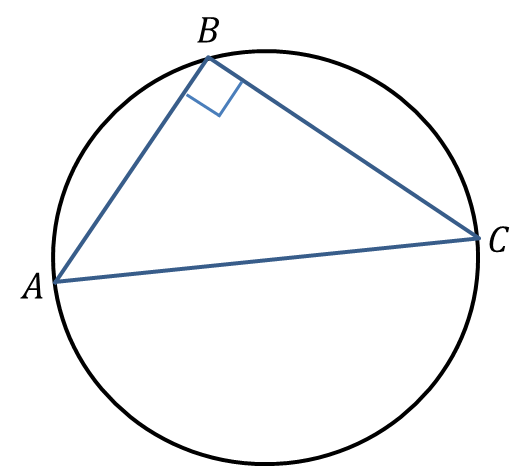
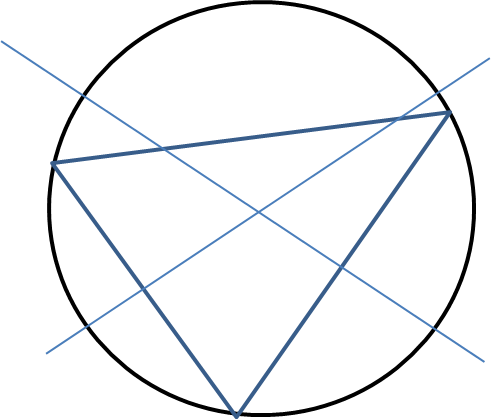
Triangles in Circles

* The triangle **inscribes** the circle.  
  (A shape inscribes another if it is inside and its boundaries touch but do not intersect the outer shape)
* The circle **circumscribes** the triangle.
* If the circumscribing shape is a circle, it is known as the **circumcircle** of the triangle.
* The centre of a circumcircle is known as the **circumcentre**.





Examples

1. The points lie on a circle.

a) Show that is a diameter of the circle.

2. The points lie on the circumference of a circle. Determine the equation of the circle.

Extension

*[STEP 2009 Q8 Edited]* If equation of the circle is , where is a positive number, it can be shown that touches the line as well as the line .

Find the equation of the incircle of the triangle formed by the lines , and .

**Note**: The incircle of a triangle is the circle, lying totally inside the triangle, that touches all three sides.

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