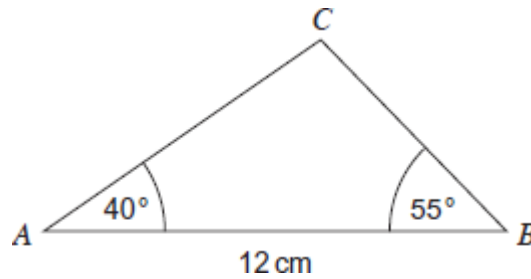


## Non-Calculator

**Q1.**

Using a ruler and a protractor, draw this triangle accurately.

Not drawn accurately



The base  $AB$  has been drawn for you.

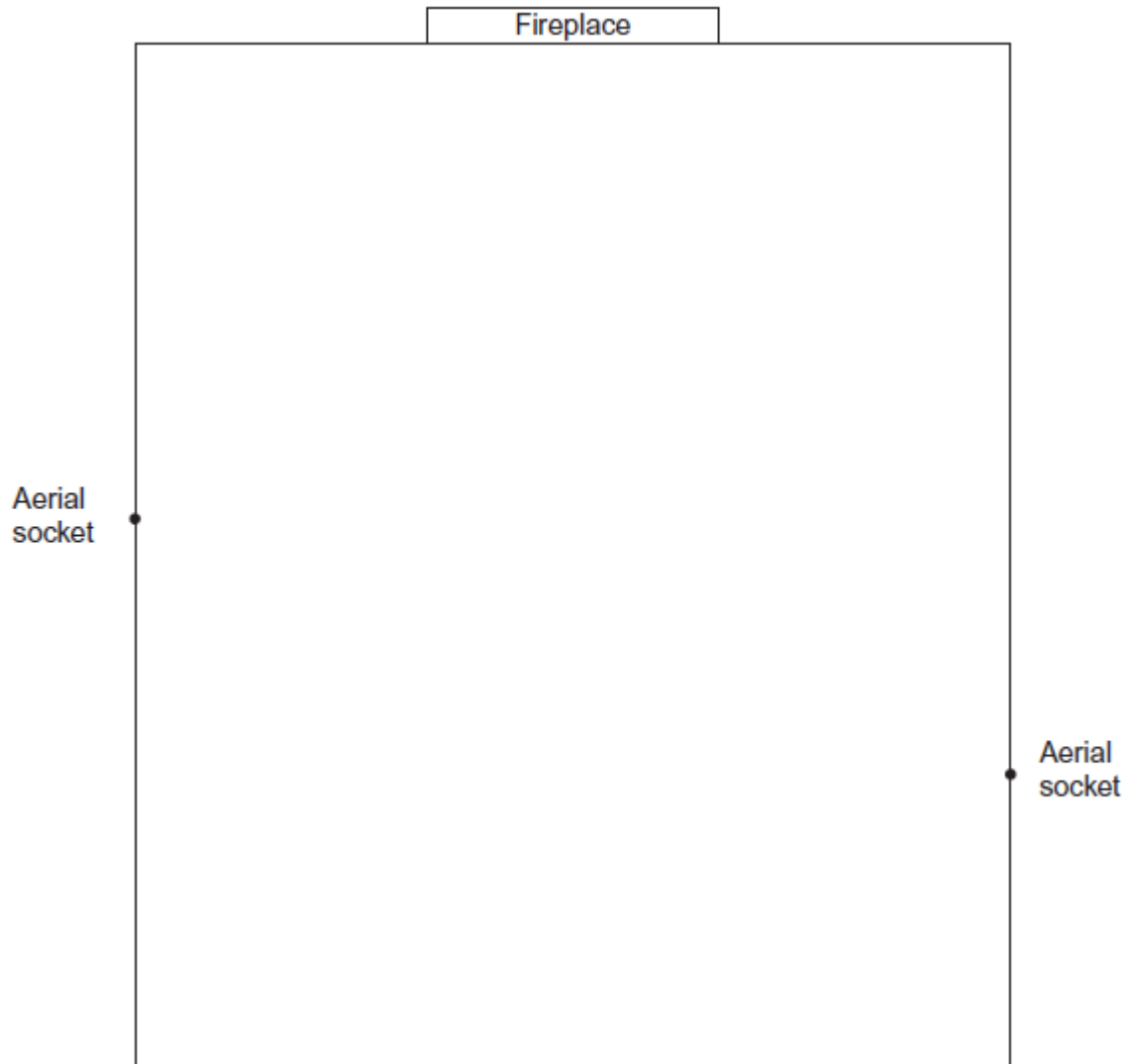


(Total 3 marks)

**Q2.**

The diagram shows the plan of a room.

**Scale:** 4 cm represents 1 m



A new socket is to be fitted to one of the walls.

It must be

equidistant from the two aerial sockets

at least half a metre from the fireplace.

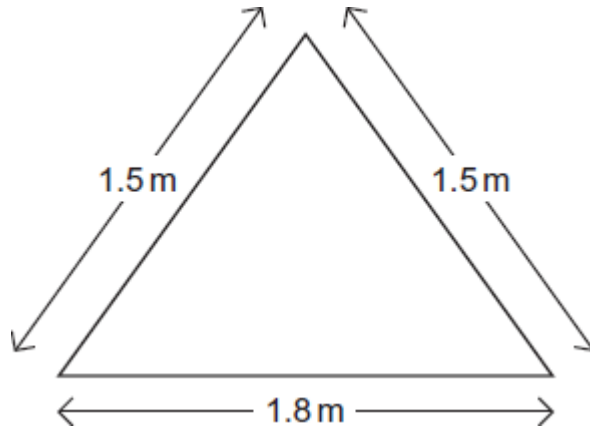
Use a ruler and compasses to show where the socket should be fitted.  
Mark the position of the new socket with the letter S.

**(Total 4 marks)**

**Q3.**

Jack is 1.28 metres tall.  
He has a tent in the shape of a triangular prism.  
The diagram shows the front view of the tent.

Not drawn  
accurately



The base of the tent has been drawn to scale below.

Complete the scale drawing to work out if Jack can stand up in the middle of the tent.  
Show how you decide.

**Scale:** 1 cm represents 20 cm

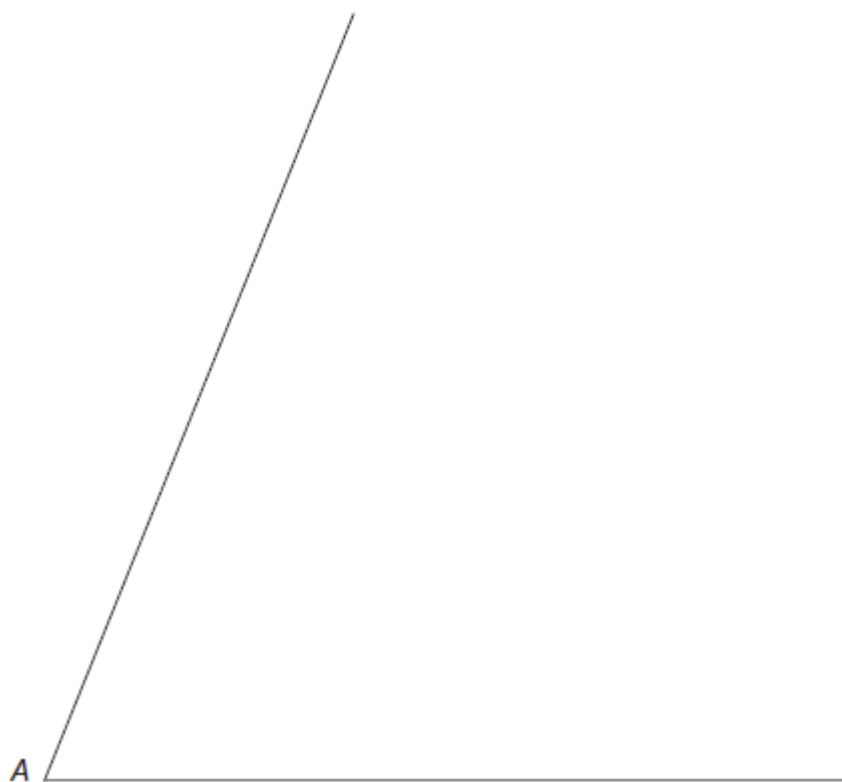
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(Total 3 marks)

**Q4.**

You will need a ruler and compasses to answer this question.

Construct the angle bisector of angle  $A$ .



**(Total 2 marks)**

**Q5.**

Use a ruler and a pair of compasses in this question.

Construct the perpendicular bisector of  $AB$ .



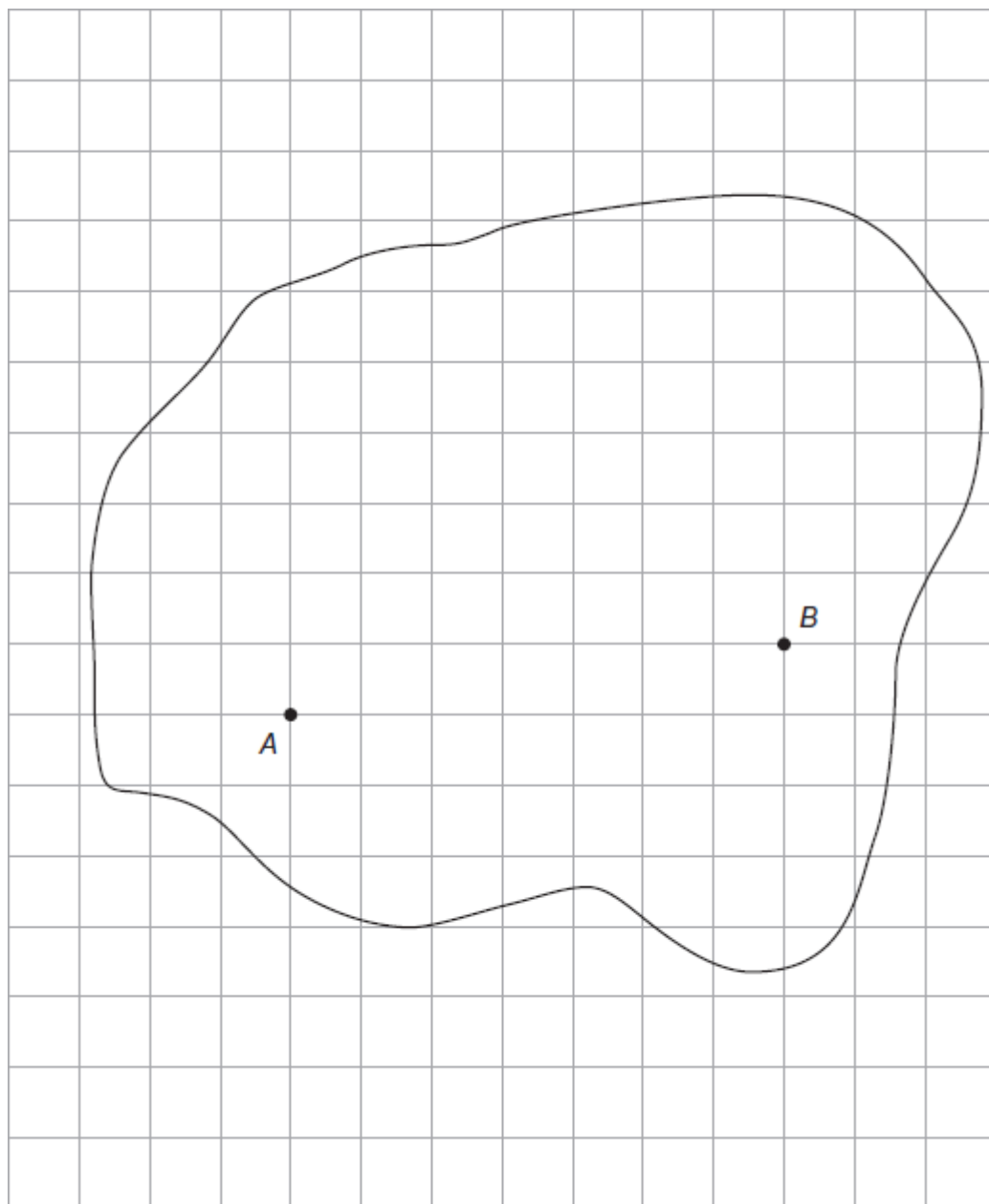
**(Total 2 marks)**

## Calculator

**Q6.**

You need a ruler and compasses to answer this question.

A map of an island is shown on the grid.



Treasure is buried on the island.

The treasure is the same distance from A as it is from B.

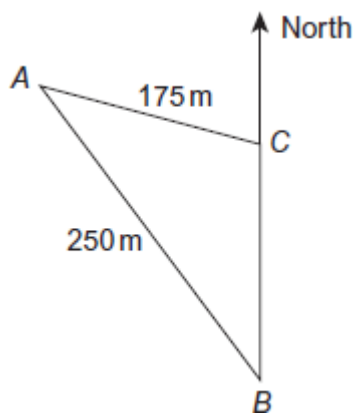
Construct a line on the map to show **all** the places where the treasure could be.

**(Total 3 marks)**

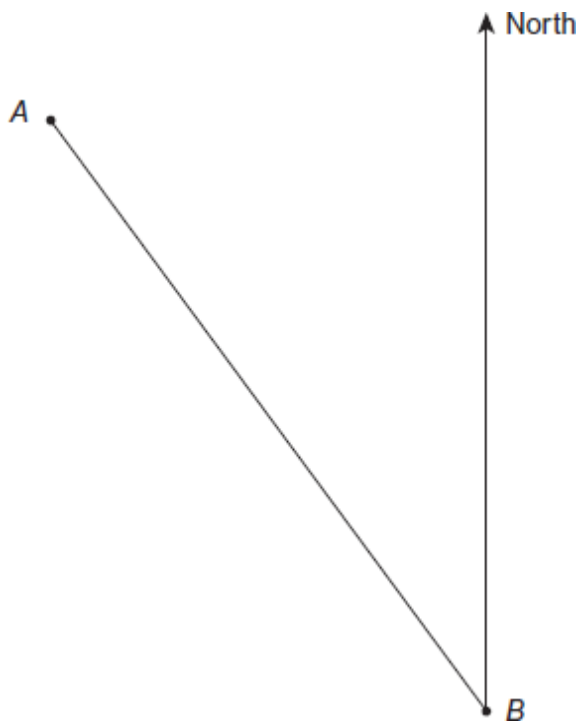
**Q7.**

(a) Here is a sketch of a triangular field  $ABC$ .

Not drawn accurately



Complete this scale drawing of the field.



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(3)

(b)  $PQRS$  represents a garden.



A straight path across the garden is the same distance from  $PQ$  and  $PS$ .

Use ruler and compasses to construct the position of the path.

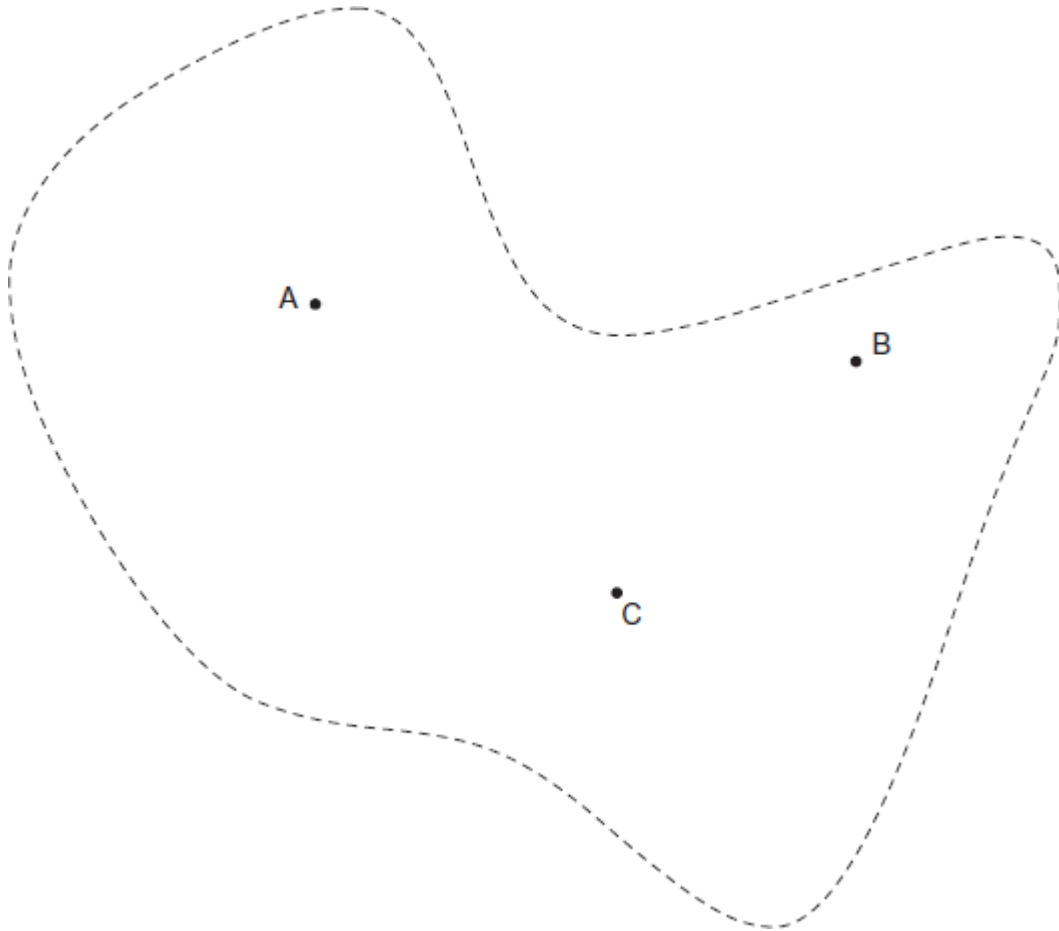
(2)  
(Total 5 marks)

**Q8.**

You need compasses to answer this question.

The scale drawing shows the positions of three mobile phone masts A, B and C.  
The masts provide mobile phone coverage in a town.  
The town border is shown by the dotted line on the diagram.

**Scale** 1 cm represents 1 km



Places in the town have mobile phone coverage if they are

less than 4.5 km from A

**or**

less than 3.5 km from B

**or**

less than 3 km from C.

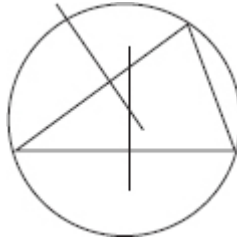
Shade the area in the town that does **not** have mobile phone coverage.

**(Total 4 marks)**



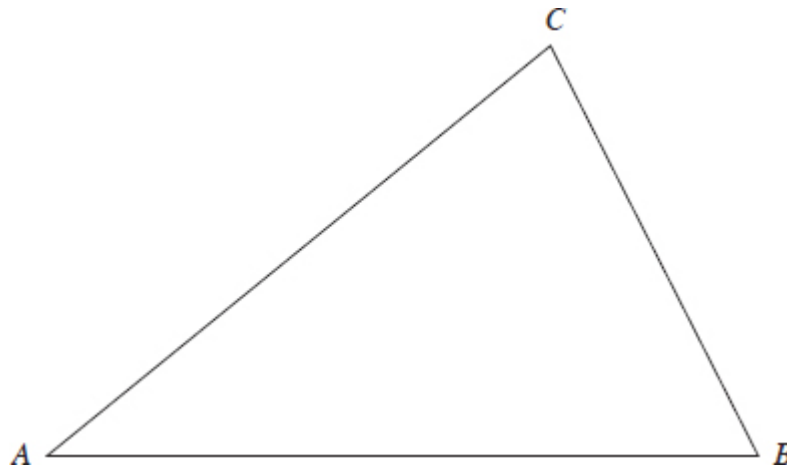
**Q9.**

Use these steps to construct a circle passing through the vertices of the triangle  $ABC$ .



- Construct the perpendicular bisector of  $AB$ .
- Construct the perpendicular bisector of  $AC$ .
- Use the point of intersection of the bisectors as the centre of the circle.
- Draw the circle through  $A$ ,  $B$  and  $C$ .

Show your construction arcs clearly.

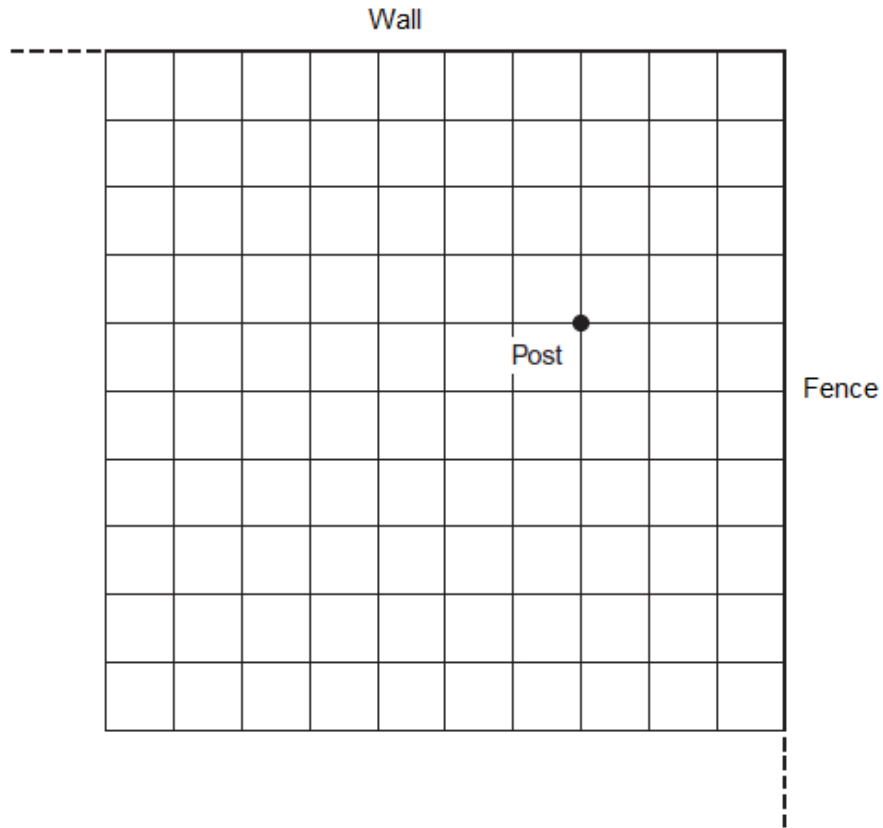


**(Total 4 marks)**

**Q10.**

The scale drawing shows a post which is 1.5 metres from the fence.

Drawn  
to scale



- (a) How far is the post from the wall?

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Answer \_\_\_\_\_ metres

(1)

- (b) A pony is tied to the post by a rope.  
The pony can reach 2.5 metres from the post.

On the scale drawing, show accurately the area that the pony can reach.

(2)

- (c) Work out the scale of the drawing as a ratio.  
Give your answer in its simplest form.

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Scale \_\_\_\_\_ : \_\_\_\_\_

(3)

(Total 6 marks)