



Geometry

Past Exam Questions

Maths - Ordinary Level

Q6 2013 P2

Question 6

(25 marks)

Answer **either** 6A **or** 6B.

Question 6A

- (a) Construct the triangle ABC such that $|AB| = 8$ cm, $|BC| = |AC| = 5$ cm. The point A is given to you.

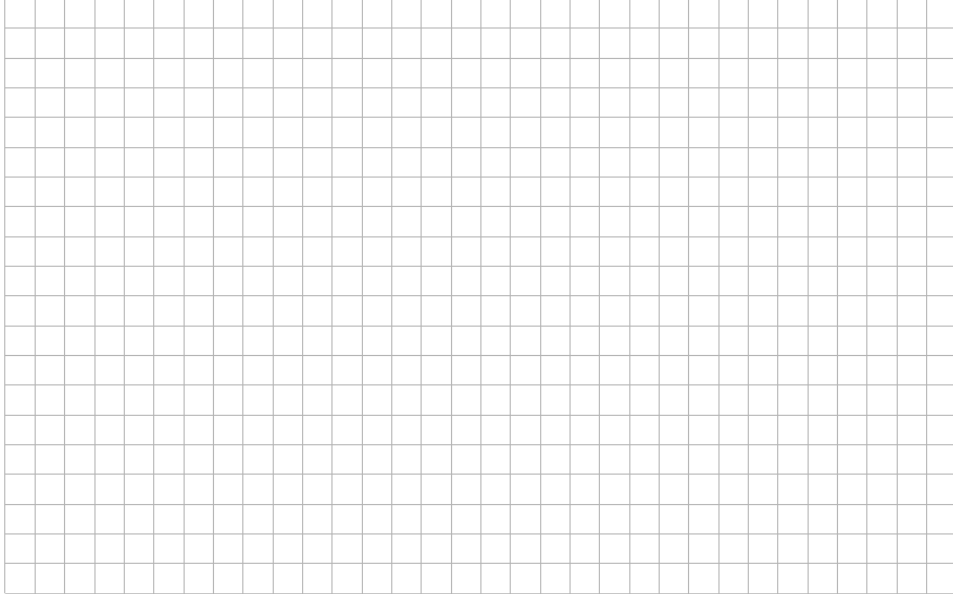


- (b) On the same diagram, construct the image of the triangle ABC under the axial symmetry in AB .
- (c) Justify the statement “ $AC'BC$ is a parallelogram” where C' is the image of C under the axial symmetry in AB .

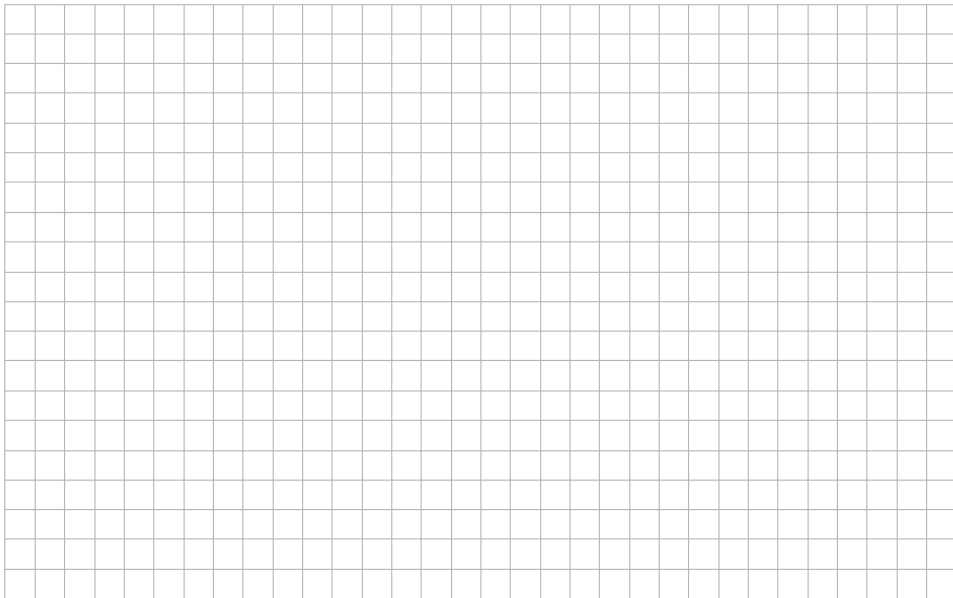


(d) Suppose that the diagram at the start of this question is co-ordinated in such a way that the origin is at B , the point A lies on the positive x -axis, and the units are metres.

(i) Construct such a co-ordinate diagram, showing the positions of B , A , and G .



(ii) Calculate the co-ordinates of G .



Q8 P2 2011 - Sample

Question 8

(75 marks)

- (a) A stand is being used to prop up a portable solar panel. It consists of a support that is hinged to the panel near the top, and an adjustable strap joining the panel to the support near the bottom.



By adjusting the length of the strap, the angle between the panel and the ground can be changed.

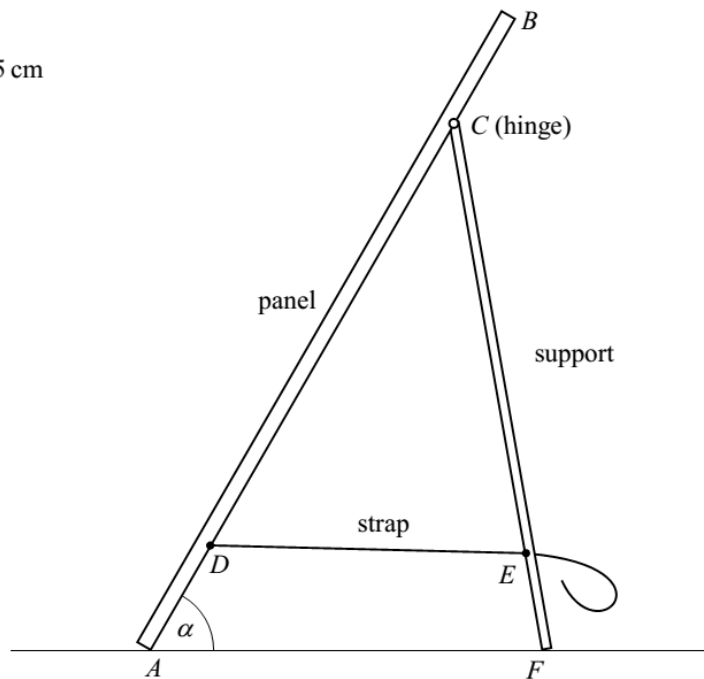
The dimensions are as follows:

$$|AB| = 30 \text{ cm}$$

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

$$|CF| = 22 \text{ cm}$$

$$|EF| = 4 \text{ cm.}$$

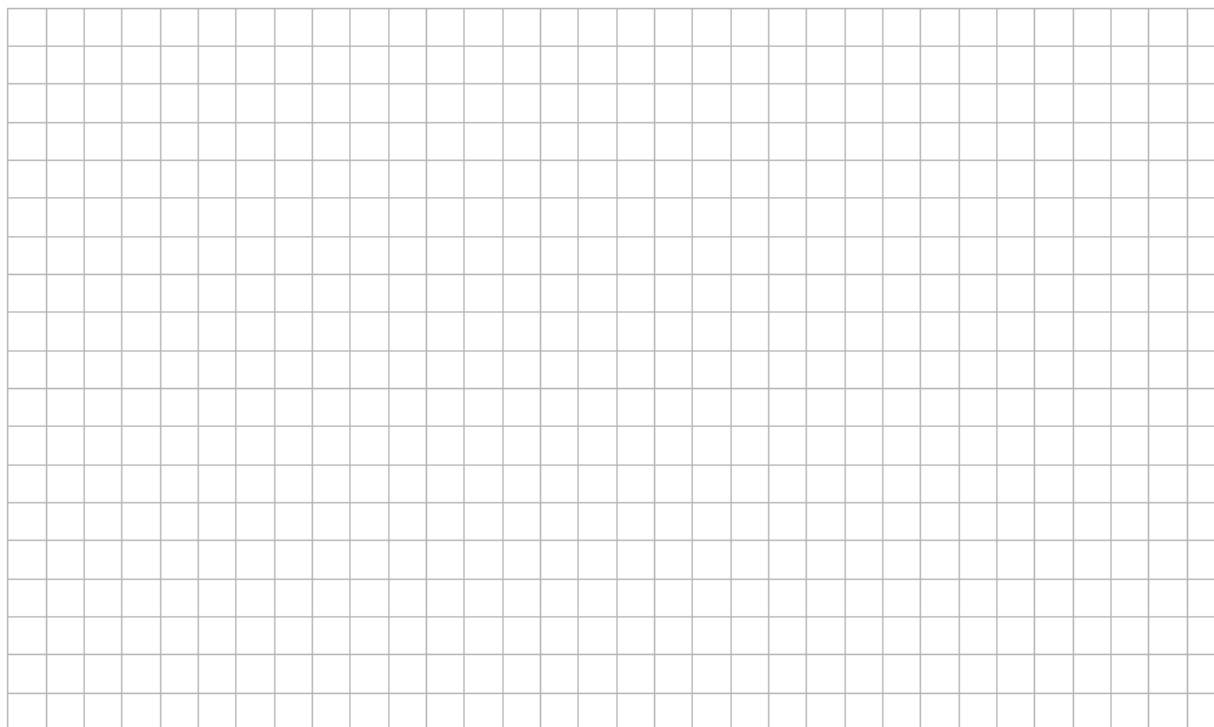


We want to find out how long the strap has to be in order to make the angle α between the panel and the ground equal to 60°

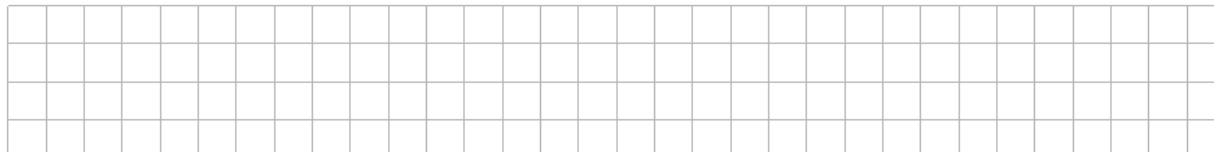
- (i) Two diagrams are given below – one showing triangle CAF and the other showing triangle CDE . Use the measurements given above to record on the two diagrams below the lengths of **two** of the sides in **each** triangle.

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(ii) Taking $\alpha = 60^\circ$, as shown, use the triangle CAF to find $|\angle CFA|$, correct to one decimal place.



(iii) Hence find $|\angle ACF|$, correct to one decimal place.



(iv) Use triangle CDE to find $|DE|$, the length of the strap, correct to one decimal place.

