

WARNING: You must return this paper with your answerbook, otherwise marks will be lost.

A**JUNIOR CERTIFICATE EXAMINATION, 1995****TECHNICAL GRAPHICS — HIGHER LEVEL****THURSDAY, 15 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 Answerbook (Section A) at the end of the examination.

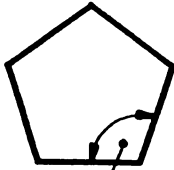

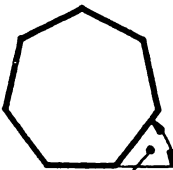
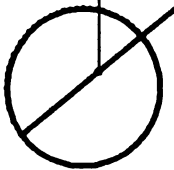
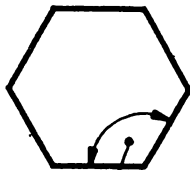
For Examiner's use only

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

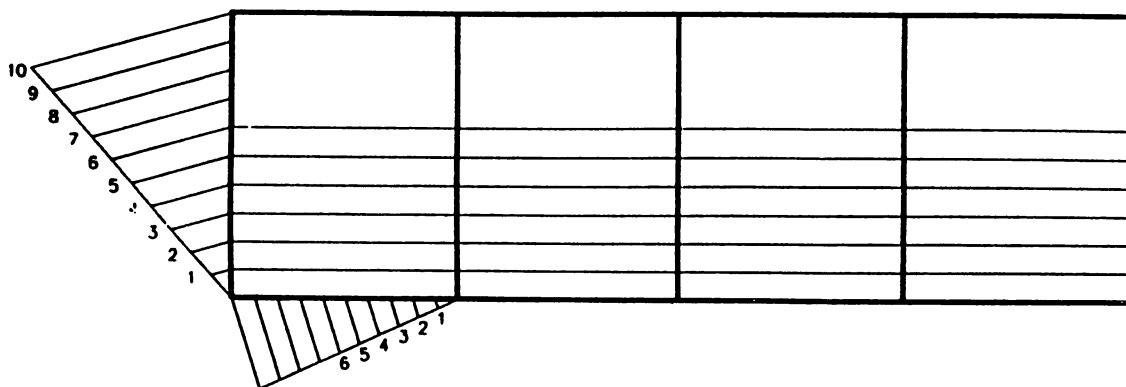
WARNING

**THIS ANSWERBOOK MUST BE HANDED UP
AT THE END OF THE EXAMINATION.**

1. Correctly fill in the labels for each of the diagrams by selecting from the table shown.

TABLE				
Hypotenuse	120°	Secant	Acute angle	108°
<div style="border: 1px solid black; width: 100px; height: 20px; margin: 0 auto;"></div>  <div style="border: 1px solid black; width: 100px; height: 20px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 100px; height: 20px; margin: 0 auto;"></div> 	 <div style="border: 1px solid black; width: 100px; height: 20px; margin: 0 auto;"></div>		 <div style="border: 1px solid black; width: 100px; height: 20px; margin: 0 auto;"></div>

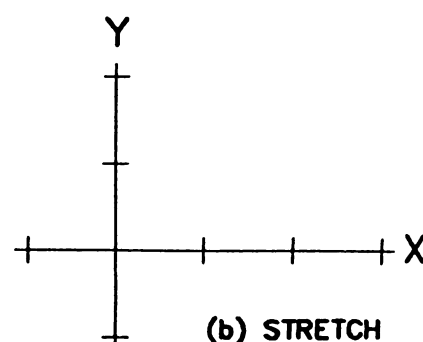
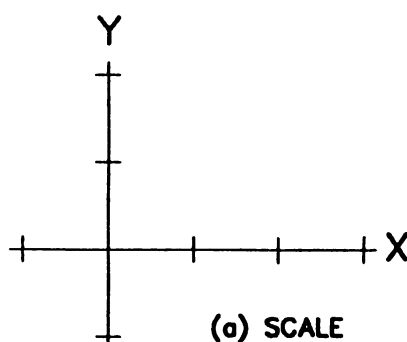
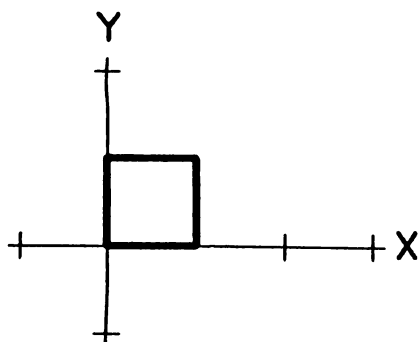
2. Complete the diagonal scale.



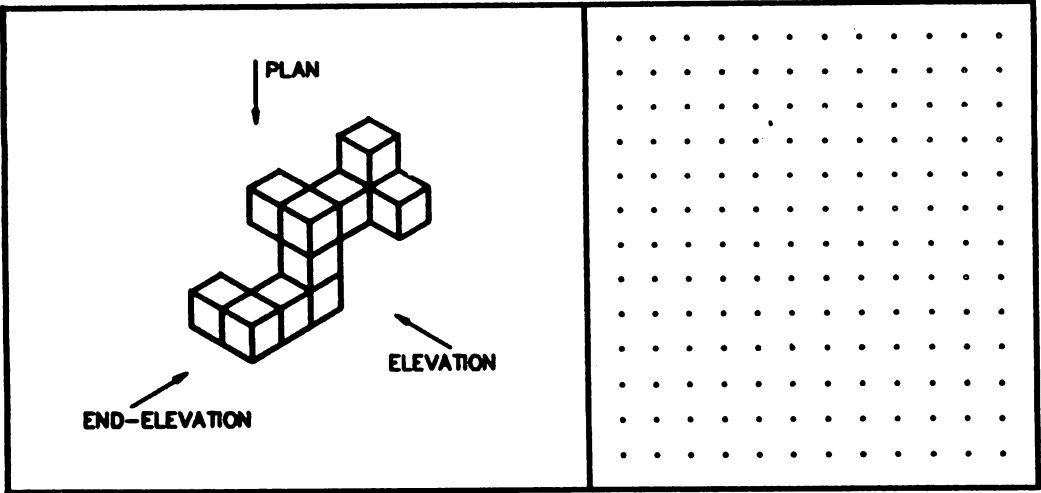
3. A square having one corner at the origin is shown. Show on the diagrams (a) and (b), below the effect of the following CAD commands.

(a) Scale.

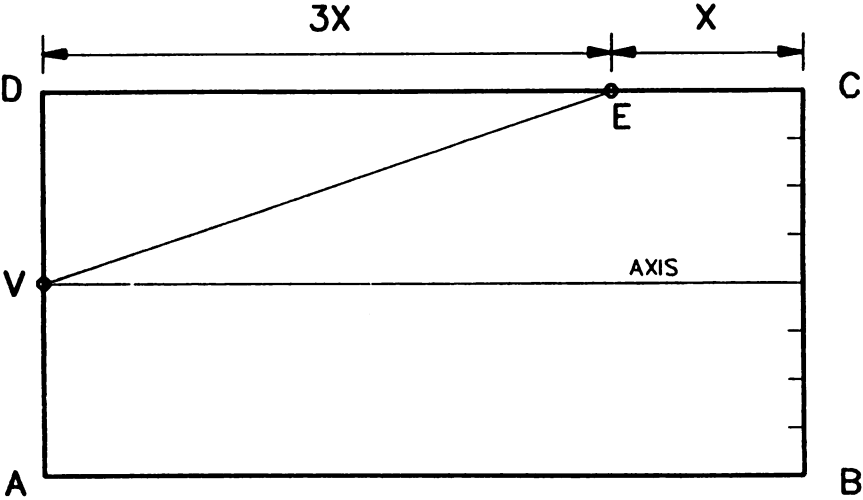
(b) Stretch.



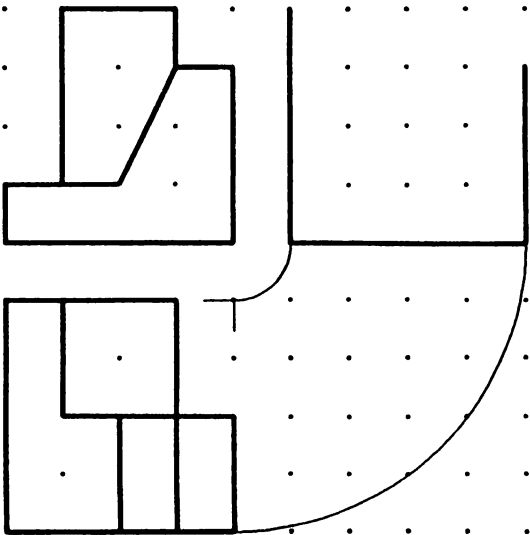
4. Using the square grid, sketch the orthographic views indicated by the arrows.



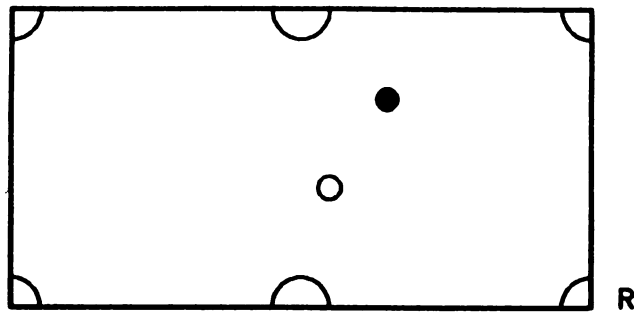
5. A parabola is to be inscribed in the rectangle ABCD. The position of the vertex is indicated by point V. Determine the position of a point P on the curve which will lie on the line VE.



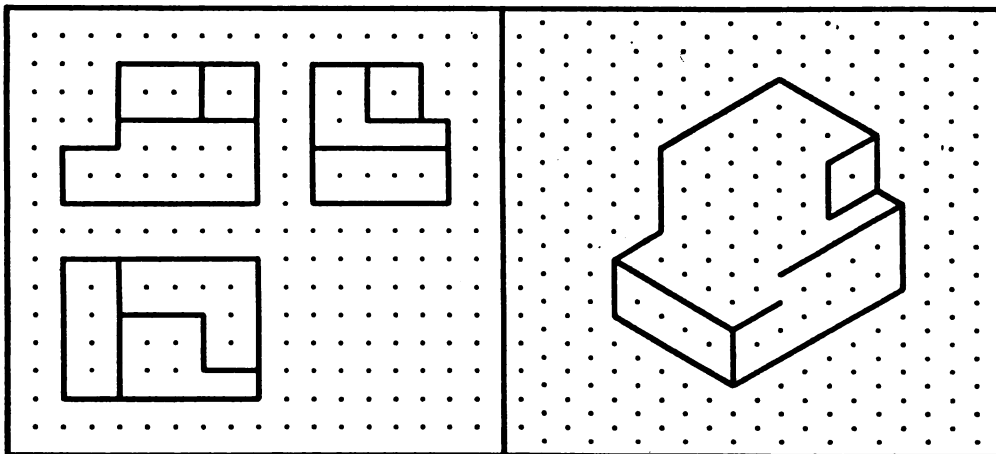
6. Complete the end-elevation.



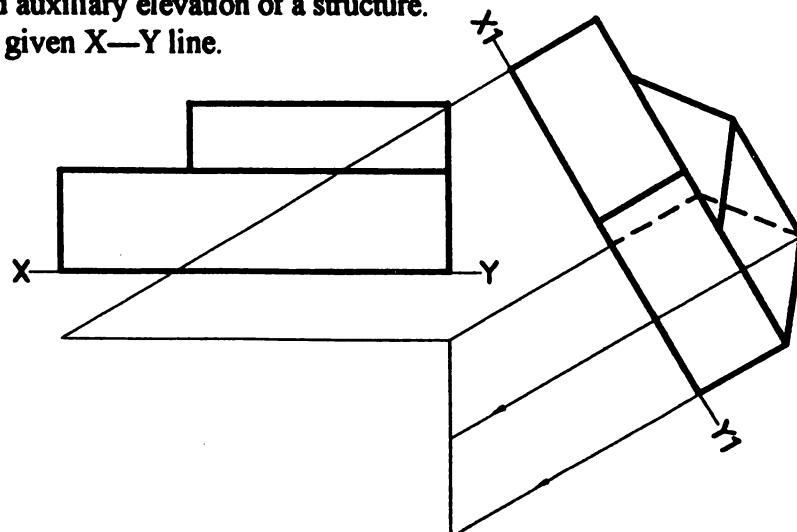
7. Plot the locus of the black ball if it is to enter the corner pocket marked R after being struck by the white ball.



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 this sketch.

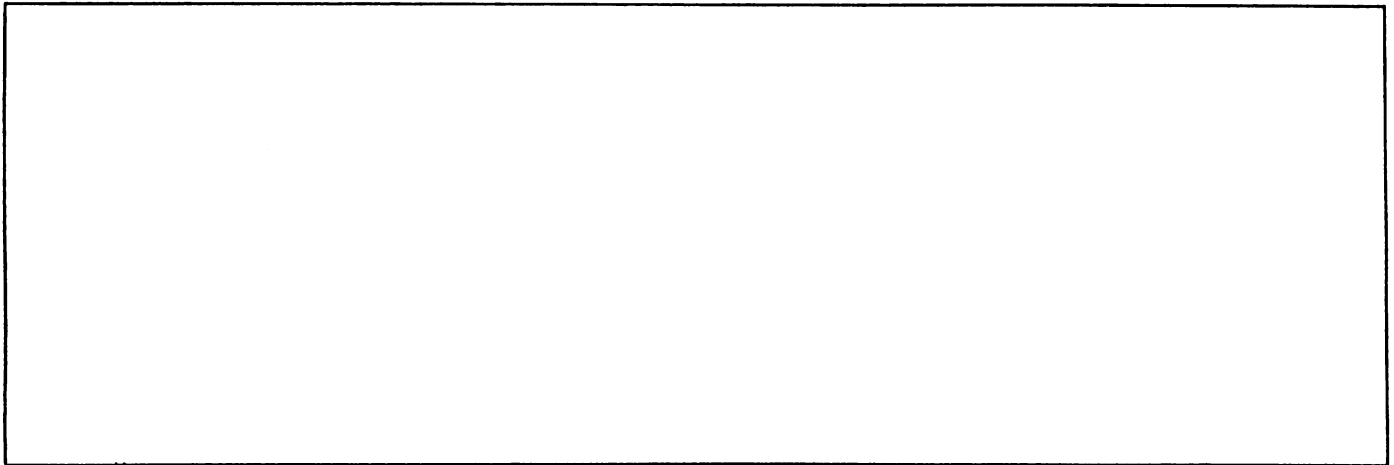
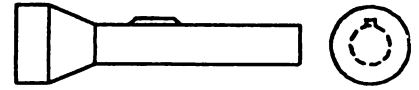


9. Shown is the elevation and auxiliary elevation of a structure. Project the plan below the given X—Y line.

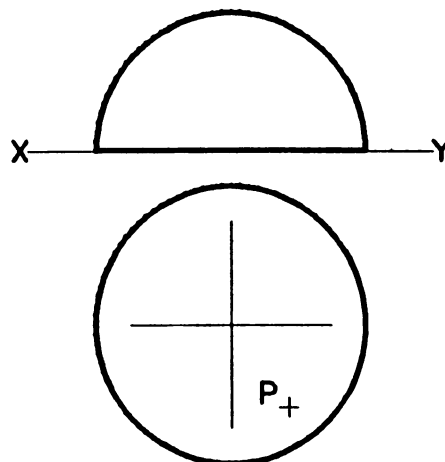


10. Shown is the elevation and end-elevation of a torch.

- (a) Make a freehand pictorial sketch of the torch in the box provided.
(b) Apply shading to convey "texture".

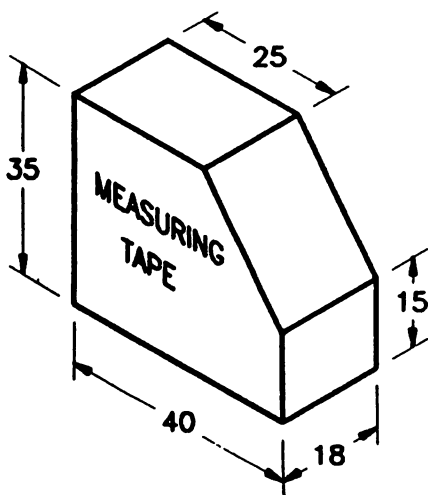


11. Shown is the elevation and plan of a hemisphere. Also shown in plan is the position of a point P on the surface. Locate P in the elevation.



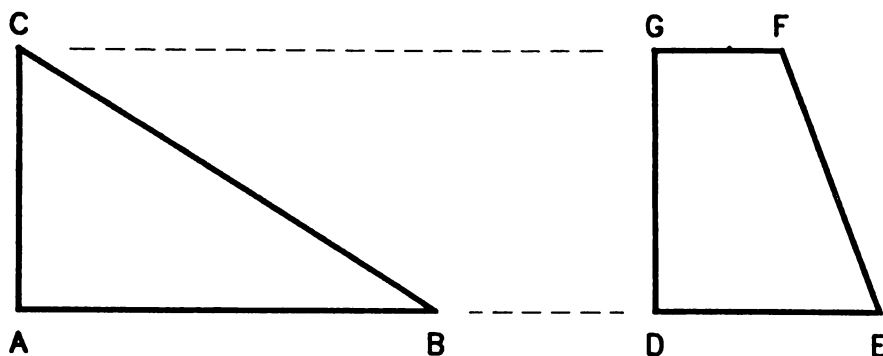
12. Shown is an isometric view of a box for a measuring tape.

Draw the surface development of the four faces displayed in the isometric view.



13. Demonstrate, using an appropriate method, which of the two figures shown below contains the greater area. Hence complete the following sentence by filling in the blank:-

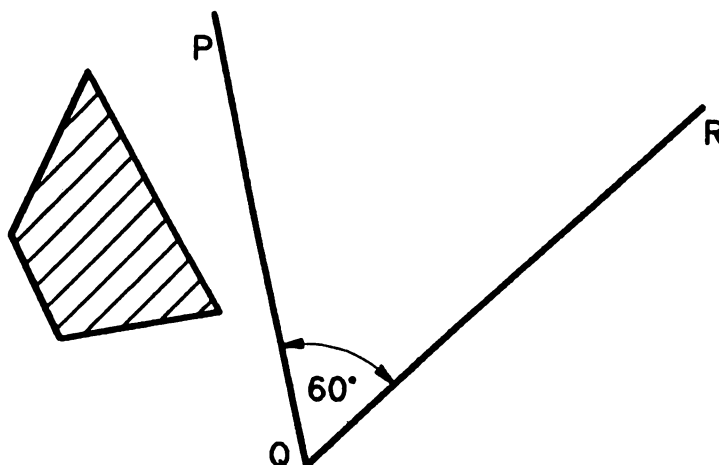
The figure _____ has the greater area.



14. The shaded figure is subjected to transformations in the following order:-

- (i) axial symmetry in PQ.
- (ii) axial symmetry in QR.

Draw the resulting image.



15. The elevation, end-elevation and incomplete plan of a structure is shown. Complete the plan.

