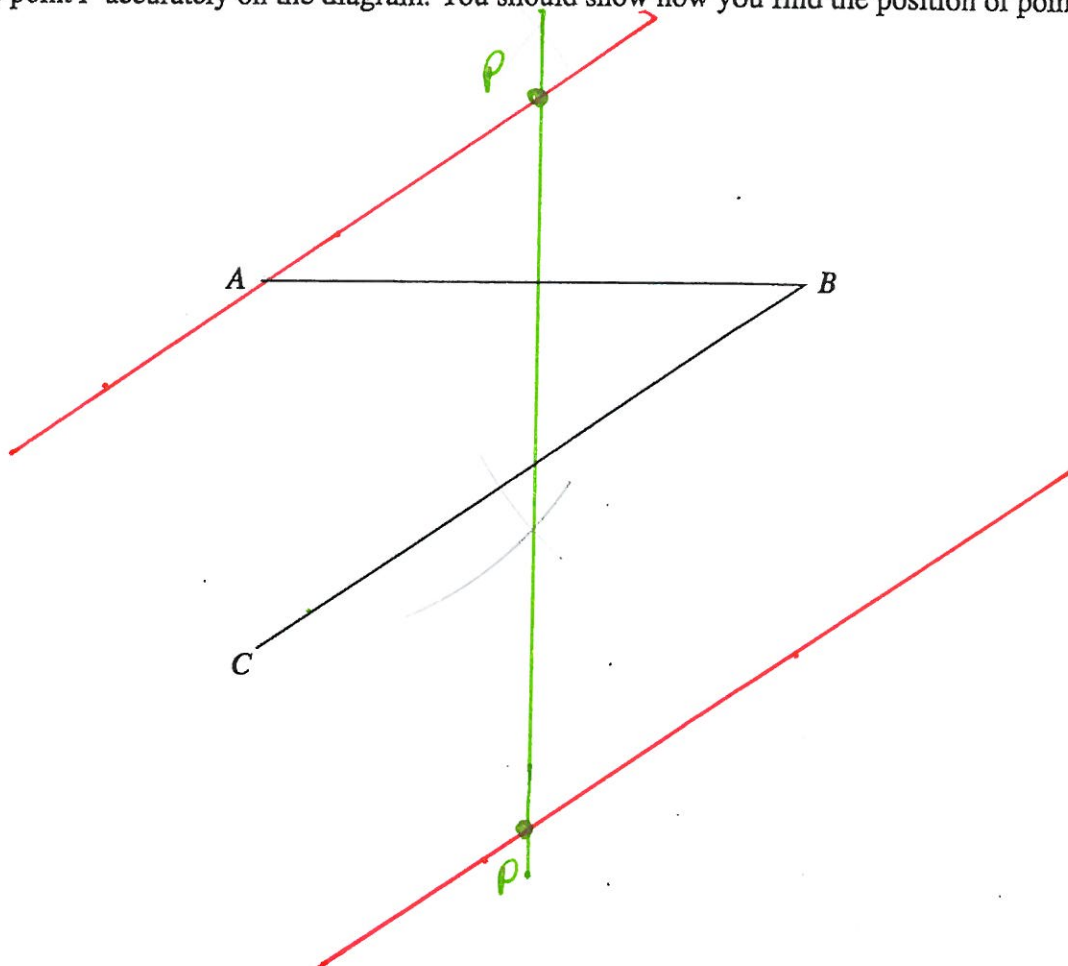(1) The diagram below is drawn accurately. It shows two straight lines AB and BC.
P is a point such that P is equidistant from points A and B.
P is also 4 cm from the line BC.
Plot the point P accurately on the diagram. You should show how you find the position of point P.
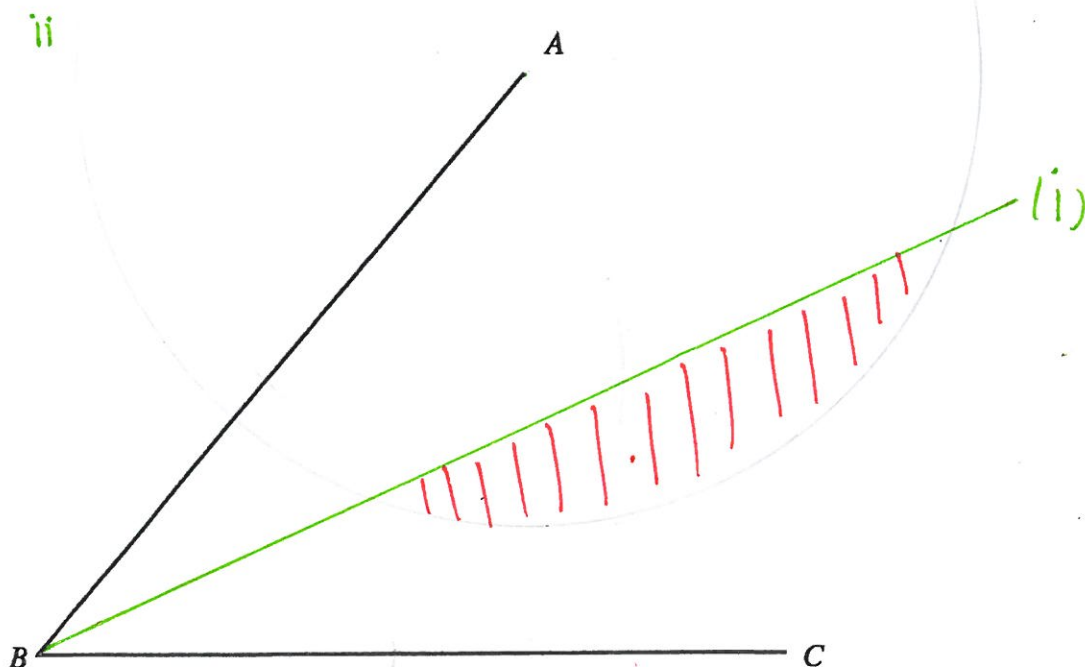

[3]

(2) Find and shade the region of points that satisfy both of the following conditions.

(i)   The points are nearer to BC than to AB.

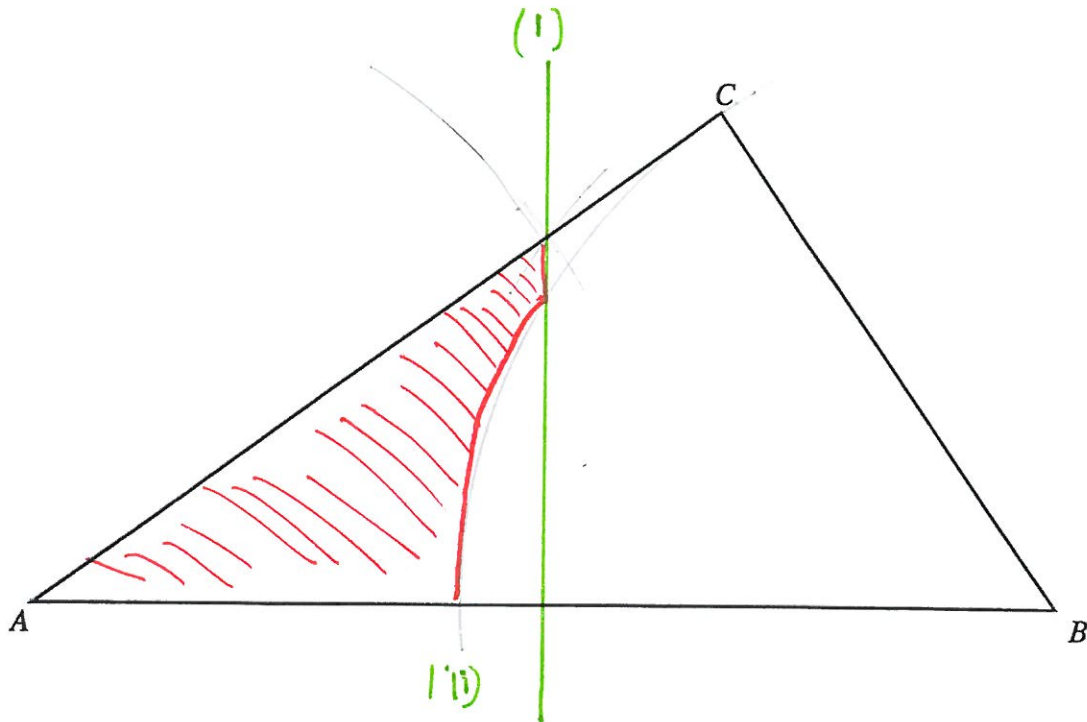(ii) The points are less than 6 cm from A.

[3]

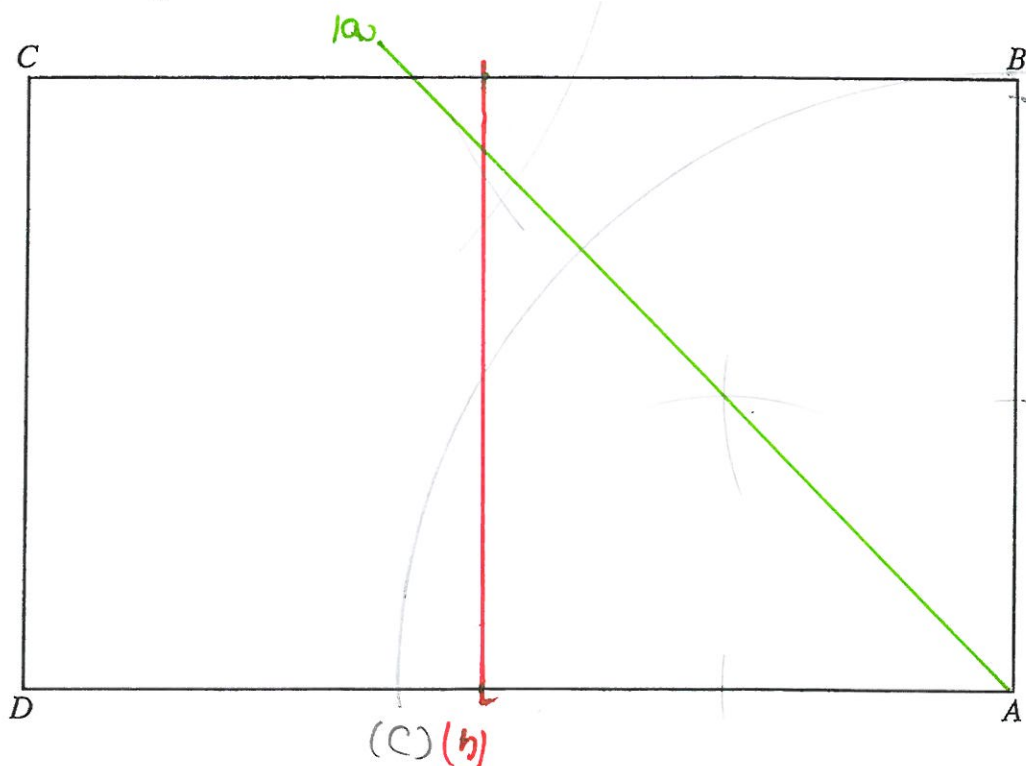③ Shade in the region of points inside the triangle ABC which satisfy **both** of the following conditions.

       (i)   The points are nearer the point A than the point B

and   (ii)   the points are further from B than the distance BC.   [3]

④ $ABCD$ is a rectangle.

(a)   Draw the locus of all the points inside the rectangle whose distance from AB is the same as their distance from AD.

(b)   Draw the locus of all the points inside the rectangle which are 6 cm from DC.

(c)   Draw the locus of all the points inside the rectangle whose distance from A is the same as the length of AB.

⑤ Enid and George hide a box in their garden. They make a map of the garden, using a scale of 1 cm to represent 1 m. They give the map to some friends together with the following clues.
- ✓ The box is nearer the end A of the hedge than the end C.
- ✓ The box is less than 6 m away from the tree marked T.
- ✓ The box is nearer the garden wall AB than the hedge AC.

On the map shown below, shade the region of the garden in which the box is hidden. [4]

Hedge

A C

T

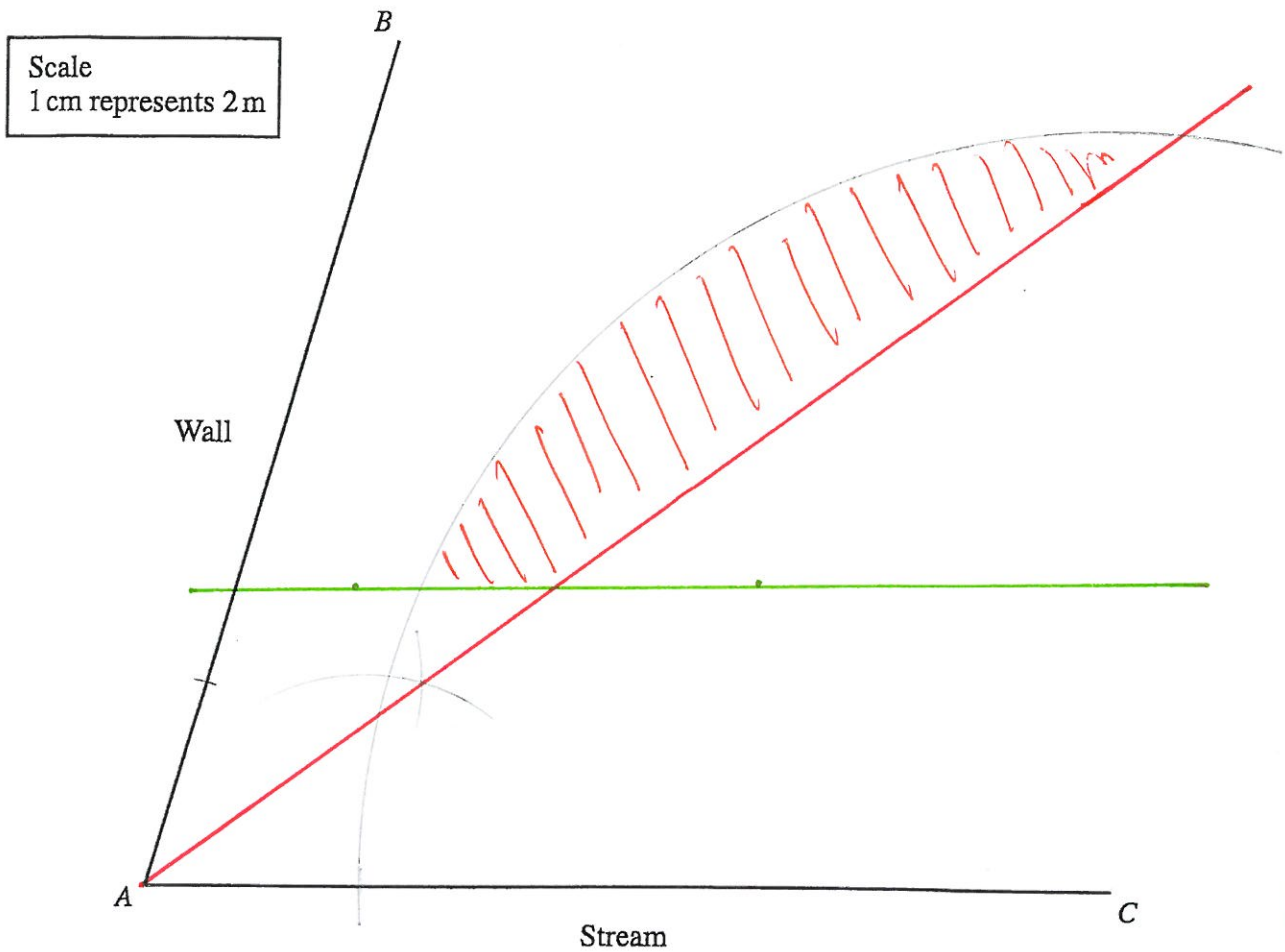Garden wall   House wall

Scale: 1cm=1m

B
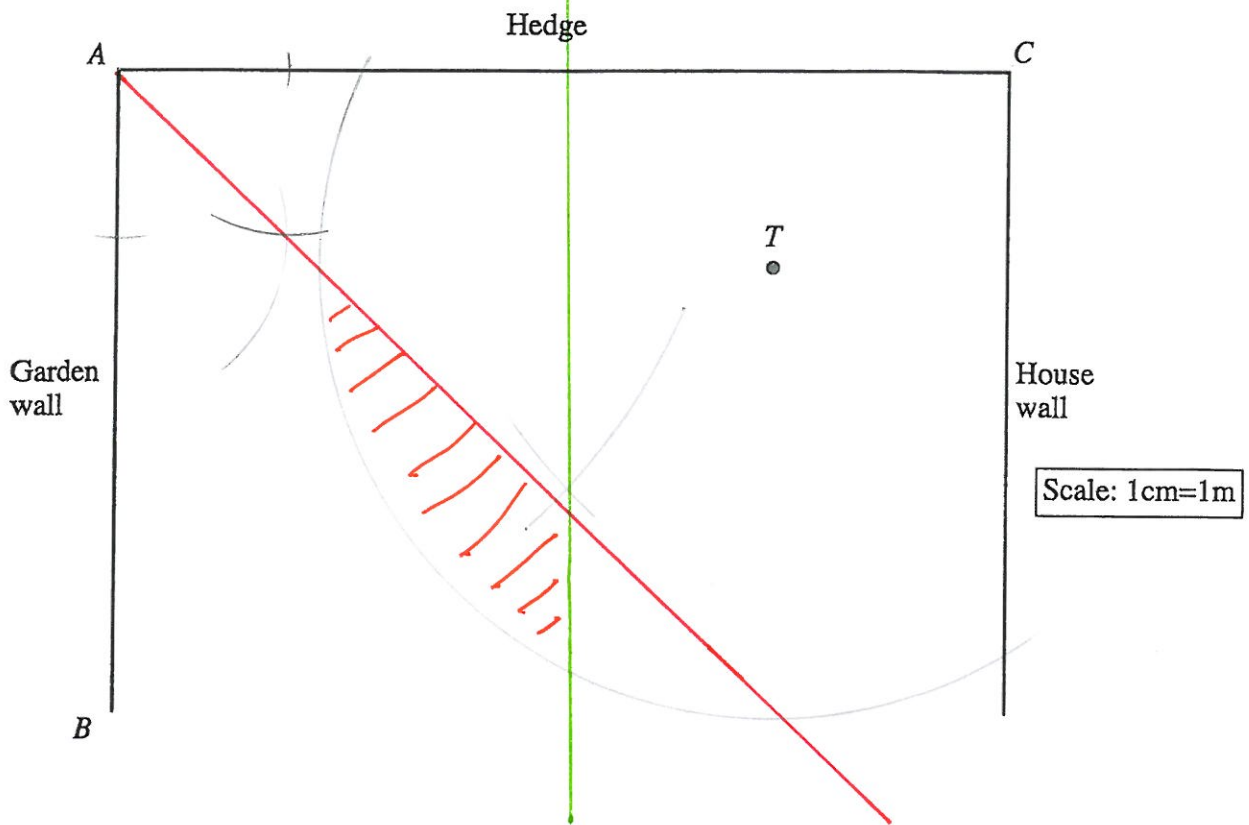
6

The diagram represents two boundaries of Mr. Lotwick's garden. AB is a wall and AC is the edge of a stream. He wants to plant some trees in the garden so that they are further than 8 metres from the stream. He also wants them nearer the wall than the stream and less than 20 metres from C. Using 1 cm to represent 2 m, show on your diagram the region in which he can plant the trees.

[4]

Scale
1 cm represents 2 m

B

Wall

A

Stream

C

Turn over.