



# EXAM PAPERS PRACTICE

GCSE OCR Math J560  
Loci & Construction

Question Paper

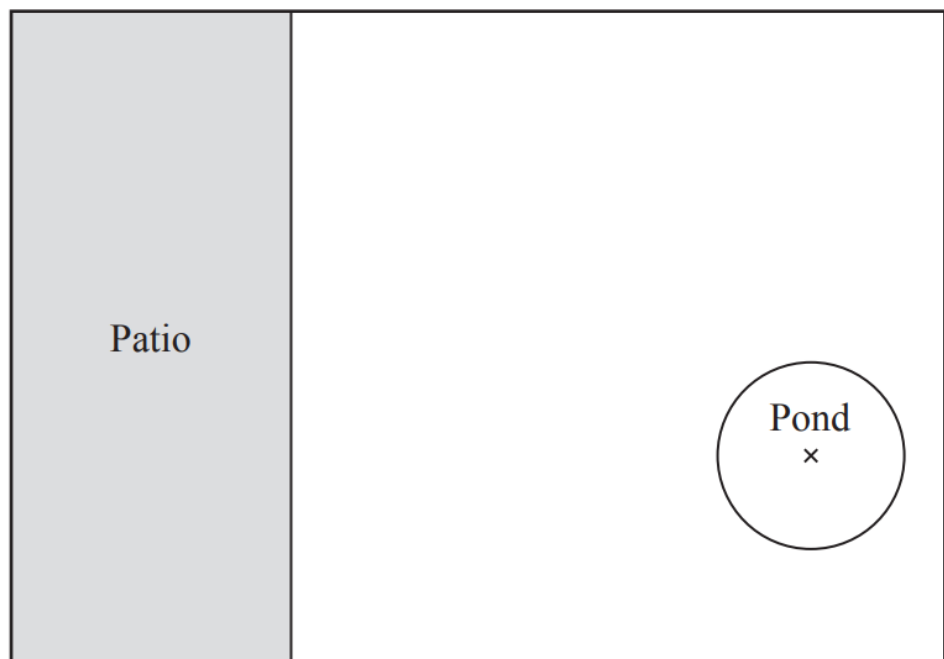
*"We will help you to  
achieve A Star "*



**Question 1**

The diagram shows a garden in the shape of a rectangle.

The scale of the diagram is 1 cm represents 2 m.



Scale: 1 cm represents 2 m

Irfan is going to plant a tree in the garden.

The tree must be

- and** more than 3 metres from the patio
- and** more than 6 metres from the centre of the pond.

On the diagram, shade the region where Irfan can plant the tree.

**[3 marks]**



**Question 2**

Here is a scale drawing of an office.

The scale is 1 cm to 2 metres.



A photocopier is going to be put in the office.

The photocopier has to be closer to  $B$  than it is to  $A$ .

The photocopier also has to be less than 8 metres from  $C$ .

Show, by shading, the region where the photocopier can be put.

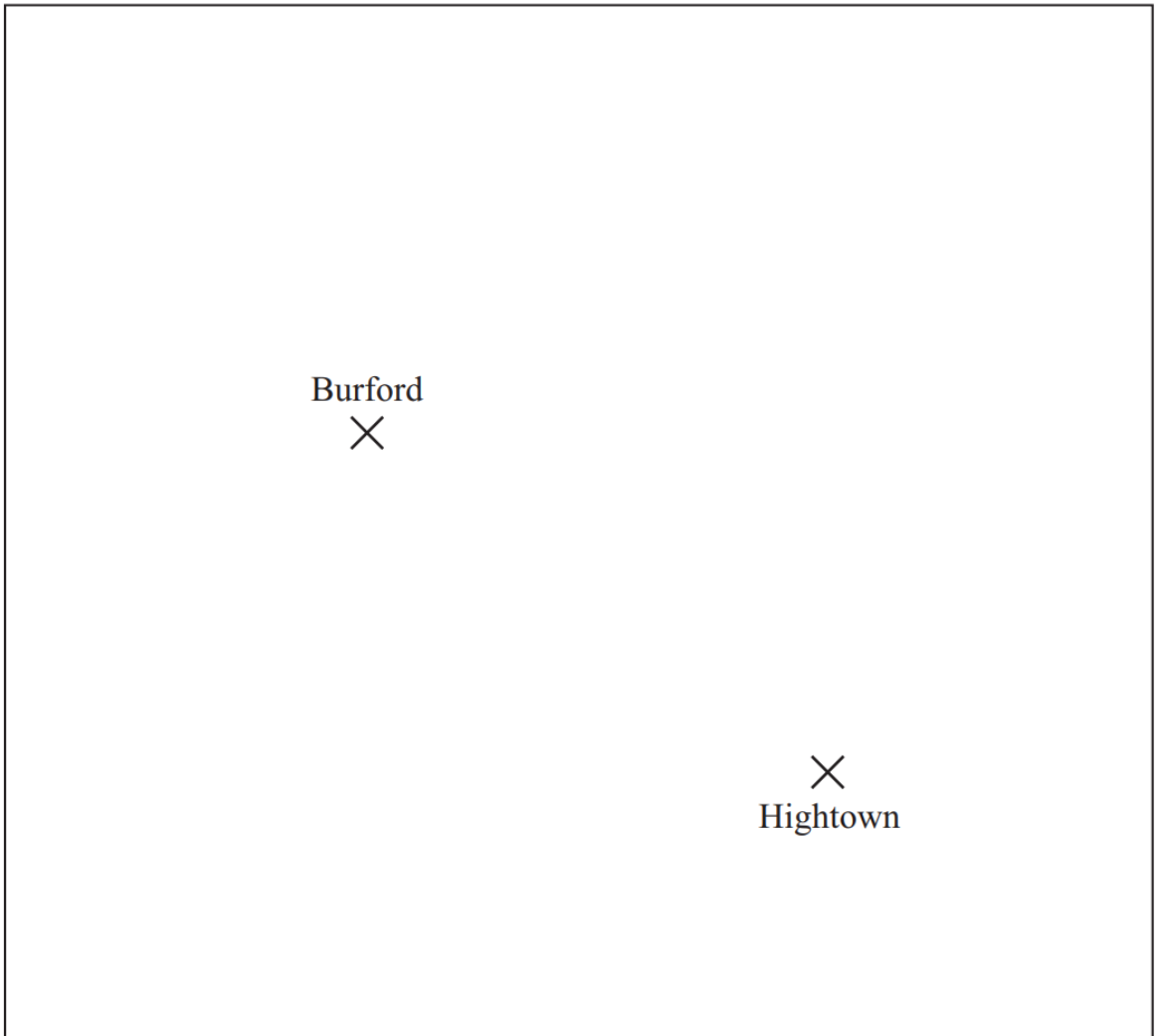
**[3 marks]**



**Question 3**

Here is a map.

The map shows two towns, Burford and Hightown.



Scale: 1 cm represents 10 km

A company is going to build a warehouse.

The warehouse will be less than 30 km from Burford **and** less than 50 km from Hightown.

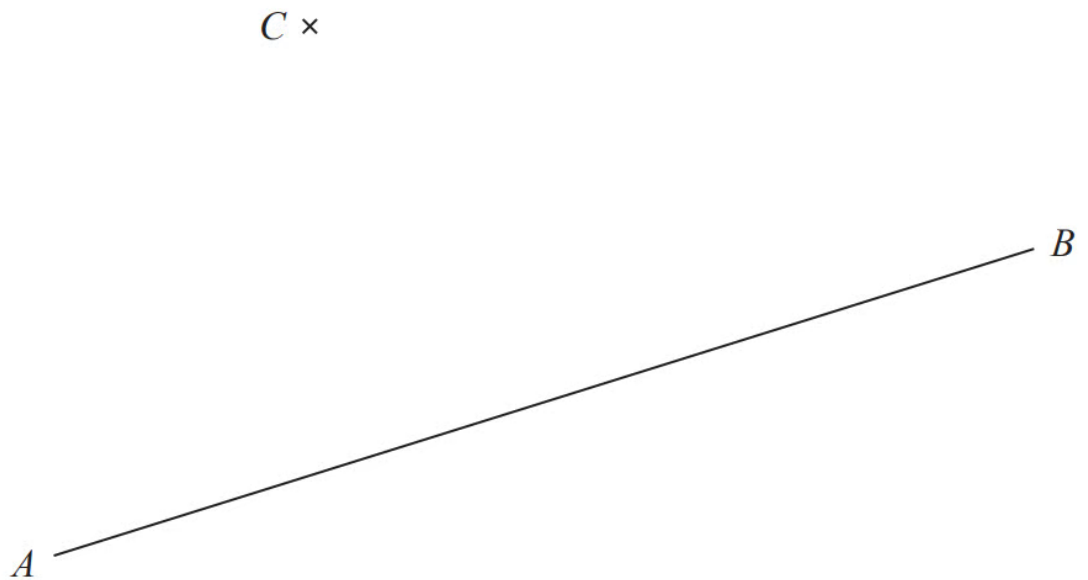
Shade the region on the map where the company can build the warehouse.

**[3 marks]**



**Question 4**

Use ruler and compasses to **construct** the perpendicular from point  $C$  to the line  $AB$ .  
You must show all your construction lines.



[2 marks]



**Question 5**



Use ruler and compasses to **construct** the perpendicular bisector of the line segment  $AB$ .  
You must show all your construction lines.

**[2 marks]**



**Question 6**

Here is a scale drawing of a rectangular garden  $ABCD$ .



Scale: 1 cm represents 1 metre.

Jane wants to plant a tree in the garden  
at least 5 m from point  $C$ ,  
nearer to  $AB$  than to  $AD$   
and less than 3 m from  $DC$ .

On the diagram, shade the region where Jane can plant the tree.

[4 marks]



**Question 7**

(b) Use ruler and compasses to construct the perpendicular from the point  $P$  to the line  $QR$ .

You must show all your construction lines.

$P$   
×



[2 marks]

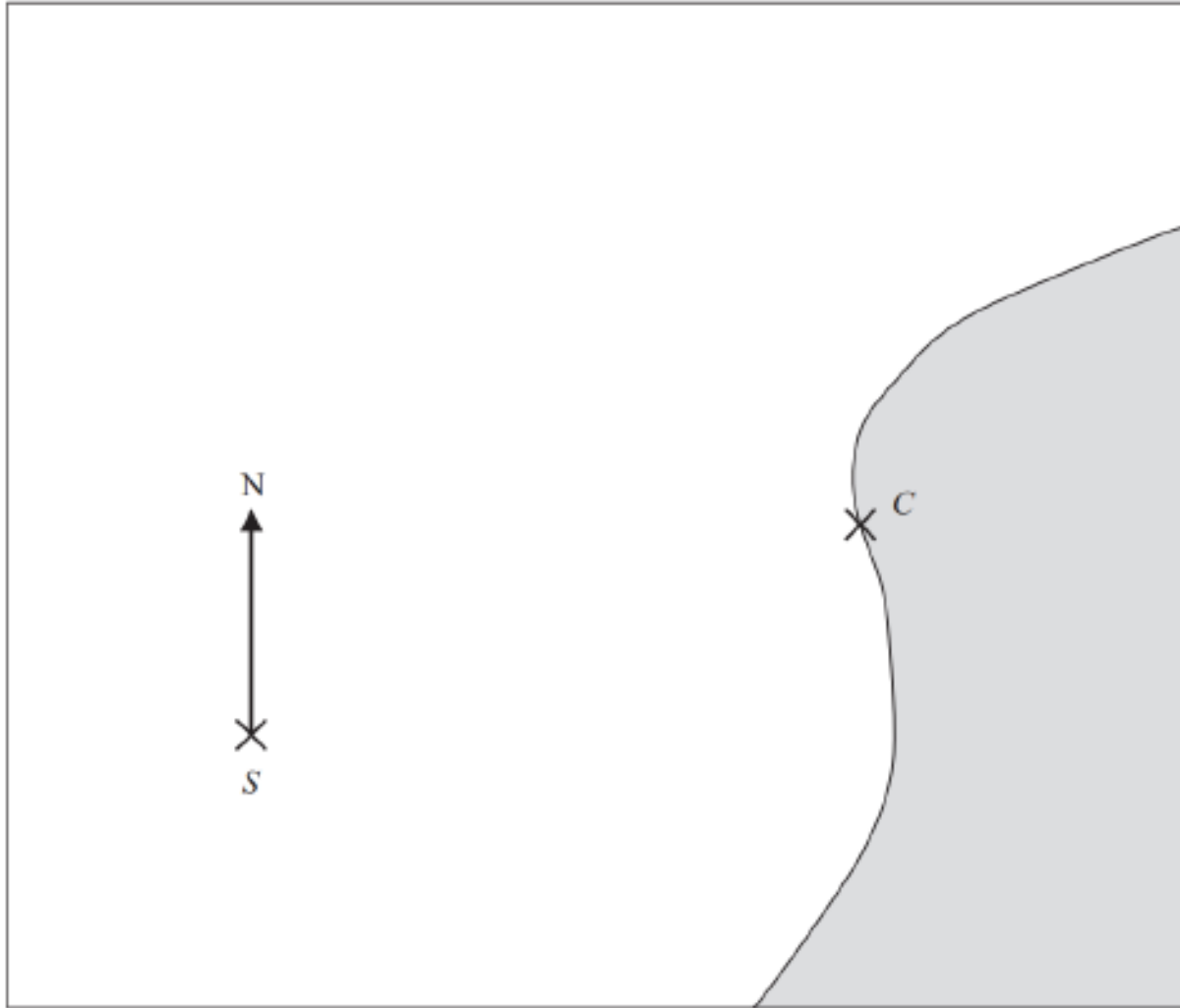




**Question 8**

Here is a map.

The position of a ship, *S*, is marked on the map.



Scale 1 cm represents 100 m

Point *C* is on the coast.

Ships must not sail closer than 500 m to point *C*.

The ship sails on a bearing of  $037^\circ$

Will the ship sail closer than 500 m to point *C*?

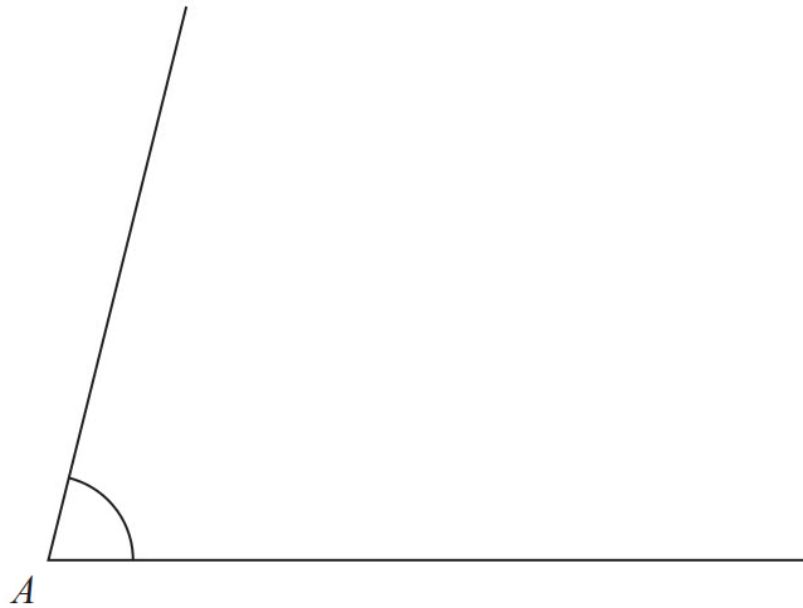
You must explain your answer.

[3 marks]



**Question 9**

- (a) Use ruler and compasses to bisect the angle at  $A$ .  
You must show all your construction lines.



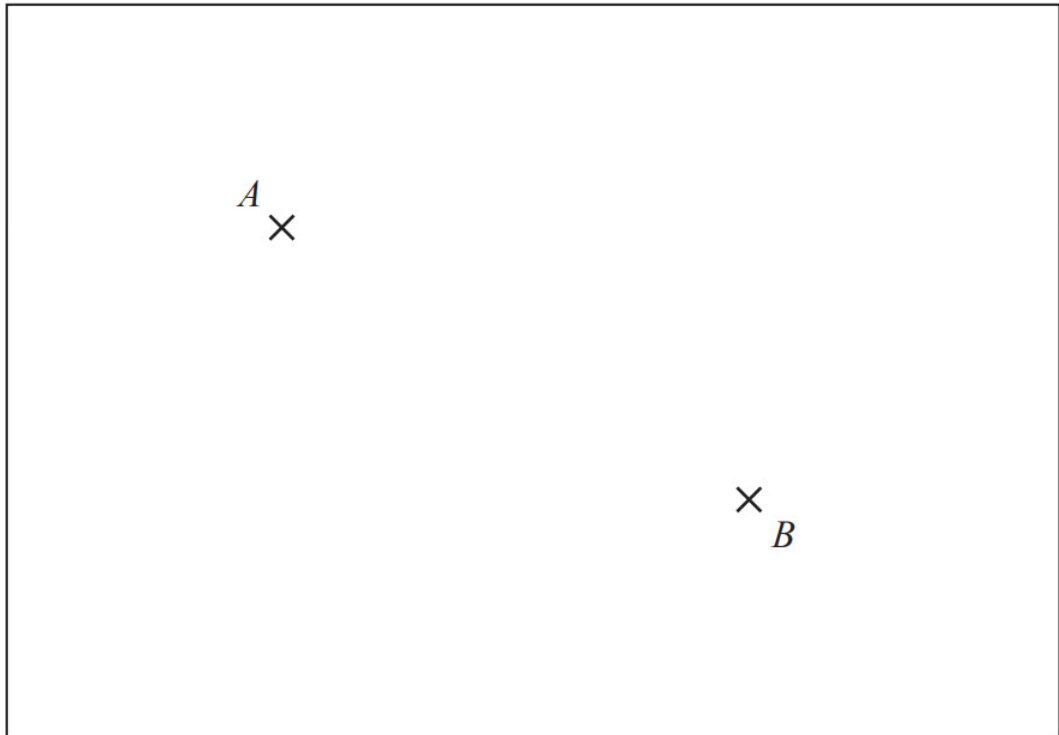
[2 marks]



**Question 10**

Here is a map.

The map shows two airports,  $A$  and  $B$ .



Scale: 1 cm represents 10 km

Sophie is going to have a hotel built.

The hotel

will be closer to airport  $A$  than to airport  $B$

will be less than 40 km from airport  $B$

On the map, shade the region where the hotel can be built.

[3 marks]