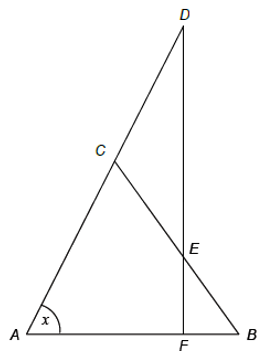
**IGCSE Further Maths Geometric Proofs Exercise**

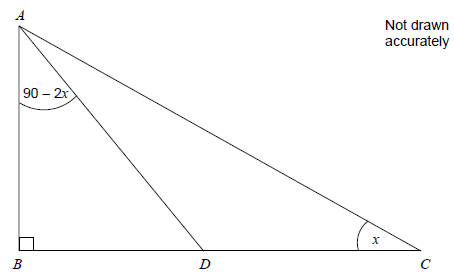
**[Test Your Understanding]**

Triangle is isosceles with .

Triangle is isosceles with .

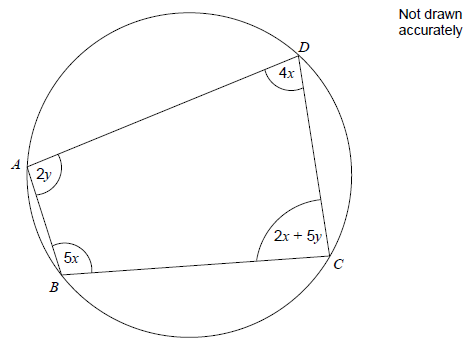
and are straight lines.

1. Prove that angle
2. Prove that is perpendicular to .

**Question 1 [Set 4 Paper 1 Q4]**

is a right-angled triangle. Angle . Angle .

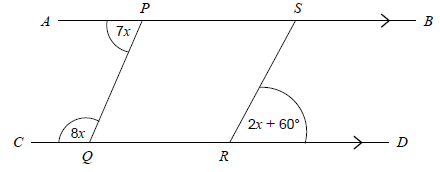
Prove that is an isosceles triangle.

**Question 2 [Set 4 Paper 1 Q9]**

is a quadrilateral.

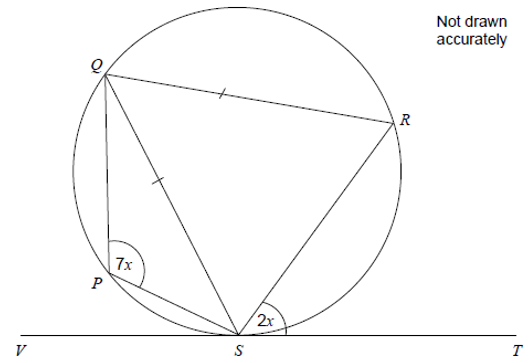
Prove that .

**Question 3 [Set 4 Paper 2 Q3]**



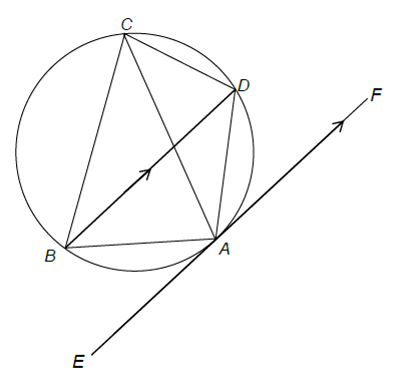
is parallel to .

Is parallel to ? You **must** show your working.

**Question 4 [Set 4 Paper 2 Q13]**

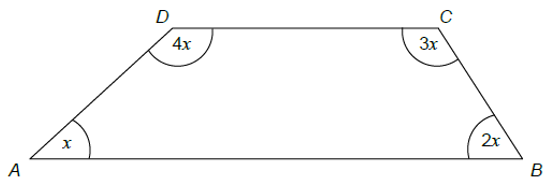
is a cyclic quadrilateral. . is a tangent to the circle.

Work out the value of . You must show your working.

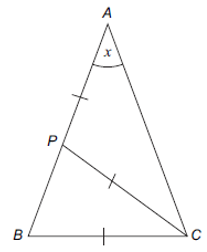
**Question 5 [Specimen Paper 1 Q15]**

, , and are points on the circumference of a circle such that is parallel to the tangent to the circle at .

Prove that bisects angle . Give reasons at each stage of your working.

**Question 6 [Specimen Paper 2 Q7]**

Prove that is parallel to .

**Question 7 [June 2012 Paper 2 Q5]**

is a triangle. is a point on such that . Angle .

1. Prove that angle .
2. You are also given that . Work out the value of .