

Name: \_\_\_\_\_

## Extension Questions



## Circle Theorems - Proof

Corbettmaths

Ensure you have: Pencil, pen, ruler, protractor, pair of compasses and eraser

You may use tracing paper if needed

### Guidance

1. Read each question carefully before you begin answering it.
2. Don't spend too long on one question.
3. Attempt every question.
4. Check your answers seem right.
5. Always show your workings

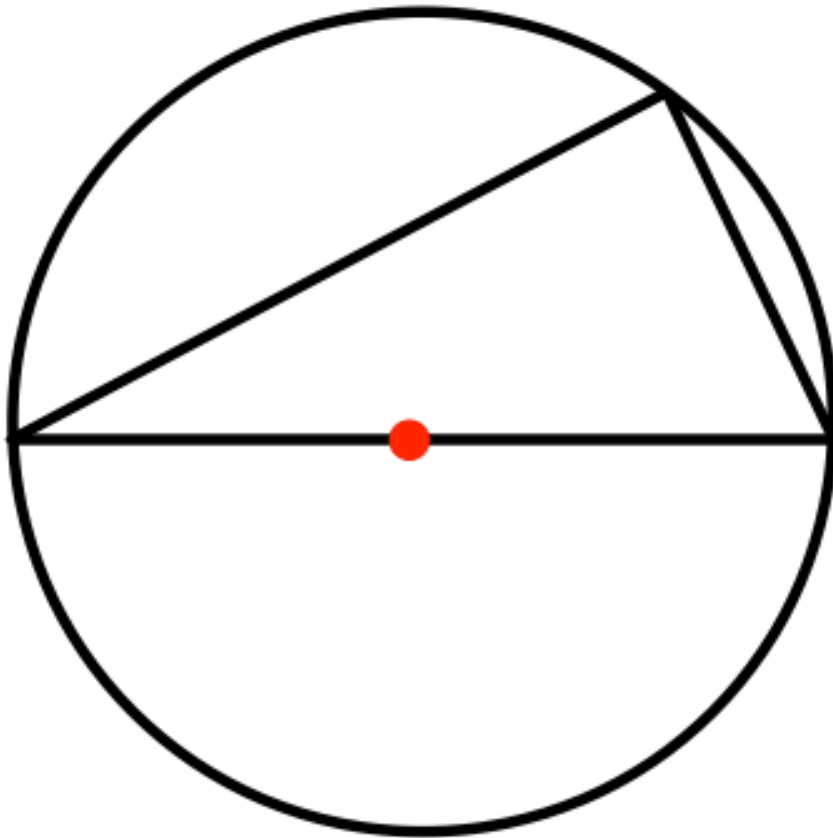
Revision for this topic

**Secondary**

**Videos 65a to 65f**



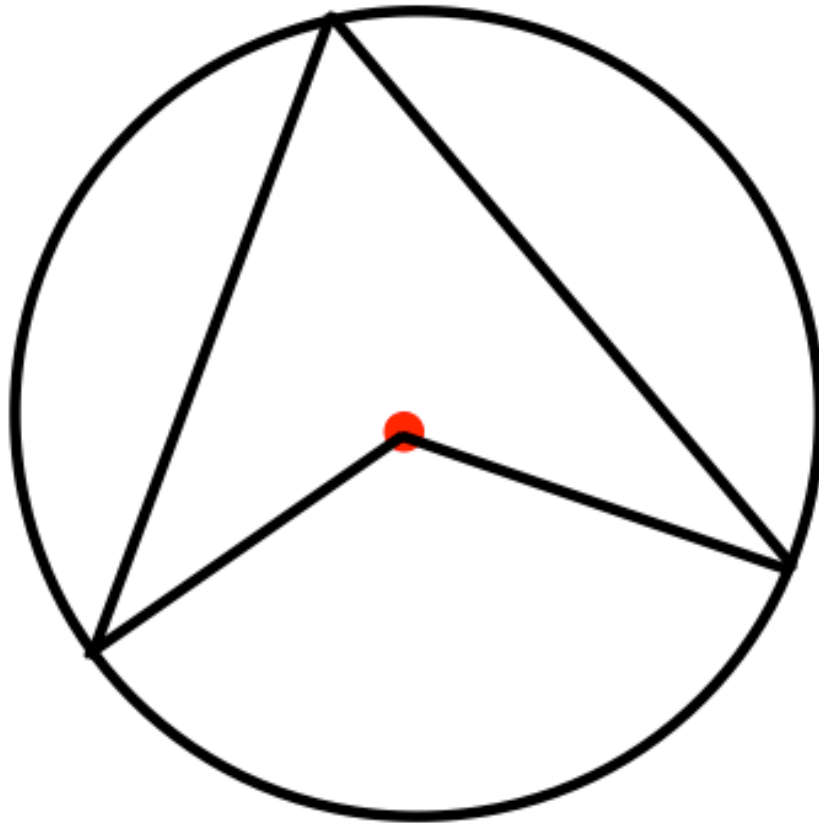
1.



Prove that the angle in a semi-circle is always  $90^\circ$

(3)

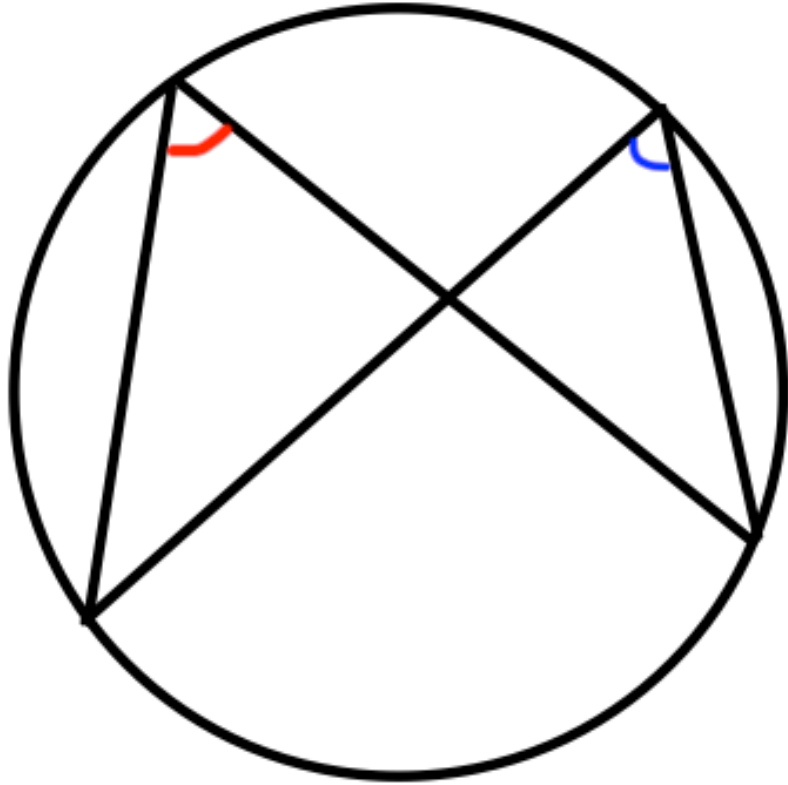
2.



Prove that the angle at the centre is twice the angle at the circumference.

(4)

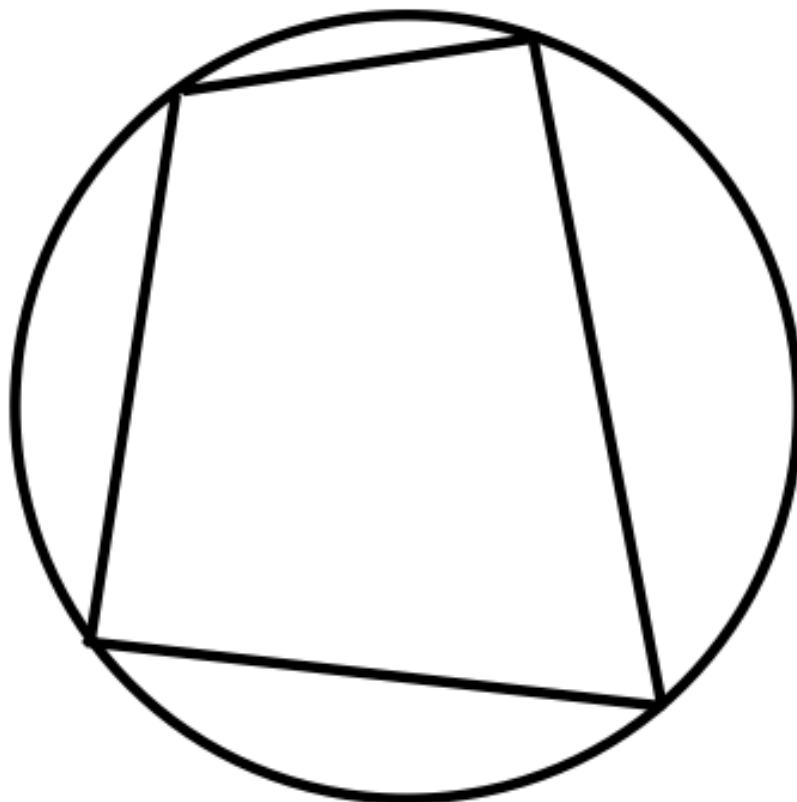
3.



Prove the angles in the same segment are equal.

(4)

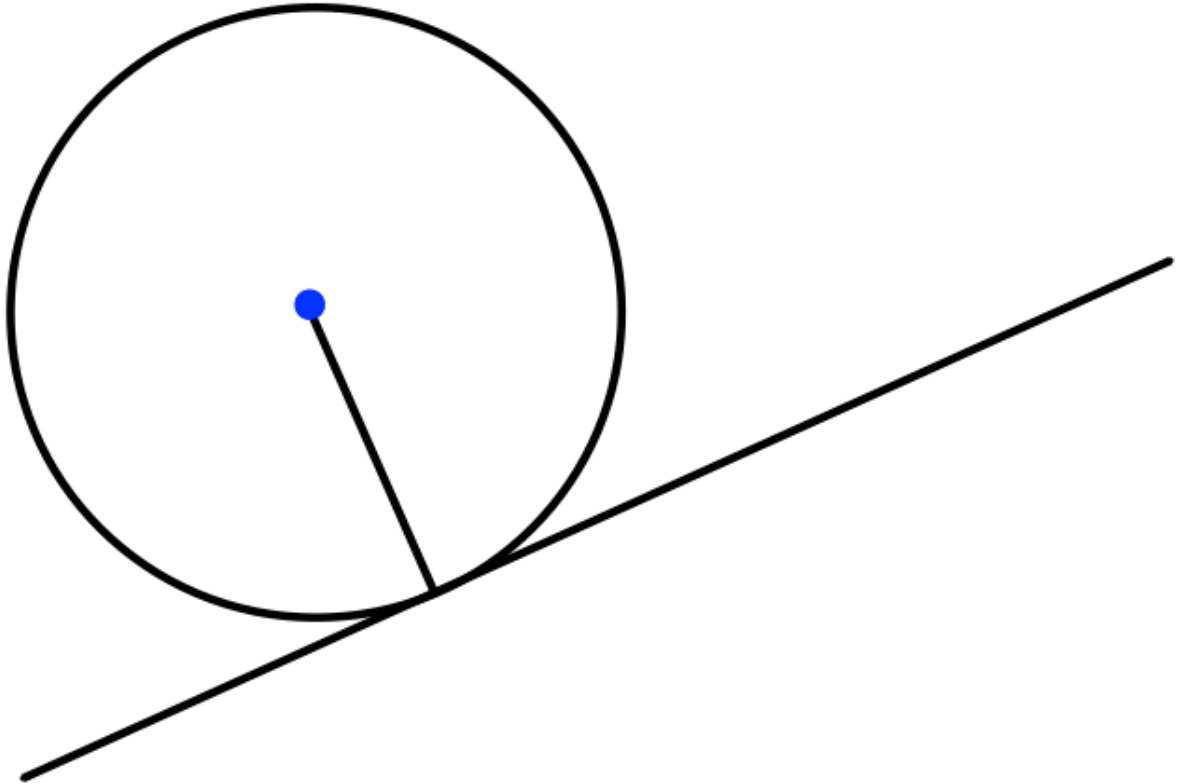
4.



Prove the opposite angles in a cyclic quadrilateral add to  $180^\circ$

(4)

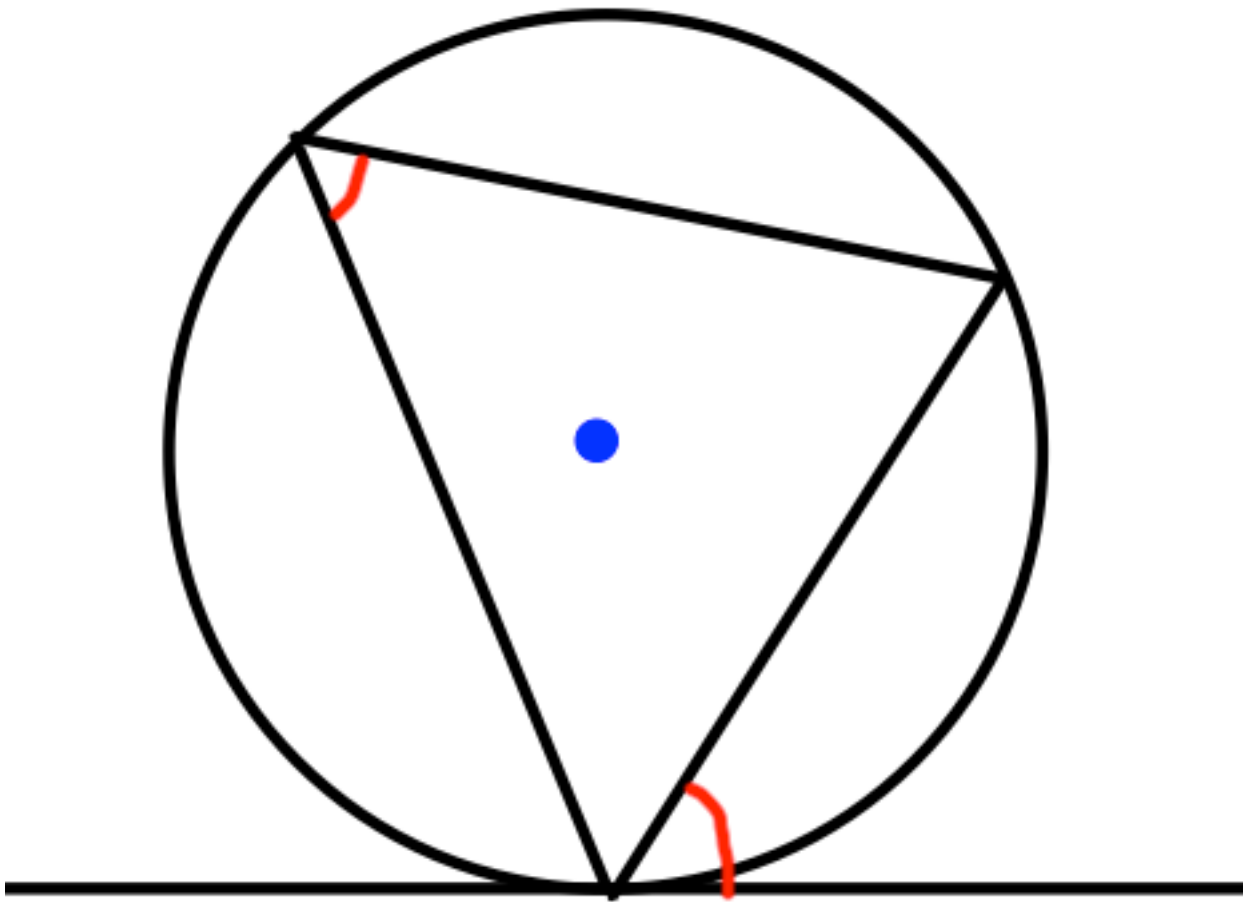
5.



Prove the angle between a tangent and the radius is  $90^\circ$

(4)

6.



Prove the alternate segment theorem; that the angle between the tangent and the chord at the point of contact is equal to the angle in the alternate segment.

(5)