




A JUNIOR CERTIFICATE EXAMINATION, 2001
TECHNICAL GRAPHICS — ORDINARY LEVEL
THURSDAY 14 JUNE - MORNING, 9.30 — 12.00
TOTAL MARKS 400 (Section A and B)

EXAMINATION NUMBER 	
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CENTRE STAMP 	
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INSTRUCTIONS

- (a) Answer any ten 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.

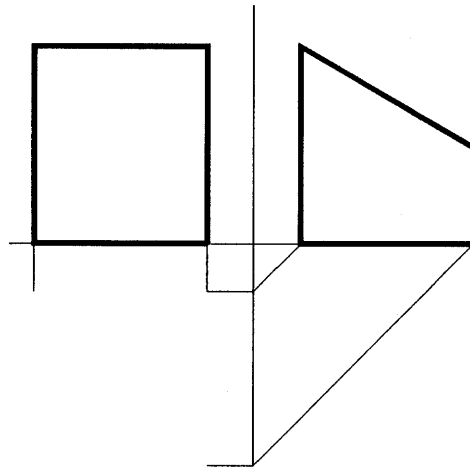
For Examiner's use only	
QUESTION	MARK
Section A (Total)	
Section B Q1	
Q2	
Q3	
Q4	
Q5	
Q6	
TOTAL 	
GRADE 	

WARNING

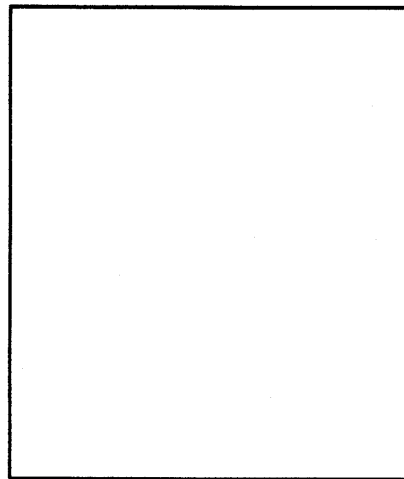
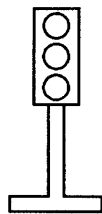
**THIS ANSWERBOOK MUST BE HANDED UP
 AT THE END OF THE EXAMINATION
 OTHERWISE MARKS WILL BE LOST.**

SECTION A ANSWER ANY TEN QUESTIONS - ALL QUESTIONS CARRY EQUAL MARKS

1 Insert the line missing in the elevation and complete the plan.



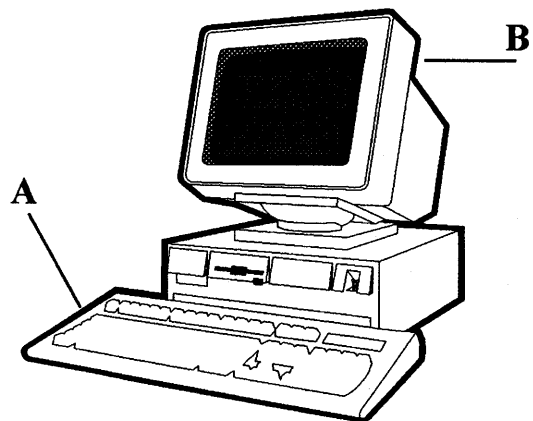
2 Draw a freehand sketch of the traffic lights in the given box.



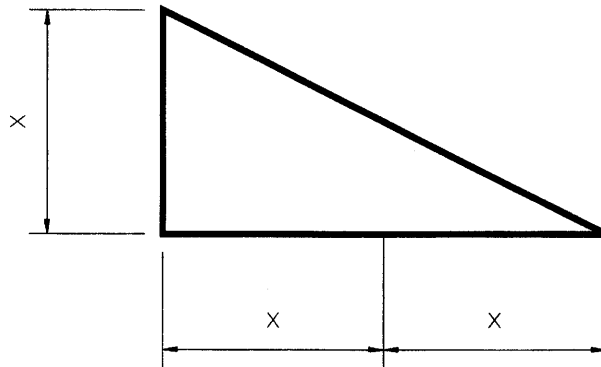
3 Identify the computer components shown at **A** and **B**, below.

A = _____

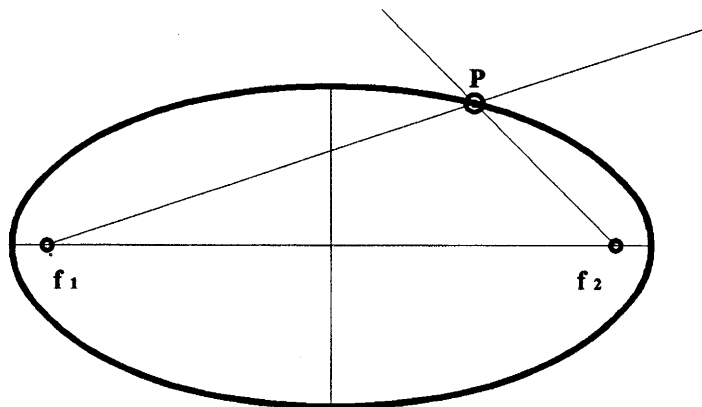
B = _____



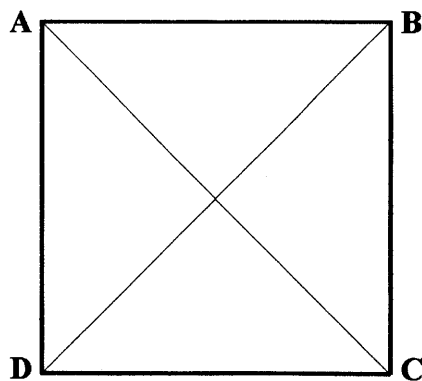
- 4 Convert the area of the given right-angled triangle, to a **SQUARE** of equal area.



- 5 Complete the figure by constructing a **TANGENT** at the point P.

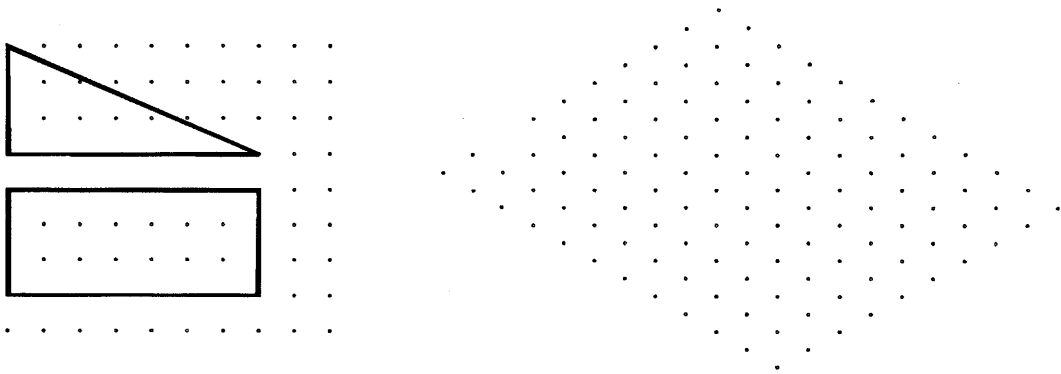


- 6 Inscribe a regular **OCTAGON** in the square, ABCD.



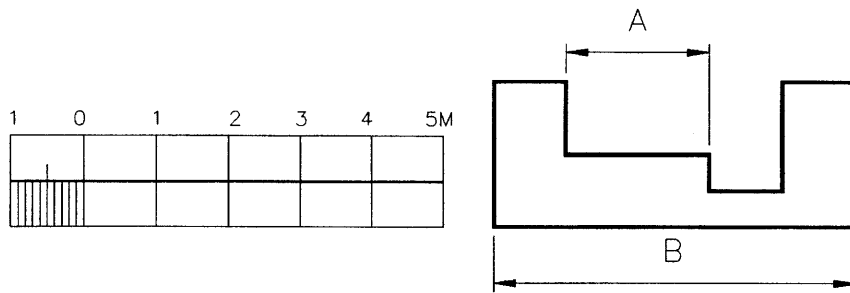
7

The elevation and plan of a wedge are shown. Draw an isometric view of the wedge, on the grid provided.



8

Using the scale provided, measure and record the dimensions A and B.



A = _____

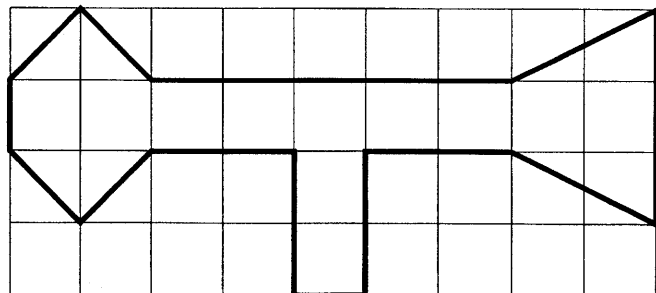
B = _____

9

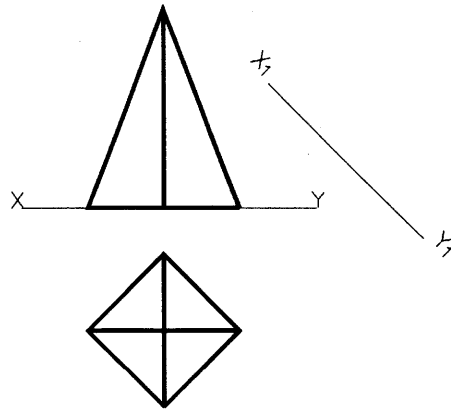
Record the area of the irregular figure in square units.

1 square = 1 x 1 Unit.

Area = _____



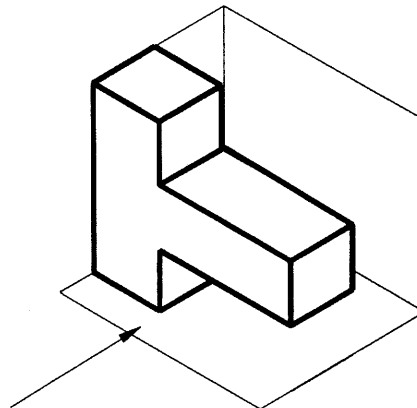
- 10** The elevation and plan of a square based pyramid are shown.
Project an **AUXILIARY ELEVATION**, on the given X_1, Y_1 line.



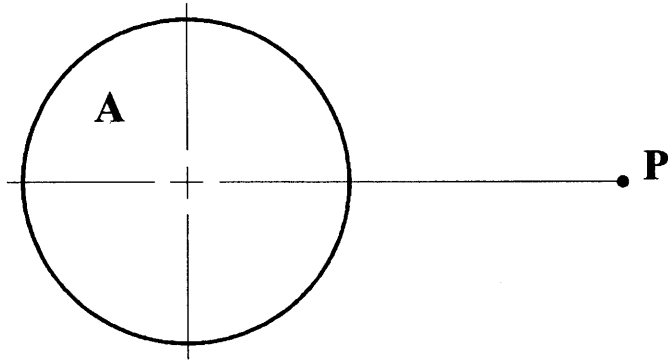
- 11** Using the grid provided, sketch the orthographic views indicated by the arrows.



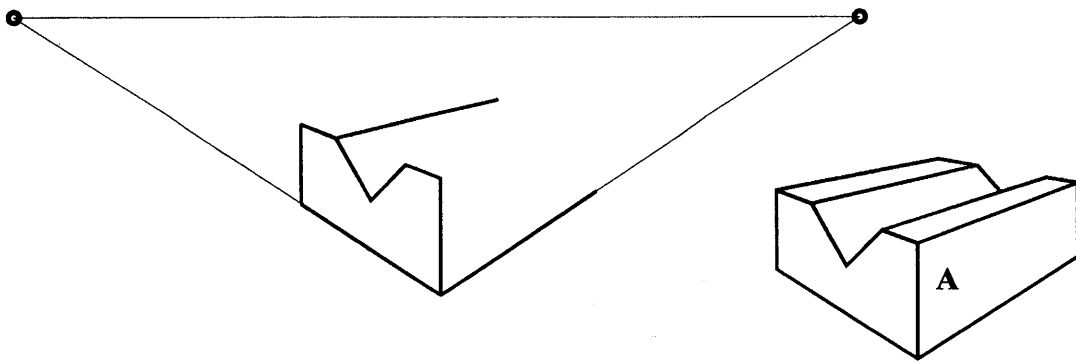
- 12** Sketch the **SHADOW** cast by the solid when the light source is as shown by the arrow.



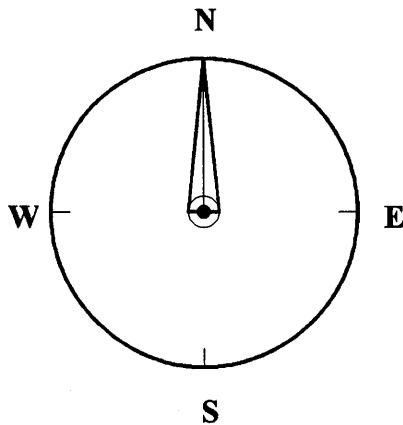
- 13** Construct a **TANGENT** to circle **A** from the point **P**.
Show clearly all constructions and the point of contact.



- 14** The figure shows the incomplete two point perspective outline of a vee block. Complete the perspective outline, similar to the view shown at **A**.



- 15** Rotate the compass needle clockwise through 120° , about its centre.



B

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TECHNICAL GRAPHICS — ORDINARY LEVEL

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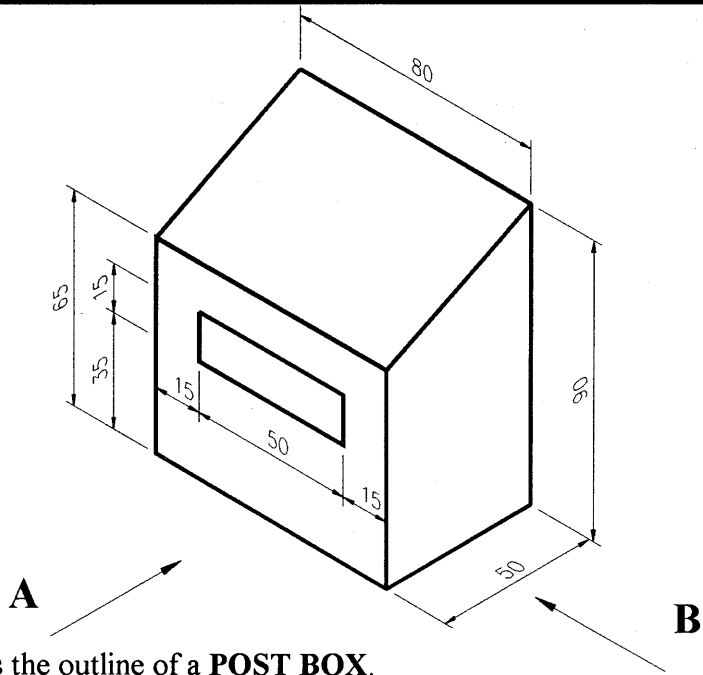
SECTION B — 280 MARKS

INSTRUCTIONS FOR SECTION B

- (a) **Any four questions to be answered.**
- (b) **All questions in this section carry equal marks.**
- (c) **The number of the question must be distinctly marked by the side of each answer.**
- (d) **Work on one side of the paper only.**
- (e) **Examination number must be distinctly marked on each sheet of paper used.**



3

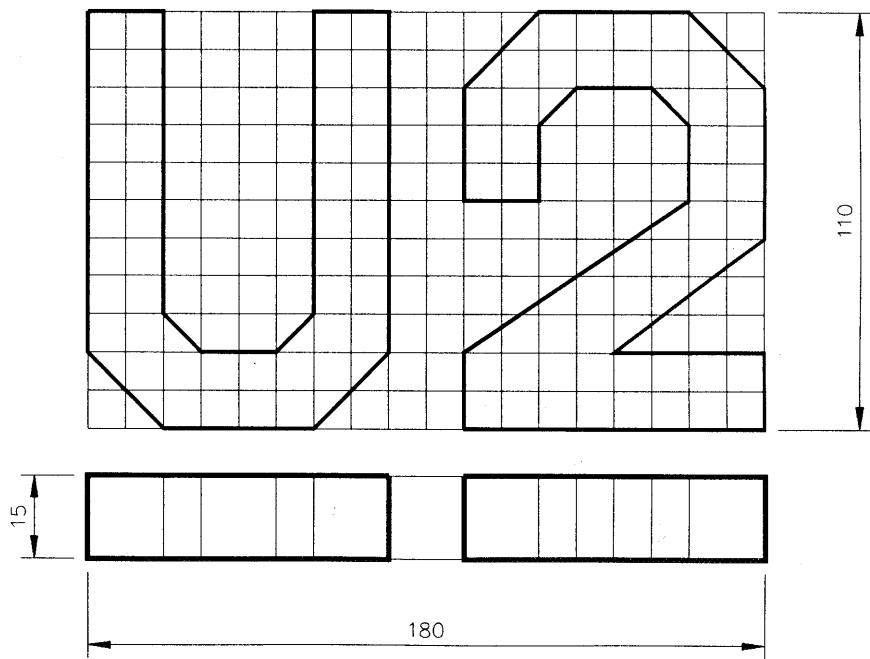


The figure shows the outline of a **POST BOX**.

Draw the following views :-

- (a) A front elevation looking in the direction of arrow A.
- (b) An end elevation looking in the direction of arrow B.
- (c) The **DEVELOPMENT** of the Post Box.

4



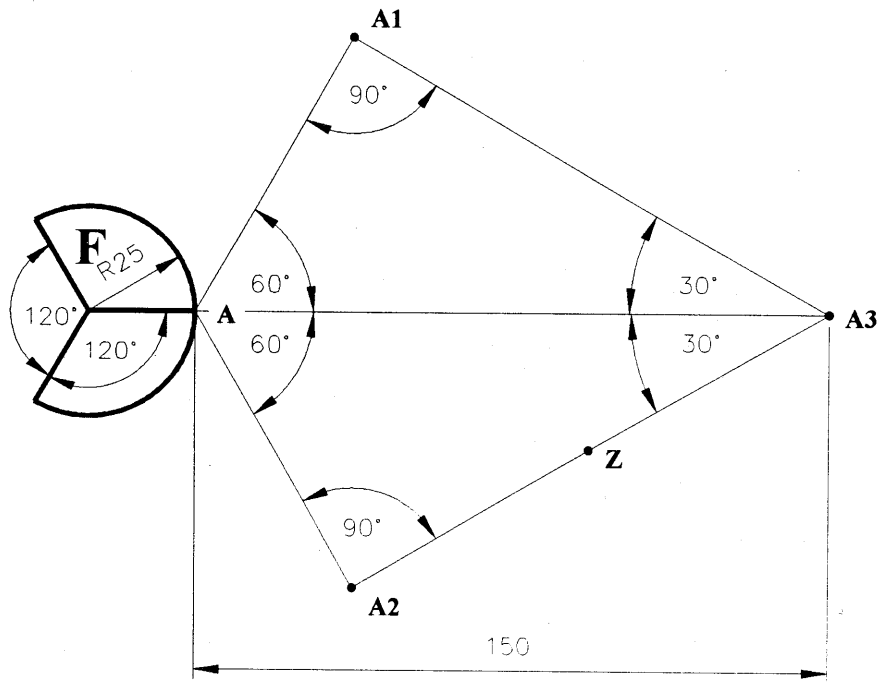
The figure shows a **LOGO** for the Rock Group **U2**. The grid is made up of 10mm squares.

Draw **ONE** of the following views :-

An **ISOMETRIC** view (a) **OR** an **OBLIQUE** view (b) of the LOGO.

The solution must be presented on standard drawing paper.

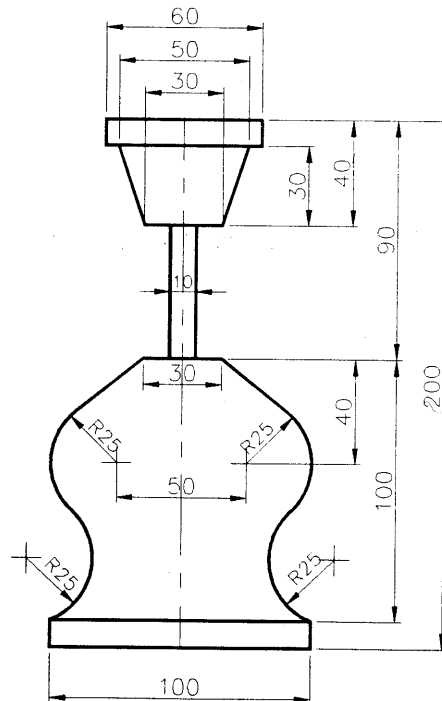
5



Draw the given figure **F**. Then locate the points **A1**, **A2** and **A3**, using the triangles shown. Find the image of the given figure **F** under the following transformations :-

- (a) From point **A** to **A1** by a **TRANSLATION**,
- (b) From point **A1** to **A2** by an **AXIAL SYMMETRY** in the line **A — A3**,
- (c) From point **A2** to **A3** by a **CENTRAL SYMMETRY** in the point **Z**.

6



A design for a **CEILING LIGHT** is shown. Draw the given design, showing clearly all constructions and points of contact.