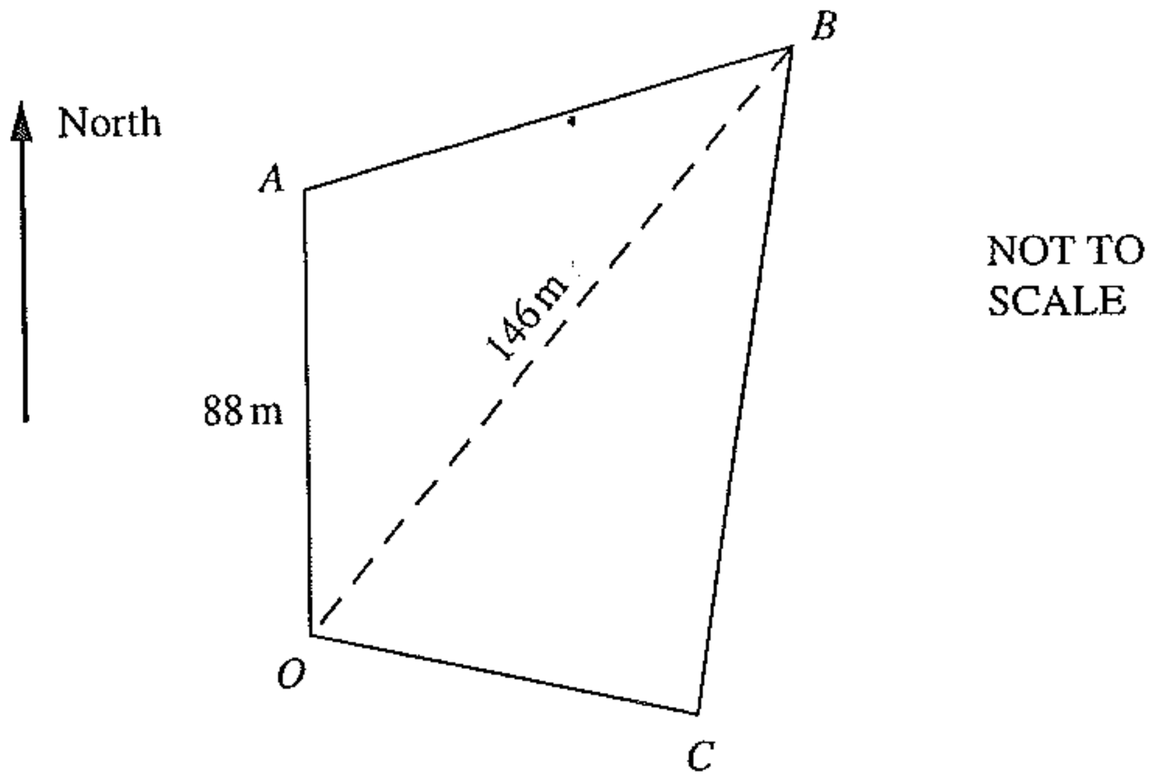
IGCSE – Locus Paper 4 - 1

May 02 Paper 4

2



NOT TO SCALE

OABC is a field.
A is 88 metres due North of *O*.
B is 146 metres from *O* on a bearing of 040°.
C is equidistant from *A* and from *B*. The bearing of *C* from *O* is 098°.

(a) Using a scale of 1 centimetre to represent 10 metres, make an accurate scale drawing of the field *OABC*, by

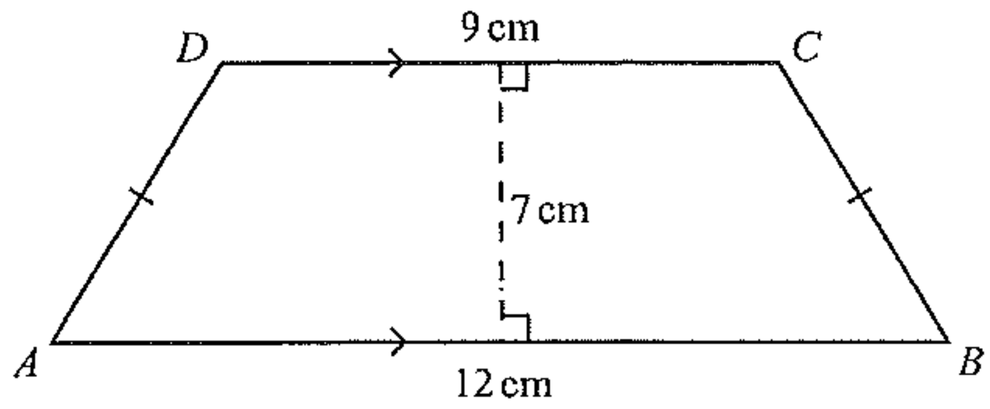
(i) constructing the triangle *OAB*, [3]

(ii) drawing the locus of points equidistant from *A* and from *B*, [2]

(iii) completing the scale diagram of *OABC*. [2]

May 05 Paper 4

2 Answer the whole of this question on a new page.



NOT TO SCALE

The diagram shows a trapezium *ABCD*.
AB = 12 cm, *DC* = 9 cm and the perpendicular distance between these parallel sides is 7 cm.
AD = *BC*.

(a) Approximately halfway down your page, draw a line *AB* of length 12 cm. [1]

(b) Using a straight edge and compasses only, construct the perpendicular bisector of *AB*. [2]

(c) Complete an **accurate** drawing of the trapezium *ABCD*. [2]

(d) **Measure** angle *ABC*, giving your answer correct to the nearest degree. [1]

(e) Use trigonometry to calculate angle *ABC*.
Show all your working and give your answer correct to 1 decimal place. [2]

(f) On your diagram,
(i) draw the locus of points inside the trapezium which are 5 cm from *D*, [1]
(ii) using a straight edge and compasses only, construct the locus of points equidistant from *DA* and from *DC*, [2]
(iii) shade the region inside the trapezium containing points which are less than 5 cm from *D* **and** nearer to *DA* than to *DC*. [1]