





**A JUNIOR CERTIFICATE EXAMINATION, 1998**  
**TECHNICAL GRAPHICS — HIGHER LEVEL**  
**THURSDAY 18 JUNE — AFTERNOON, 2.00—5.00**  
**TOTAL MARKS 400 (Sections A and B)**

EXAMINATION NUMBER 	
CENTRE STAMP 	

**INSTRUCTIONS**

- (a) Answer any twelve of the short answer questions in Section A (120 marks) using the spaces provided.  
All questions in Section A carry equal marks.
- (b) Answer any four 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**

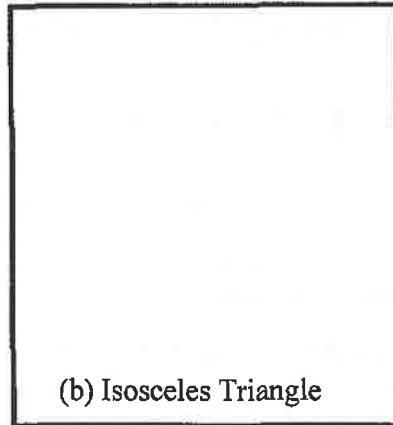
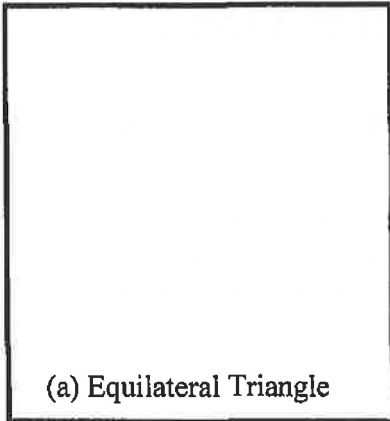
QUESTION	MARK
Section A (Total)	
Section B Q1	
Q2	
Q3	
Q4	
Q5	
Q6	
TOTAL 	
GRADE 	

**WARNING**

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

1. Indicate, using diagrams in each of the boxes below, the meaning of the following:-

- (a) Equilateral Triangle.
- (b) Isosceles Triangle.



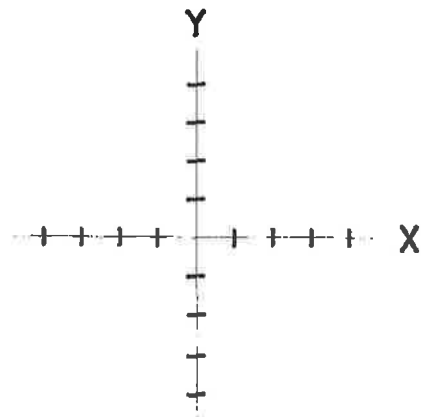
2. Draw a triangle having sides in the ratio 2:3:3 and having a perimeter equal to the line L.



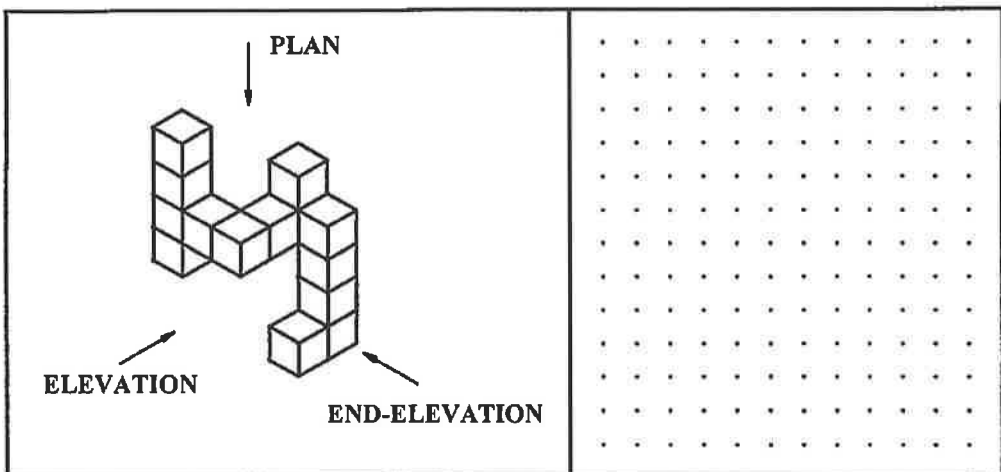
3. Using a CAD facility two rectangles were drawn as recorded by the following command sequences at (a) and (b). Indicate on the diagram below the resultant rectangles

(Note: Axes marked at intervals of 10)

- (a) **Command:** Rectangle  
**First corner:** 0,0  
**Other corner:** 40,20
- (b) **Command:** Rectangle  
**First corner:** -40, -30  
**Other corner:** -10, -20

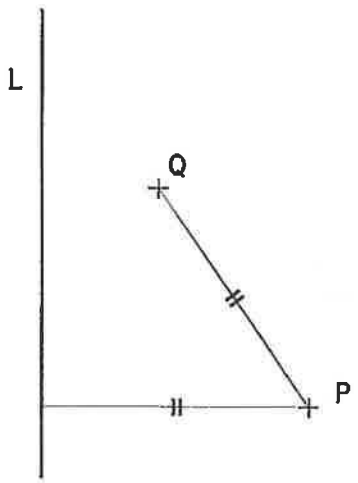


4. Using the square grid, sketch the orthographic views indicated by the arrows.

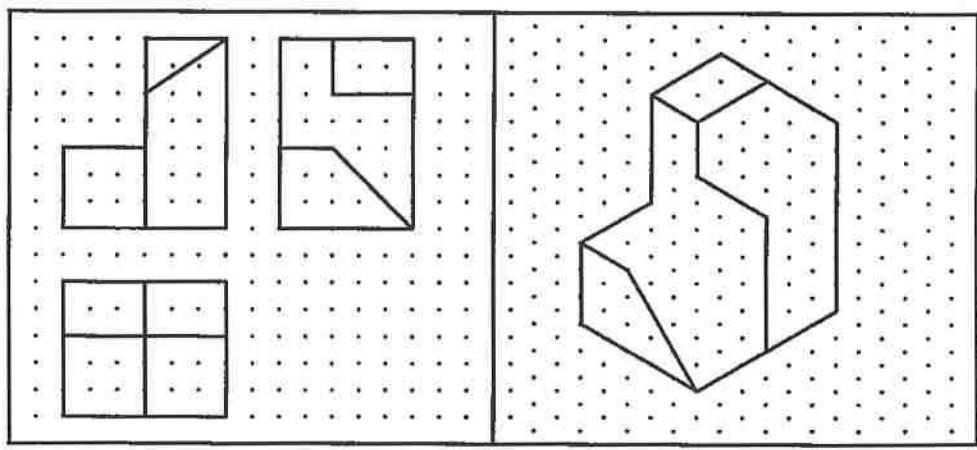


5. The figure shows a point P which is equidistant from a line L and another point Q.

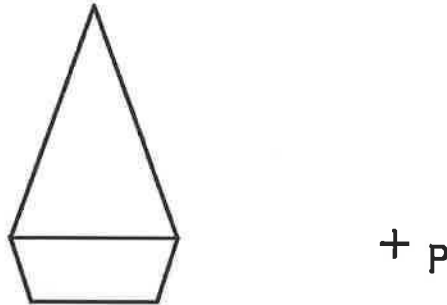
- (a) Locate three additional points that will be similarly equidistant from L and Q.
- (b) Draw the locus of the equidistant points.



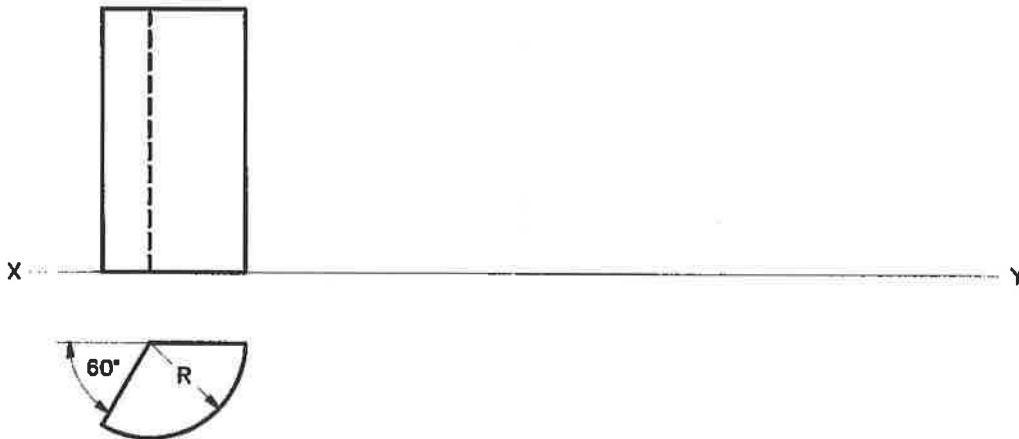
6. Shown on the square grid are three orthographic views of an object. The incomplete pictorial sketch of the object is shown on the isometric grid. Complete the sketch.



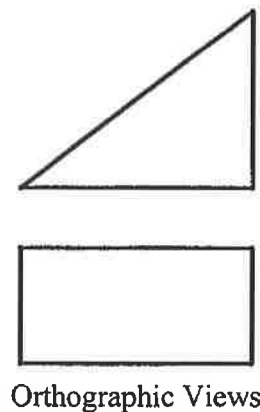
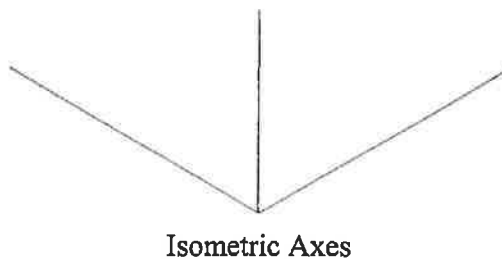
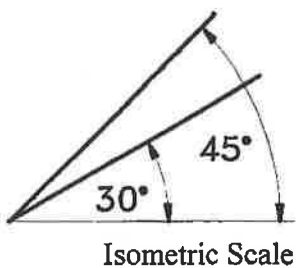
7. Rotate the figure clockwise through an angle of  $60^\circ$  about P.



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

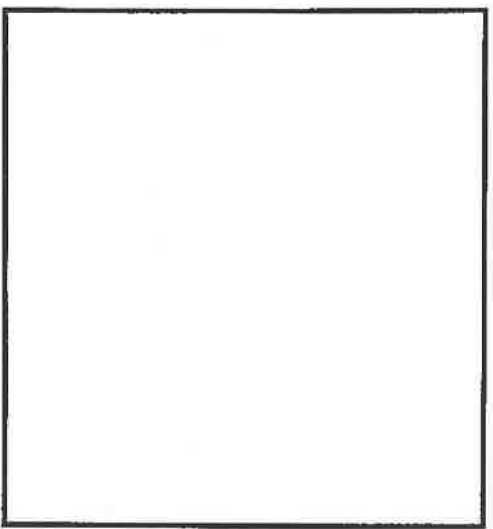
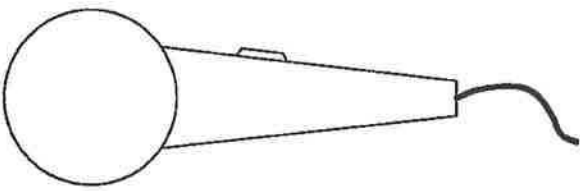


9. Using the isometric scale and axes provided draw the isometric projection of the wedge shown in the orthographic views.

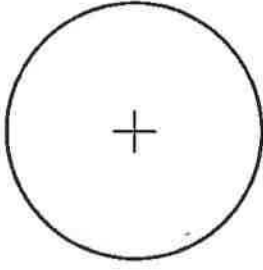
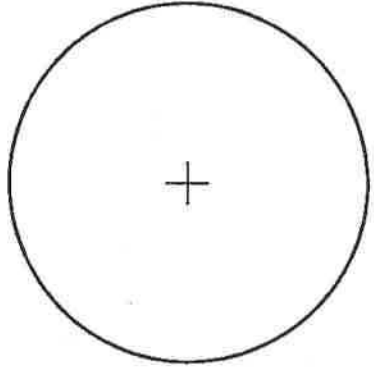


10. The elevation of a microphone is shown.

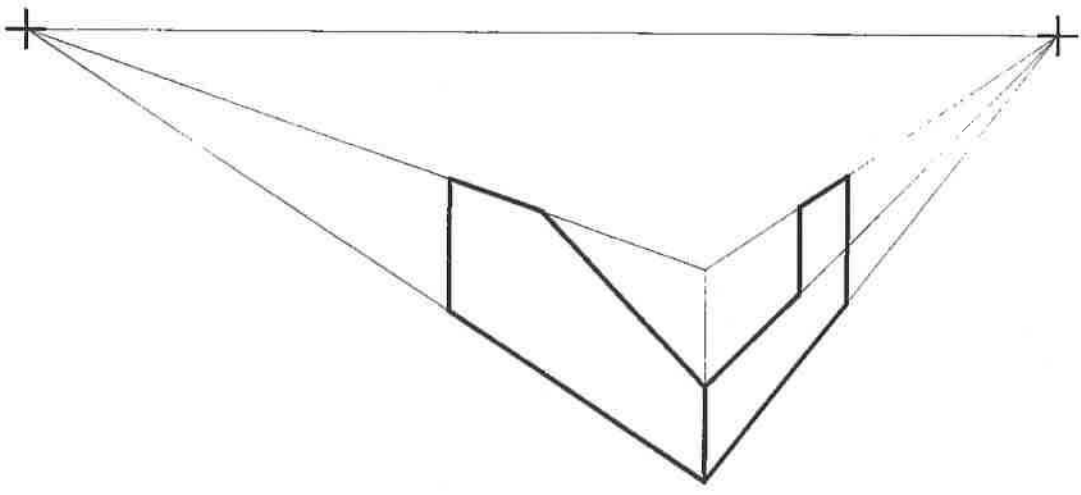
- (a) Make a freehand pictorial sketch of the microphone in the space provided.
- (b) Apply appropriate shading.



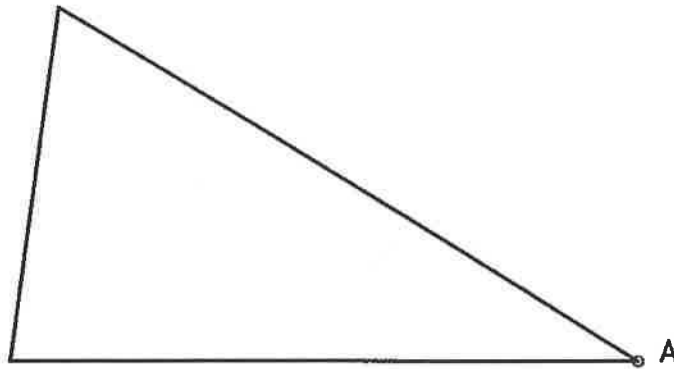
11. Draw an internal tangent to the two circles shown. Show clearly how both points of contact are determined.



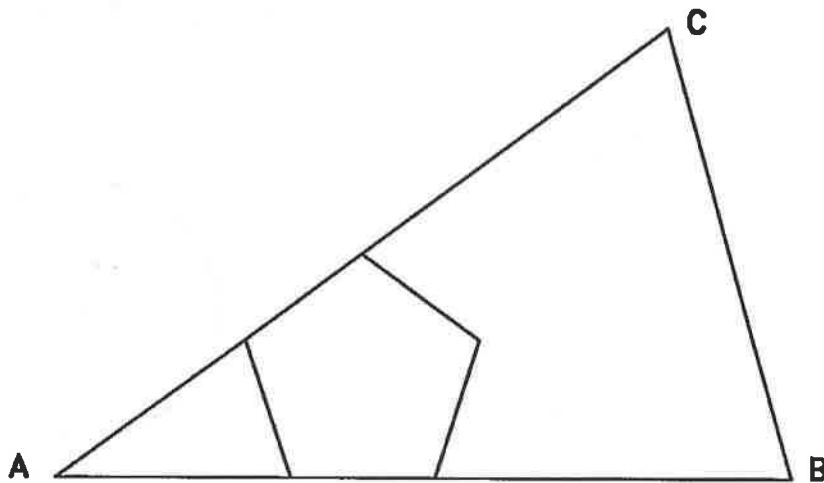
12. The figure shows the incomplete perspective drawing of a solid. Using the vanishing points, complete the drawing.



13. Draw two lines from the vertex A which will divide the area of the triangle into three equal parts.



14. Shown is a regular pentagon contained within a triangle ABC. Enlarge the pentagon so that each vertex lies on one of the sides of the triangle.



15. A pictorial view of a roof structure is shown. Also shown, is the elevation, end view and the incomplete plan. Complete the plan.

