AN ROINN OIDEACHAIS

S61A

A JUNIOR CERTIFICATE EXAMINATION, 1997

TECHNICAL GRAPHICS — HIGHER LEVEL

THURSDAY 19 JUNE — AFTERNOON, 2.00—5.00

TOTAL MARKS 400 (Sections A and B)

EXAMINATION NUMBER ☞	

CENTRE STAMP ☞	

INSTRUCTIONS

(a) Answer <u>any twelve</u> of the short answer questions in Section A (120 marks) using the spaces provided.
All questions in Section A carry equal marks.

(b) Answer <u>any four</u> of the six questions in Section B (280 marks).
All questions in Section B carry equal marks.

(c) Examination Number must be distinctly marked in the space provided above and on each sheet of paper used.

(d) All construction lines must be clearly shown.

(e) All measurements are in millimetres.

(f) Hand up this answer book (Section A) at the end of the examination.

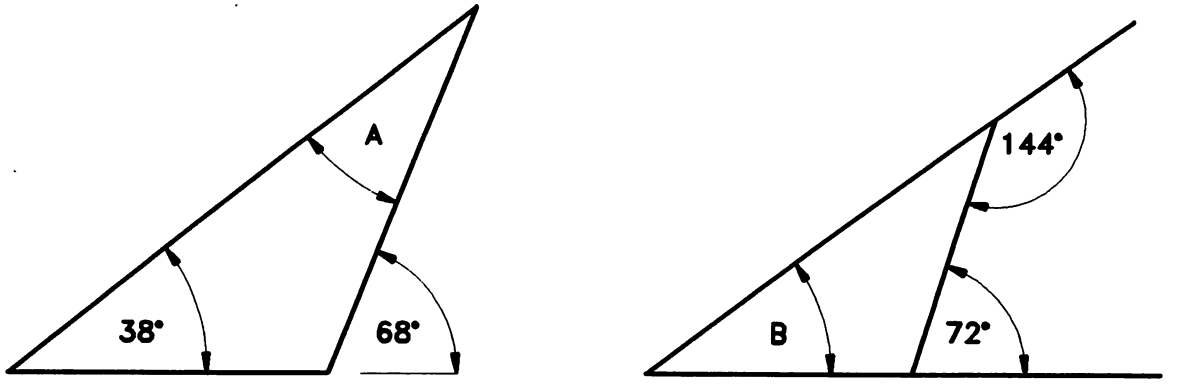
For Examiner's use only	
QUESTION	MARK
Section A (Total)	
Section B Q1	
Q2	
Q3	
Q4	
Q5	
Q6	
TOTAL ➡	
GRADE ➡	

WARNING

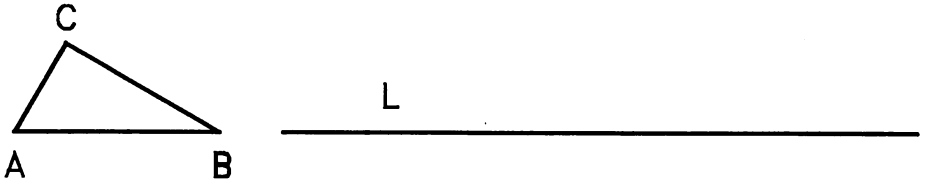
THIS ANSWERBOOK MUST BE HANDED UP AT THE END OF THE EXAMINATION OTHERWISE MARKS WILL BE LOST.

1. Write in the measure of the angles in the spaces provided below.

A = _____ B = _____



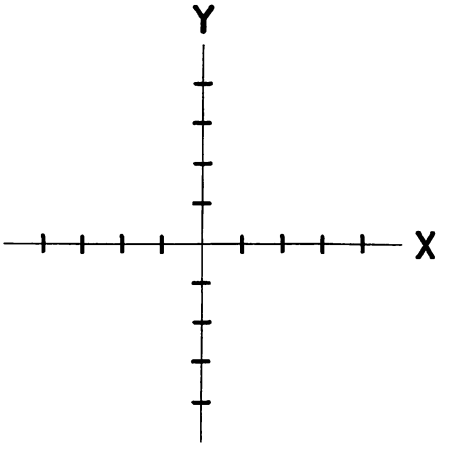
2. Draw a triangle PQR similar to ABC having perimeter L.



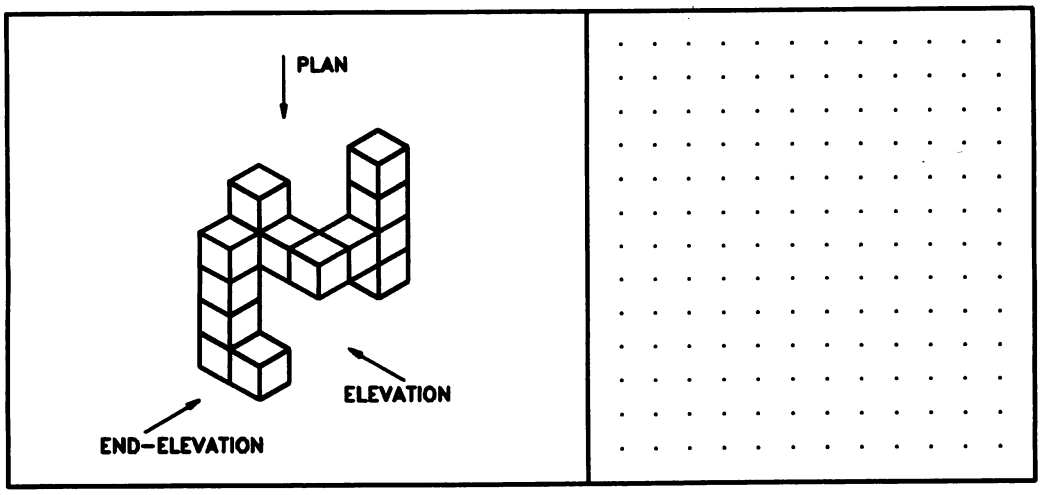
3. Using a CAD facility two lines were drawn as recorded by the following command sequences at (a) and (b). Indicate on the diagram below the resultant lines. (Note: Axes marked at intervals of 10)

(a) **Command:** Line
From point: 0,0
To point: -30,40
To point: ↵

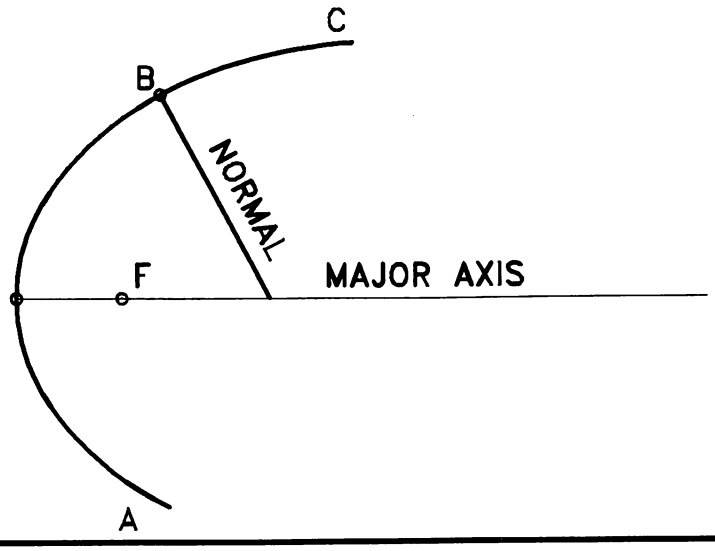
(b) **Command**: Line
From point: 10,0
To point: @20<270
To point: ↵



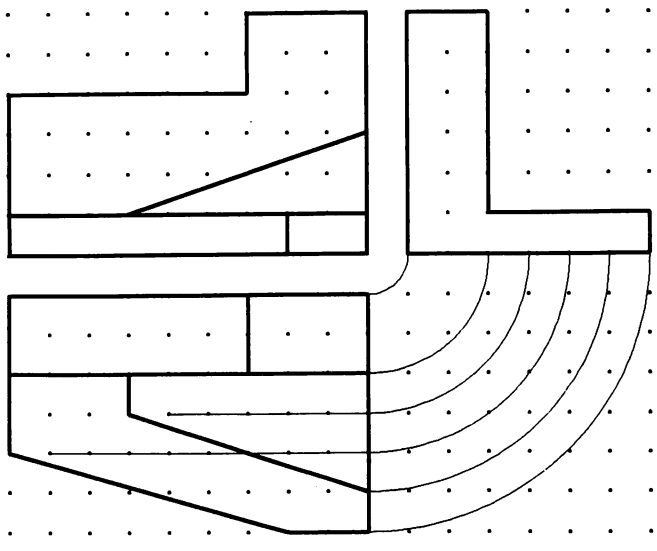
4. Using the square grid, sketch the orthographic views indicated by the arrows.



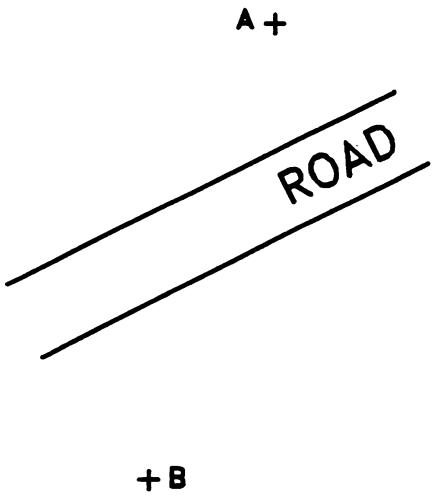
5. A portion of an elliptical curve ABC and a normal at point B are shown. Also included is the position of the major axis and one of the two focal points. Clearly show how the second focal point is obtained.



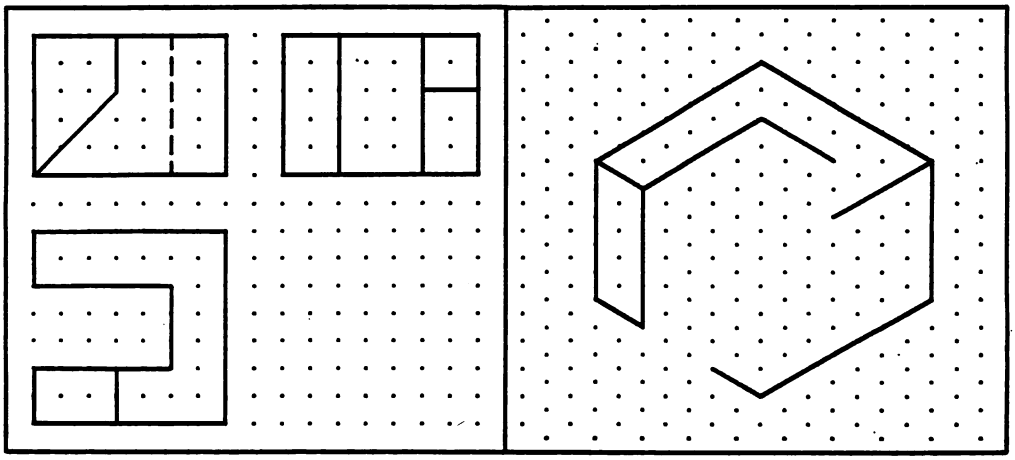
6. Complete the end view.



7. A pedestrian crossing is to be provided in order to facilitate students walking between the School ' (position A) and a local shop at the other side of the road (position B). Determine the position of the crossing which will minimise the journey involved.

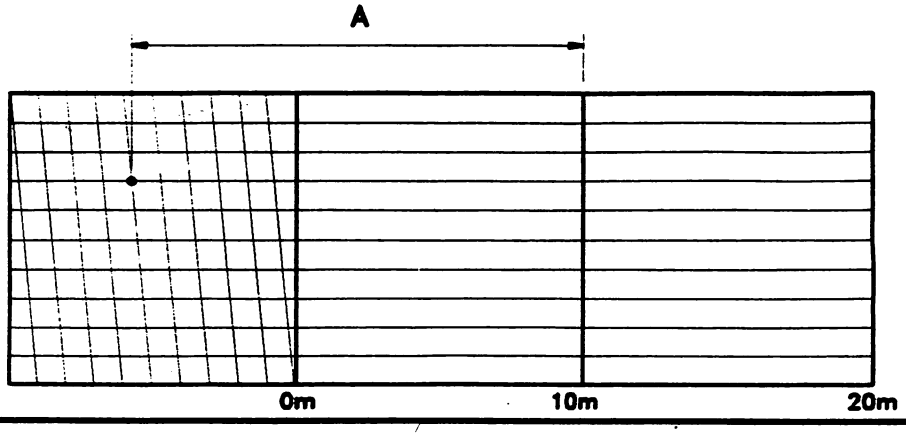


8. Shown on the square grid are three orthographic views of an object. The incomplete pictorial sketch of the object is shown on the isometric grid. Complete the sketch.



9. Fill in the blanks below:-

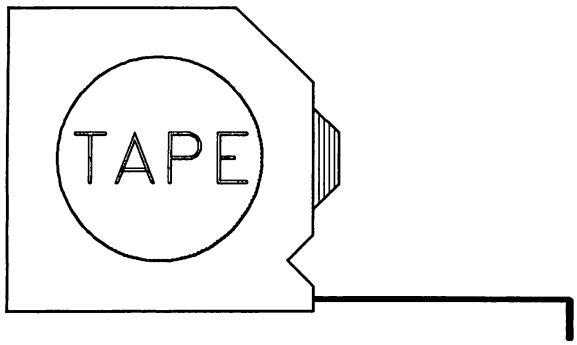
(a) Distance A is _____ metres.
(b) The diagonal scale shown reads up to _____ metres.



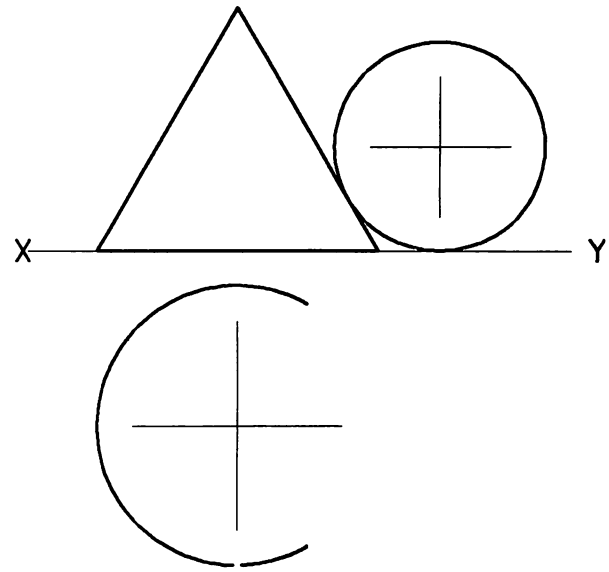
10. The elevation of a tape measure is shown.

(a) Make a freehand pictorial sketch of the tape in the space provided.

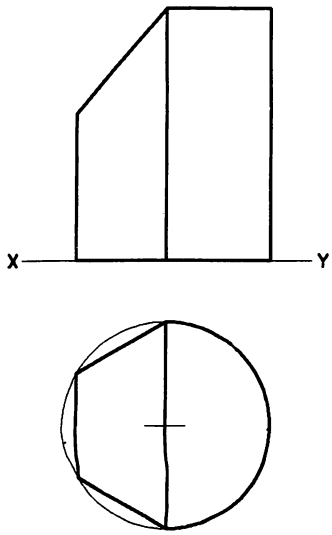
(b) Apply appropriate shading.



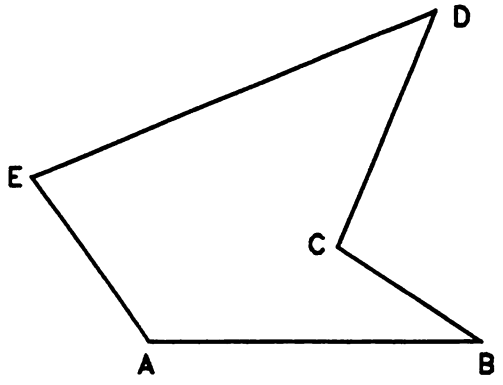
11. The elevation and incomplete plan of a sphere in contact with a cone is shown. Complete the plan and indicate the point of contact in both views showing clearly how it is obtained.



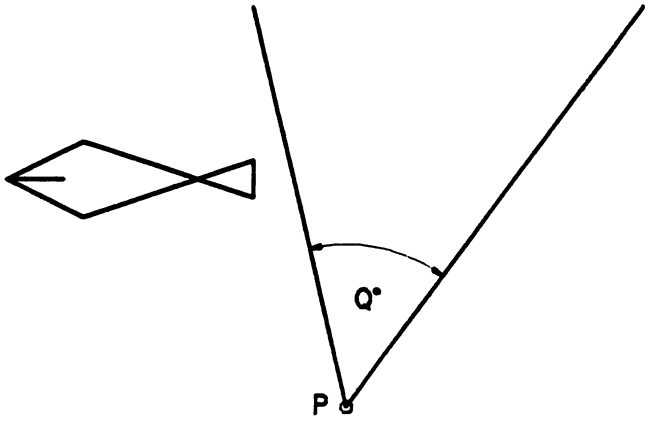
12. Shown is the elevation and plan of a container. The container is open at the top. Draw the surface development of the container.



13. Convert the irregular pentagon ABCDE into a triangle of equal area.



14. The figure shown is subjected to a rotation about point P in a clockwise direction. The angle of rotation is to be twice the measure of the angle Q. Draw the resulting image.



15. Shown is the auxiliary elevation, plan and <u>incomplete front elevation</u> of a structure. Complete the front elevation.