


Centre Number						Candidate Number				
Surname										
Other Names										
Candidate Signature										

For Examiner's Use	
Examiner's Initials	
Pages	Mark
3	
4 – 5	
6 – 7	
8 – 9	
10 – 11	
12 – 13	
14 – 15	
TOTAL	

GCSE Mathematics (Non-calculator Paper)

Practice Paper Style Questions
Topic: Loci & Constructions (Higher Tier)

<p>For this paper you must have:</p> <ul style="list-style-type: none"> • black pen • HB pencil • ruler (with cm & mm) • rubber • protractor • compass • pencil sharpener 	
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Time allowed

- 1 hour

Instructions

- Use **black ink** or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the space provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book. Cross through any work that you do not want to be marked.

Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is **44**.
The quality of your written communication is specifically assessed in questions indicated with an asterisk (*)
- You may ask for more answer paper and graph paper.
These must be tagged securely to this answer booklet.
- A calculator must NOT be used.

Advice

- Read each question carefully before you answer it.
- In all calculations, show clearly how you work out your answer.
- Check your answers if you have time at the end.

There are no questions printed on this page

**DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED**

- 1 (a) Draw the locus of all points which are equidistant from the points X and Y .

 $X \times$ $\times Y$

(2 marks)

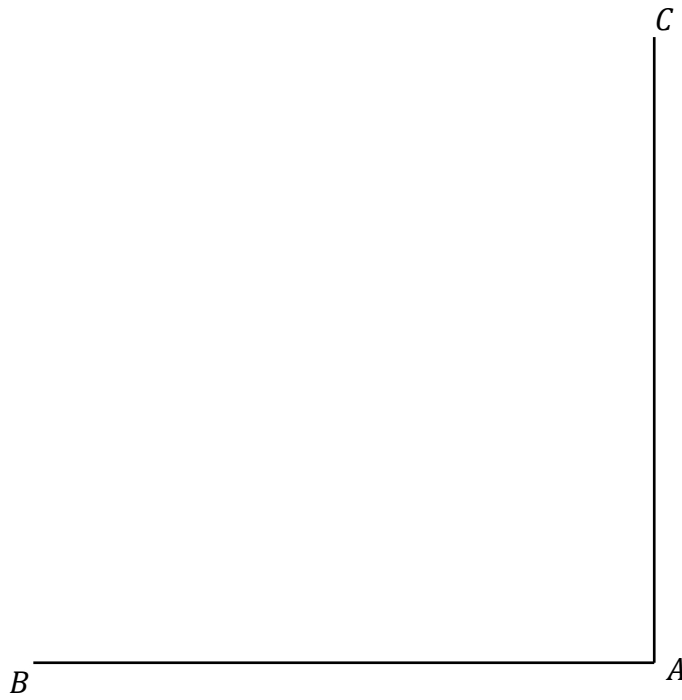
- (b) Draw the locus of all points that are exactly 2cm from the line AB .

 A ————— B

(2 marks)

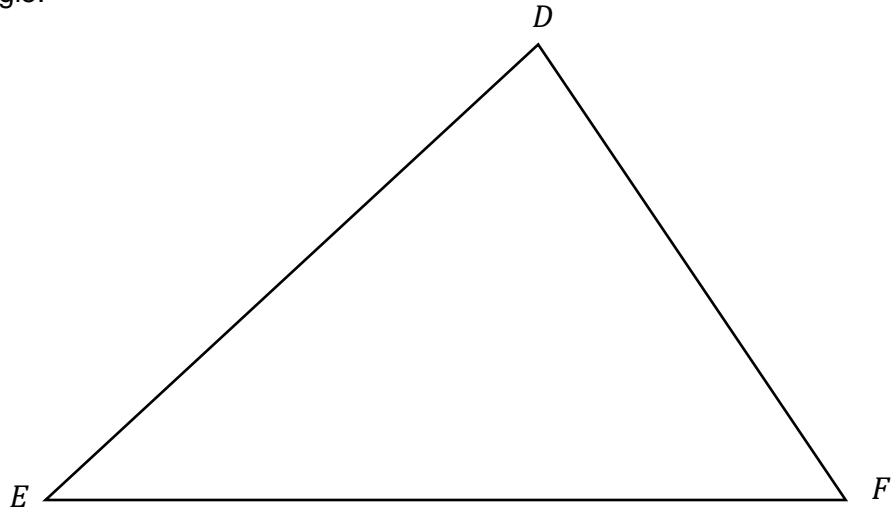
4

- 2 Draw the locus of all points which are equidistant from the lines AB and AC .



(2 marks)

3 DEF is a triangle.



Shade the area inside the triangle which is:

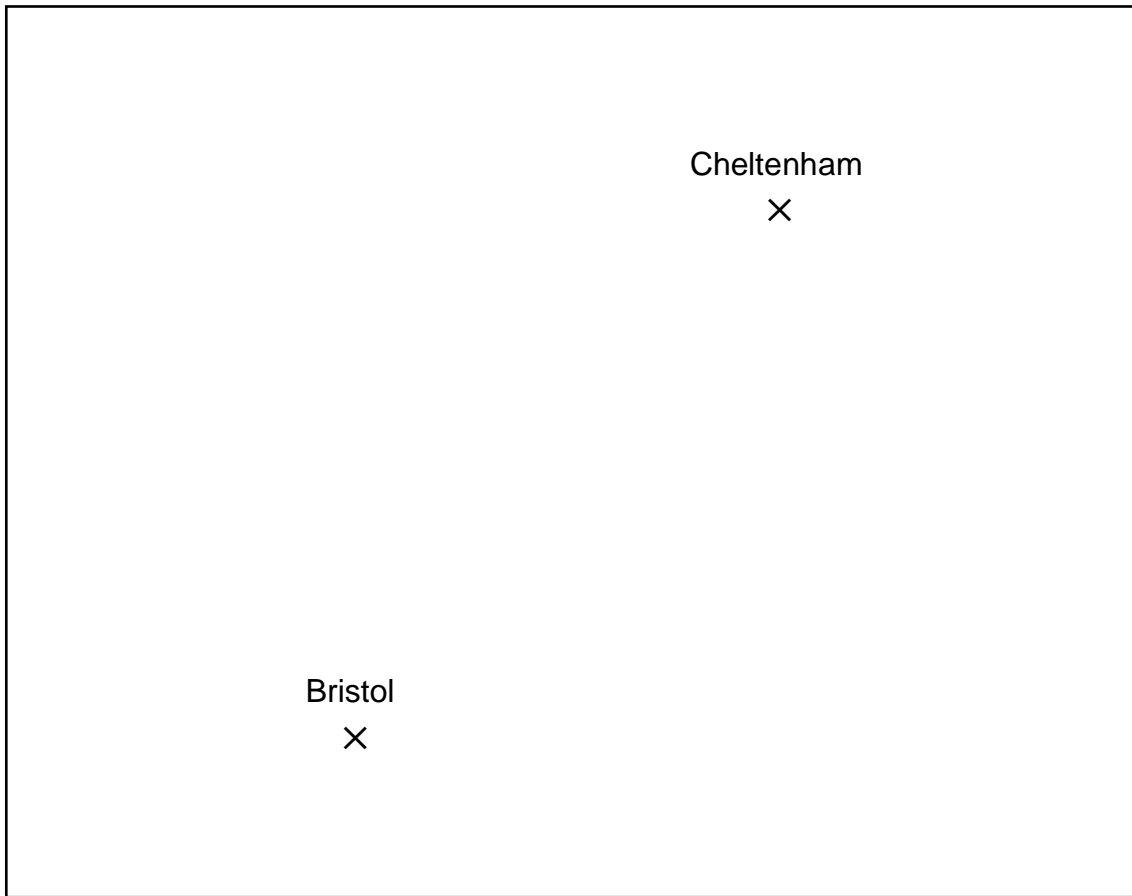
- Less than 7cm from the point E

AND

- Closer to the line DF than DE .

(4 marks)

- 4 Here is a map which shows two locations, Cheltenham and Bristol.



Scale: 1cm represents 5 miles

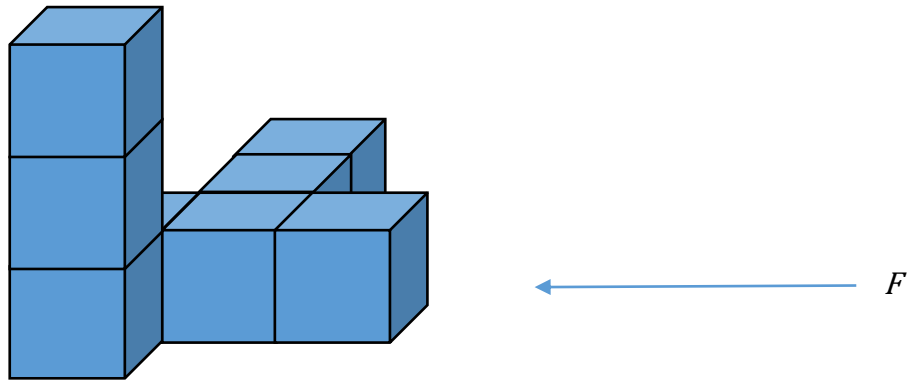
A company is planning to build a new leisure facility.

The facility will be less than 20 miles from Bristol and less than 30 miles from Cheltenham.

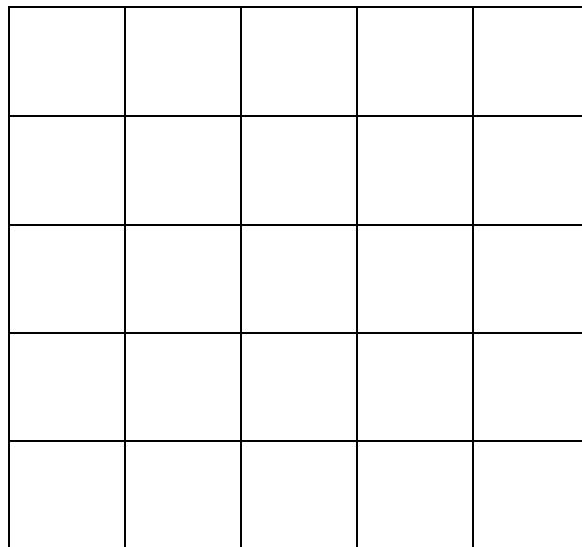
Shade the region on the map where the company can build the facility.

(3 marks)

- 5 This solid is made from 8 identical cubes.



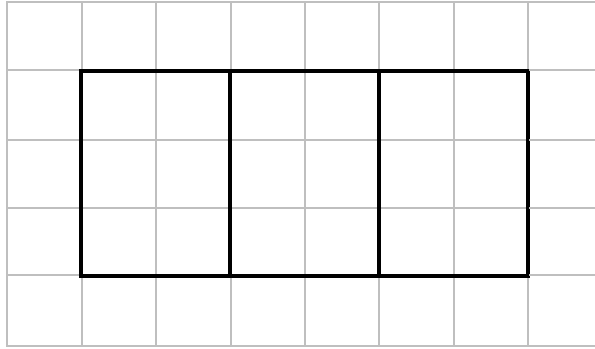
On the grid below, draw the view of the solid from the direction F .



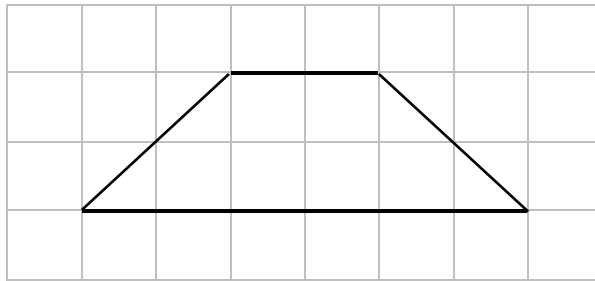
(2 marks)

- 6 These diagrams show the plan and front elevation of a solid shape.

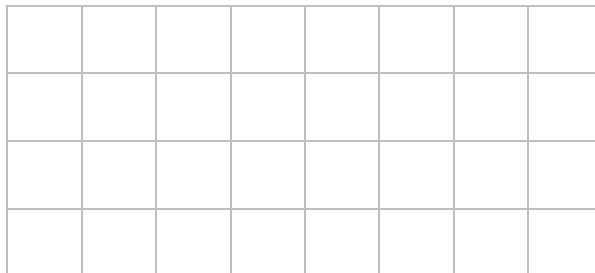
Plan



Front
Elevation



- (a) On the grid below, draw the side elevation of the solid shape.



(1 mark)

- (b) In the space below, draw a sketch of the solid shape.

(2 marks)

7 In the space below, use a ruler and compasses to construct an equilateral triangle with side of 8 centimetres.

You must show all your construction lines.

One side of the triangle has already been drawn for you.



(2 marks)

8 Here is a sketch of a quadrilateral.

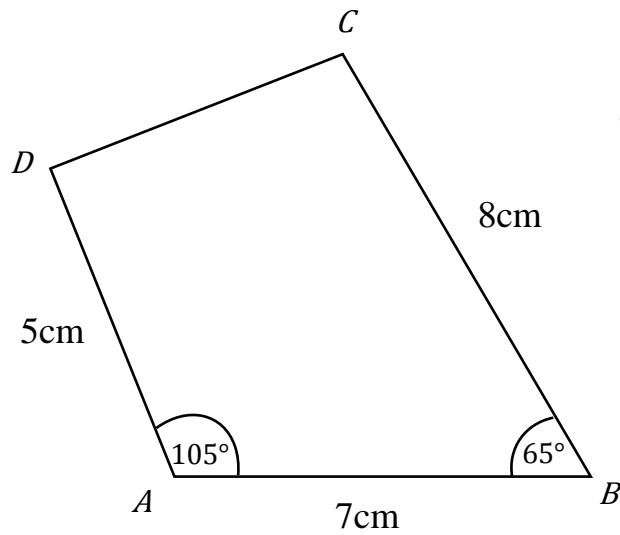


Diagram NOT
accurately drawn

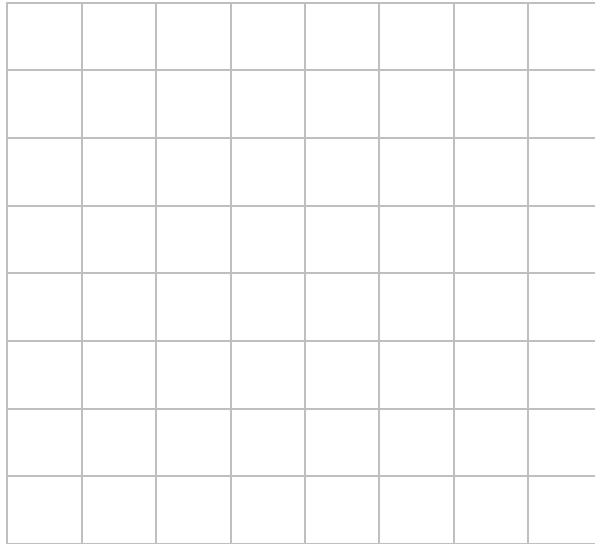
Make an accurate drawing of the quadrilateral $ABCD$ in the space below.

The point A , marked with a cross (\times), has been drawn for you.

$A \times$

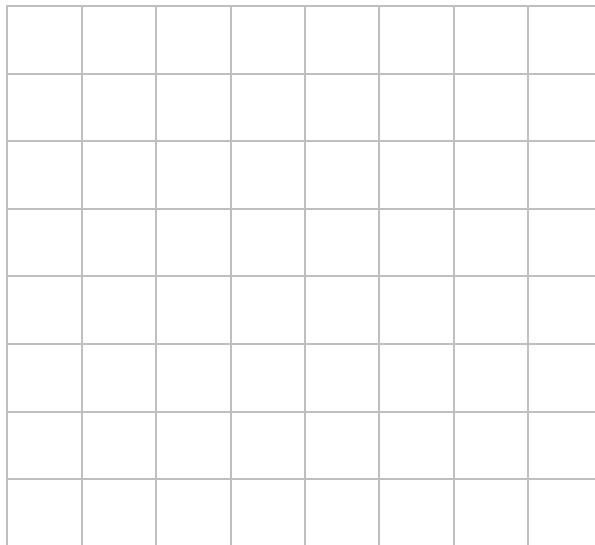
(4 marks)

- 9 (a) On the grid below, draw an isosceles triangle.



(1 mark)

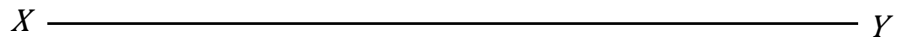
- (b) On the grid below, draw a rectangle with an area of 30cm^2 .



(2 marks)

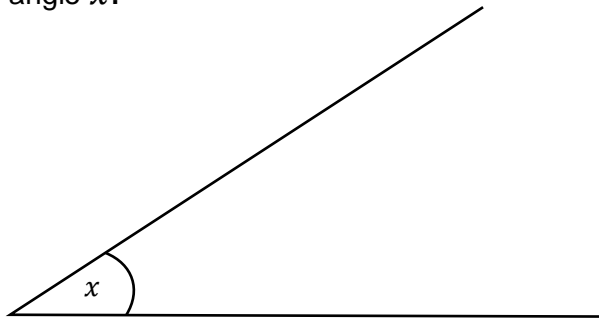
10 (a) Measure the length of line XY .

Give your answer in centimetres.



Answercm..... (1 mark)

(b) Measure the size of angle x .



Answer^o..... (1 mark)

(c) In the space below, draw accurately a circle of radius 5cm.

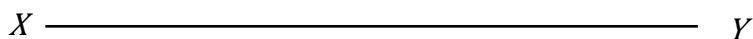
Use the point P as the centre of your circle.

$P \times$

(1 mark)

- 11 (a) Use a ruler and compasses to construct the perpendicular bisector of the line XY .

You must show all your construction lines.



(2 marks)

- (b) Use a ruler and compasses to construct the perpendicular bisector of the line MN .

You must show all your construction lines.

M



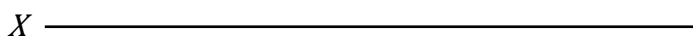
N

(2 marks)

7

- 12 (a) Use a ruler and compasses to construct an angle of 42° at X .

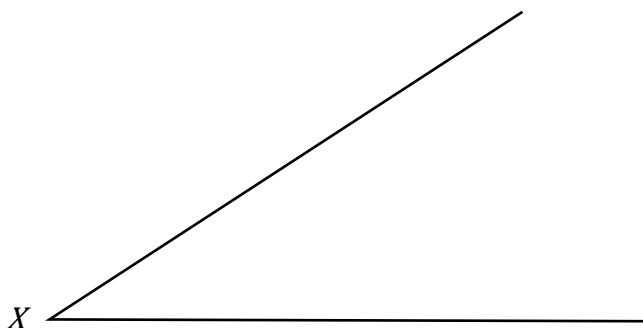
You must show all your construction lines.



(2 marks)

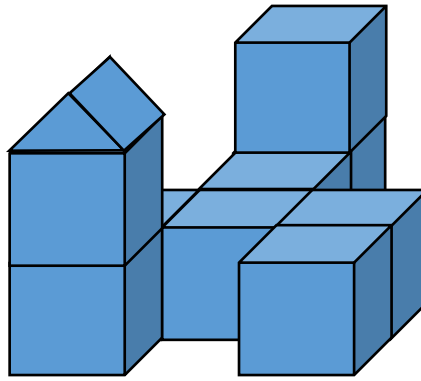
- (b) Use a ruler and compasses to bisect the angle formed at X .

You must show all your construction lines.



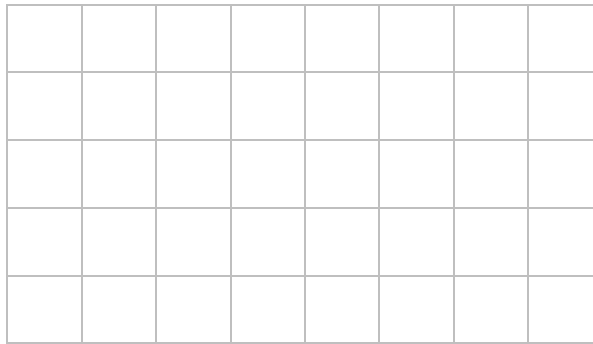
(2 marks)

13 Here is a 3D model.



On the grids below, draw the plan, front elevation and a side elevation of the shape.

Plan



Front
Elevation



Side
Elevation



(6 marks)

END OF QUESTIONS

There are no questions printed on this page

**DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED**

