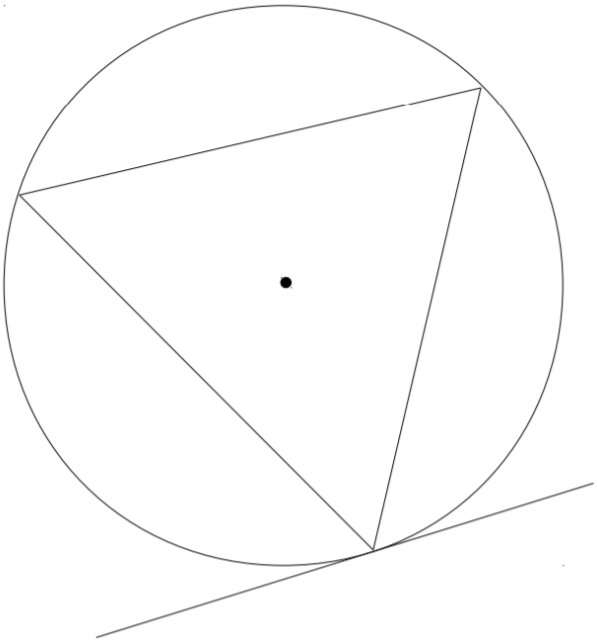
Q4.



Prove that angles in the same segment are equal.

(Total for question = 4 marks)

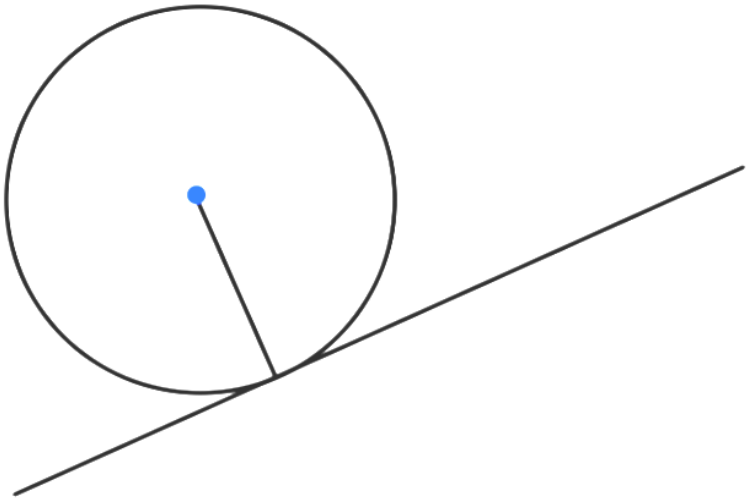
Q5.



Prove the alternate segment theorem.

(Total for question = 4 marks)

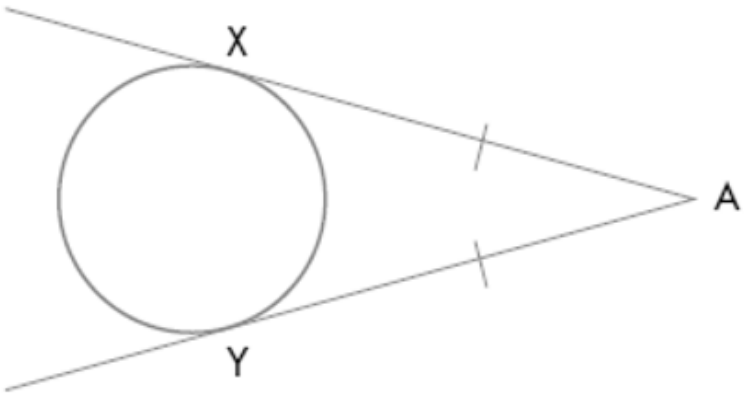
Q6.



Prove that the angle between the radius and the tangent is 90°.

(Total for question = 4 marks)

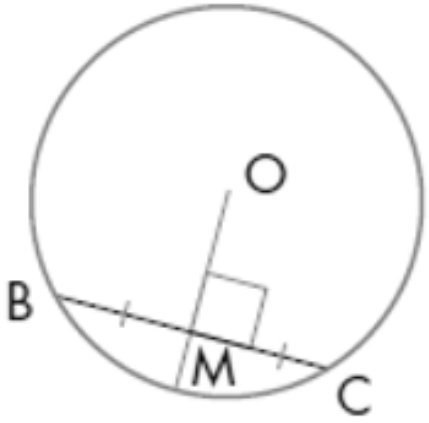
Q7.



Prove that tangents from a point to the circle are equal in length.

(Total for question = 4 marks)

Q8.



Prove that a radius bisects a chord at 90°

(Total for question = 4 marks)