




A JUNIOR CERTIFICATE EXAMINATION, 1999
 TECHNICAL GRAPHICS — HIGHER LEVEL
 THURSDAY 17 JUNE — MORNING, 9.30 - 12.30
 TOTAL MARKS 400 (Sections A and B)

Examination Number 	Centre Stamp 
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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 	

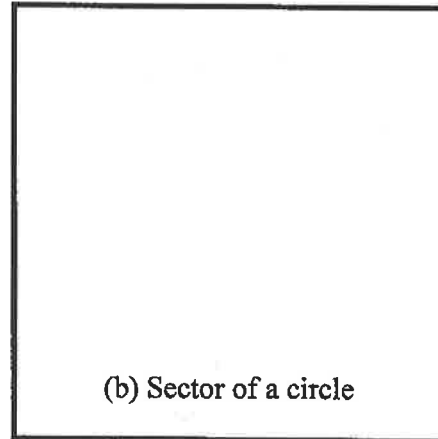
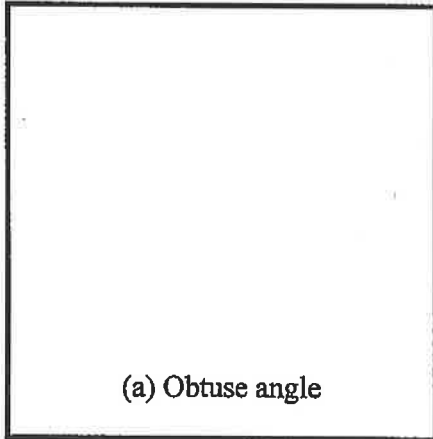
WARNING

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

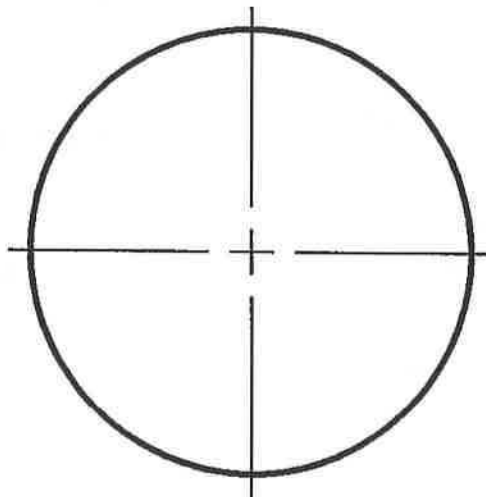
1. Indicate, using diagrams in each of the boxes below, the meaning of the following:-

(a) Obtuse angle.

(b) Sector of a circle.



2. Inscribe an equilateral triangle in the circle shown.



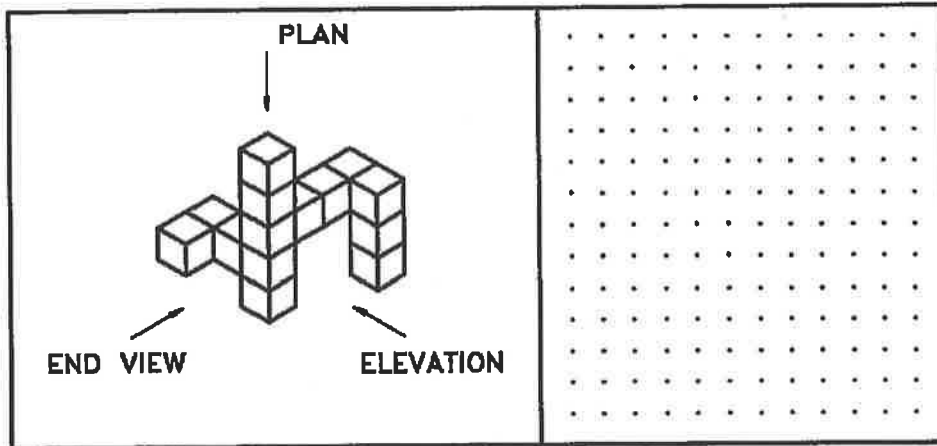
3. Select the two hardware devices from the following list that are most likely to be found in a CAD facility.

Hardware Devices			
Plotter	Scanner	Touch screen	Mouse

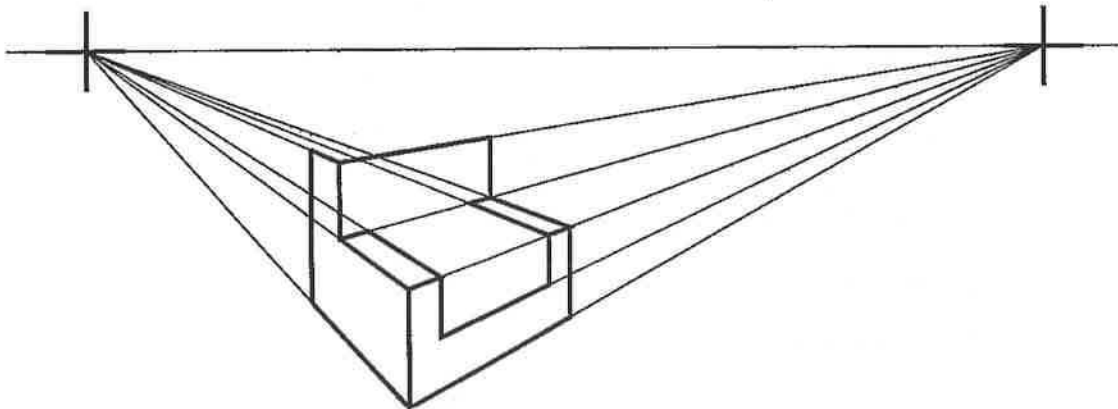
(a) _____

(b) _____

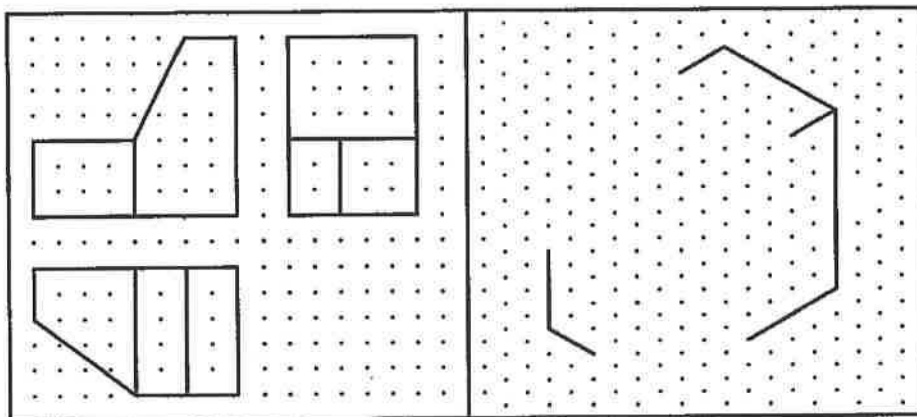
4. Using the square grid, sketch the orthographic views indicated by the arrows.



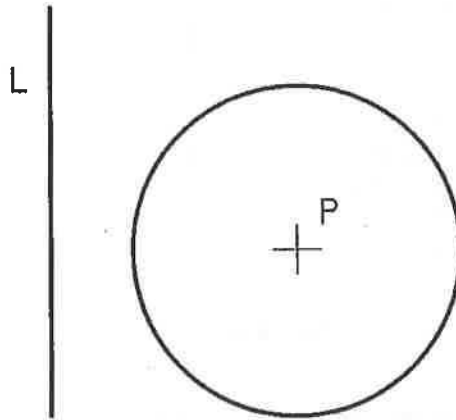
5. The figure shows the incomplete perspective drawing of an armchair. Using the vanishing points, complete the drawing.



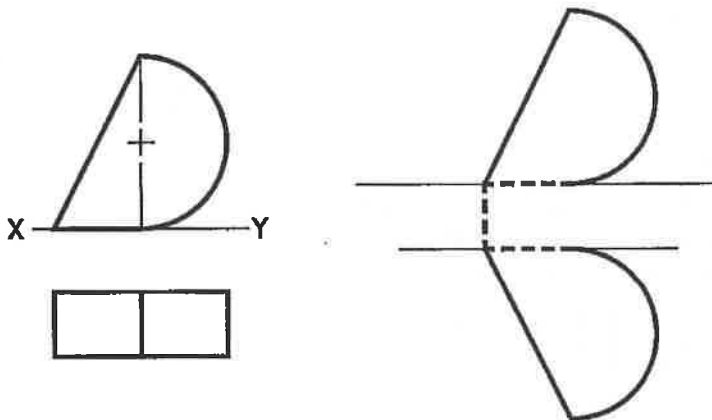
6. Shown on the square grid are three orthographic views of an object. The incomplete pictorial sketch of the object is shown on the isometric grid. Complete the pictorial sketch.



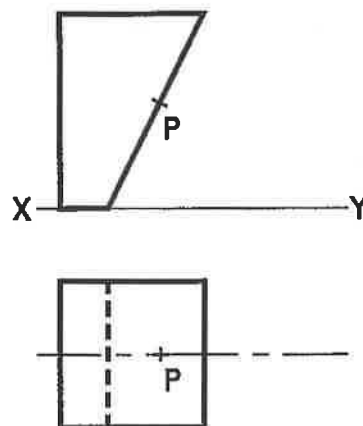
7. Shown is a line L and a circle with centre P. Locate a point Q on the circumference of the circle which is equidistant from the point P and the line L.



8. The elevation, plan and incomplete surface development of a solid is shown. Complete the surface development.



9. Shown is the elevation and plan of a solid. Draw the projections of a sphere which rests on the horizontal plane and is in contact with the solid at point P.

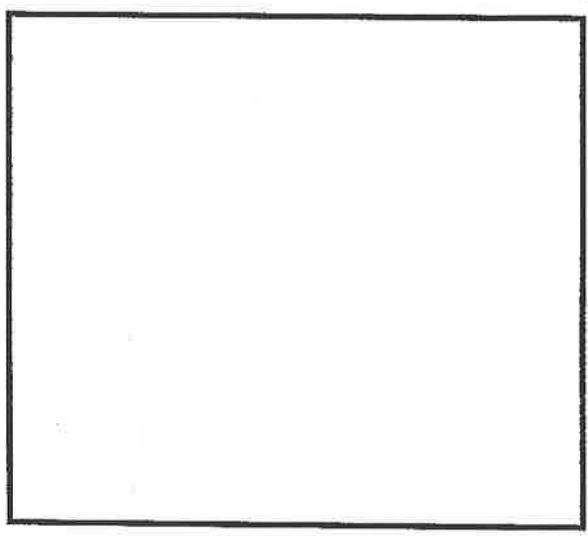
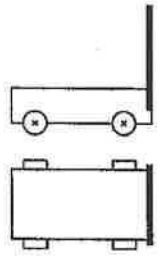


10. Shown is the major axis V1—V2 of an ellipse, and a point P which lies on the curve. Determine the length of the minor axis.

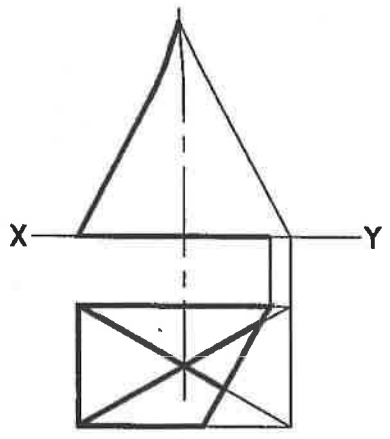


11. The elevation and plan of a child's trolley is shown.

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



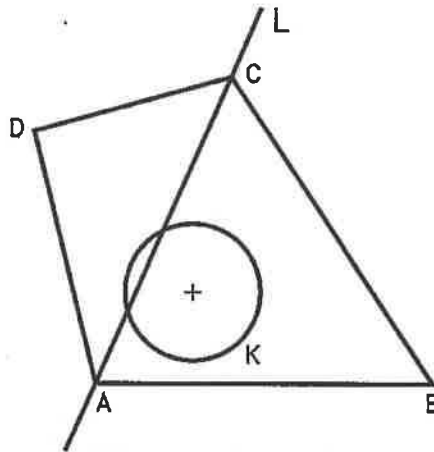
12. Shown is the plan and incomplete elevation of a rectangular based pyramid which has been cut as shown. Complete the elevation.



13. Construct a triangle equal in area to the given rectangle having base AB and one base angle equal to 55° .



14. Draw the image of the quadrilateral ABCD and the circle K under an axial symmetry in the line L.



15. The plan and end view of a cut solid is shown. Project the elevation.

