



Geometry (Proofs)
Maths Past Exam Questions
Higher Level

Paper Two- Project Maths - Section A - Question 6

Question 6

(25 marks)

Answer either 6A or 6B.

Question 6A

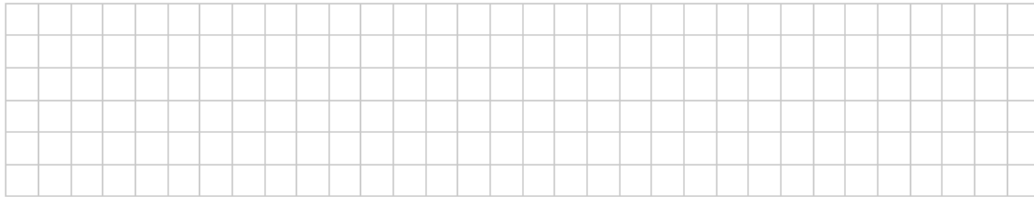
(a) Complete each of the following statements.

(i) The circumcentre of a triangle is the point of intersection of _____

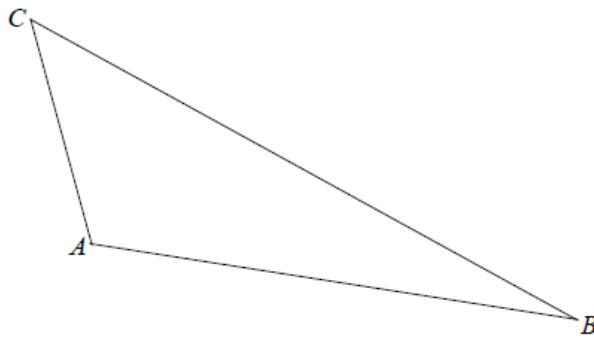
(ii) The incentre of a triangle is the point of intersection of _____

(iii) The centroid of a triangle is the point of intersection of _____

(b) In an equilateral triangle, the circumcentre, the incentre and the centroid are all in the same place. Explain why this is the case.



(c) Construct the orthocentre of the triangle ABC below. Show all construction lines clearly.



Question 6B

- (a) A quadrilateral (four sided figure) has two sides which are parallel and equal in length.
Prove that the quadrilateral is a parallelogram.



- (b) In the parallelogram $ABCD$,
 DE is perpendicular to AC .
 BF is perpendicular to AC .
Prove that $EBFD$ is a parallelogram.

