

Loci and Construction

Please write clearly in block capitals

Forename:

Surname:

Materials

For this paper you must have:

- mathematical instruments



You must **not** use a calculator.

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 spaces 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 you do not want to be marked.

Information

- The marks for questions are shown in brackets.
- You may ask for graph paper, tracing paper and more answer paper. These must be tagged securely to this answer book.

Advice

- In all calculations, show clearly how you work out your answer.

1(a) Draw the locus of all points that are 4 *cm* from point *A* shown below.

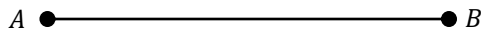
(Level 3)

[1 mark]



1(b) Draw the locus of all points that are 2 *cm* from the line segment *AB* shown below.

[2 marks]



- 2** Draw the locus of all points that are equidistant from point A and point B , shown below.

(Level 3)

[2 marks]



- 3** Construct a line perpendicular to the line AB shown below, such that, the line crosses at the mid-point of AB .

(Level 3)

[2 marks]



Turn over for next question

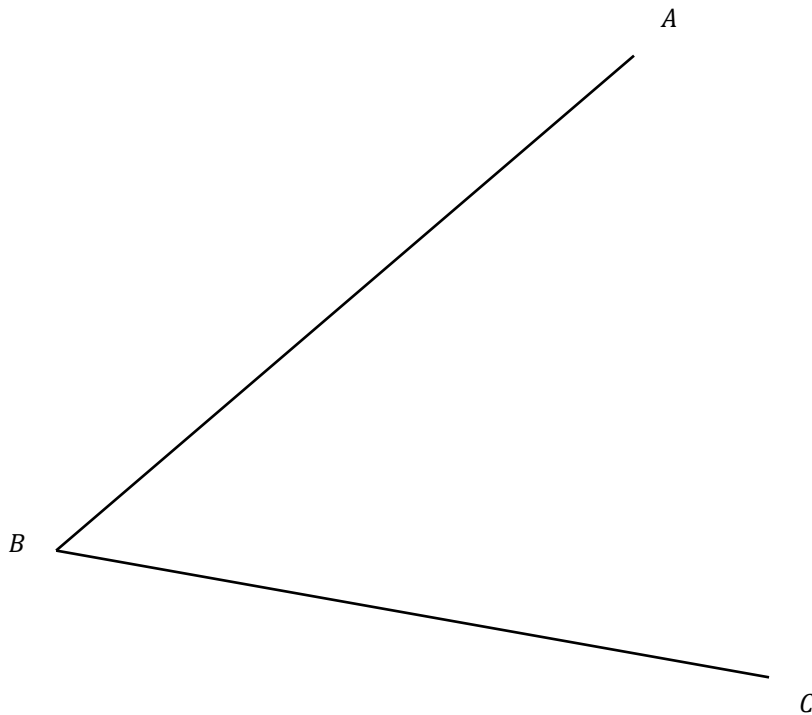
4(a) Define the bisector of an angle.

(Level 3)

[1 mark]

4(b) Bisect the angle $\angle ABC$, shown below.

[2 marks]



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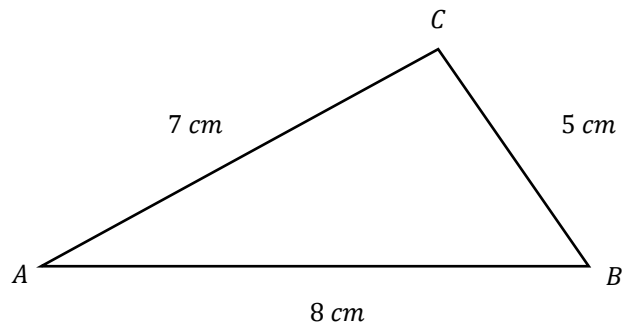
5 Triangle ABC is shown below

(Level 3)

$$AC = 7 \text{ cm}$$

$$CB = 5 \text{ cm}$$

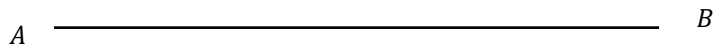
$$AB = 8 \text{ cm}$$



Using line AB shown below, draw an accurate drawing of triangle ABC shown above.

You must show all your construction lines.

[3 marks]



Turn over for next question

Turn over ►

6

A scale plan for a garden is shown below.

(Level 4)

Some of the key features are missing from the diagram.

Decking covers a region that is 3 m from AC

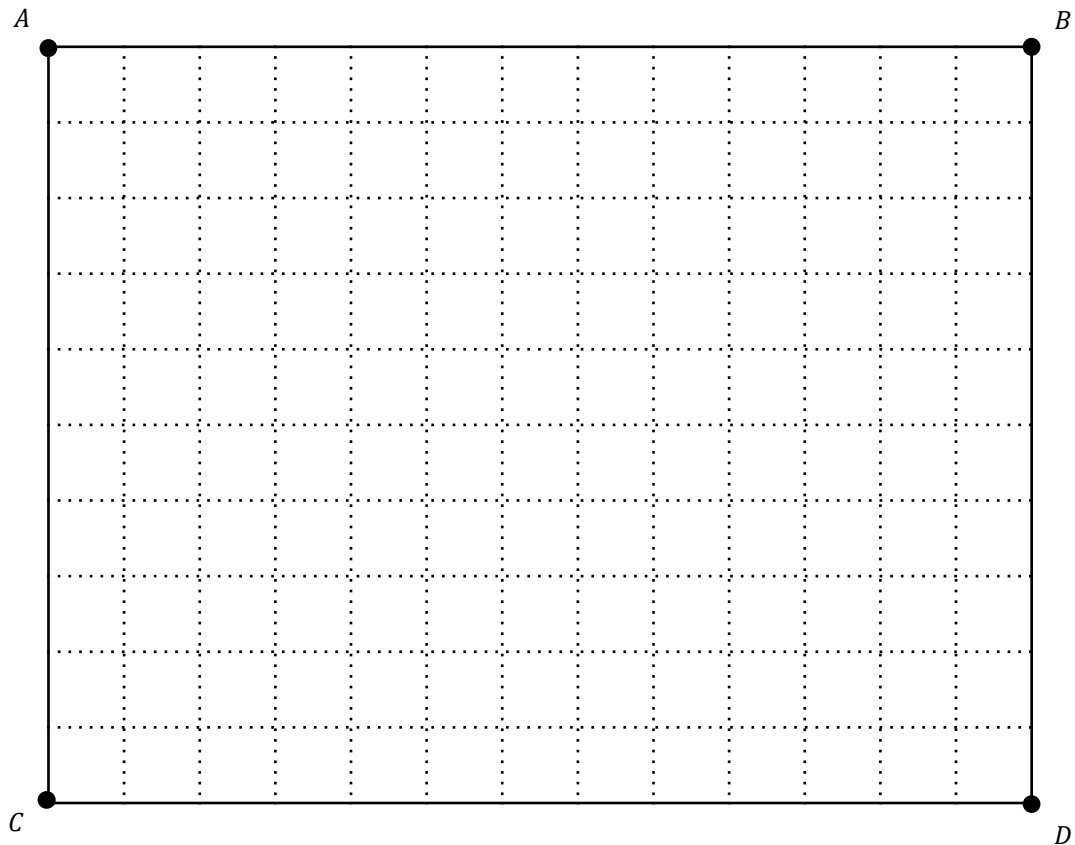
Decking also covers a region that is 4 m from C .

Decking will also cover all the regions closer to DB than CD

Mark with an R , the region **not** covered by decking.

The scale for the plan is $1m = 1cm$

[3 marks]

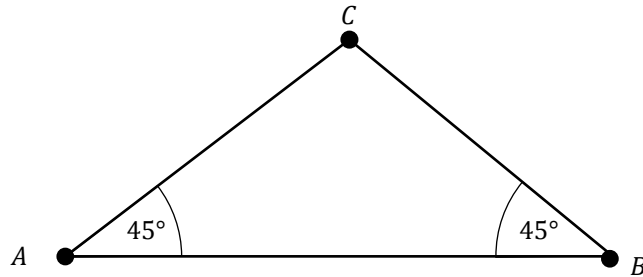


7 Triangle ABC is shown below

(Level 4)

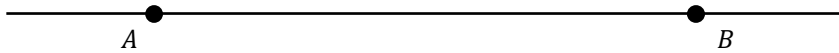
$$\angle CAB = 45^\circ$$

$$\angle CBA = 45^\circ$$



In the space provided below, construct an accurate drawing of triangle ABC

[3 marks]



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