

LEAVING CERTIFICATE EXAMINATION, 1977

TECHNICAL DRAWING - COMMON LEVEL - PAPER II

WEDNESDAY, 15 JUNE, AFTERNOON - 2.00 to 4.30

N.B. Answer either Section A or Section B

Section A (Engineering)

INSTRUCTIONS

- (a) All questions to be attempted.
- (b) Drawings and sketches should be in pencil.
- (c) Where dimensions are omitted they may be estimated.
- (d) Credit will be given for neat orderly presentation of work.
- (e) Candidates must work on one side of the paper only.
- (f) The Examination Number must appear on each drawing sheet used.

1. (a) Three parts of a bush and housing assembly are shown in Fig. 1. Assemble the parts together and draw the following views of the assembly:-

- (i) A sectional elevation on the cutting plane A - A and viewed in the direction of the arrows.
- (ii) An end elevation looking from right to left.

The solution may be drawn in first or third angle projection and hidden detail is not necessary.

- (b)
 - (i) Title the drawing.
 - (ii) Indicate the method of projection used.
 - (iii) Insert four dimensions.

(110 marks)

2. Two views of a pivot block are shown in Fig. 2. Sketch freehand and in good proportion (to the dimensions given) a sectional pictorial view of the block. The pictorial view should show the block with a quarter of it removed. The portion to be removed is shown by the cutting planes BBBB. The pictorial view should show both cut faces.

The sketch should be on the isometric grid paper supplied and for clarity be sketched on the non-lined side of the paper.

(40 marks)

3. (a) Two views of an engine crank assembly are shown in Fig. 3. Trace, in ink, on the tracing paper provided a sectional end elevation. The section should be taken at the cutting plane C - C and viewed in the direction of the arrows.

(50 marks)

OR

- (b) From the following data, make a fully detailed working drawing of a right angled pipe bend with flanges.

Pipe:- Inside bore 40 mm.
Wall thickness 5 mm.
Mean radius of bend 120 mm.
Angle of bend 90°.

Flanges:- One at each end of pipe bend.
100 mm diameter x 15 mm thick.
Four equally spaced holes tapped 10 mm coarse metric thread on 80 mm PCD.

The working drawing should be presented in orthographic projection.

(50 marks)

OVER →

SECTION B (BUILDING)

INSTRUCTIONS

- (a) Answer four questions.
 - (b) All questions carry equal marks.
 - (c) Construction lines must be shown on all solutions.
 - (d) Write the number of the question distinctly on the answer paper.
 - (e) First or third angle projection may be used.
 - (f) All measurements are given in millimetres.
-

1. Fig. 1 shows the plan of three lean-to roof surfaces. Surface A has a pitch of 35° and surface C has a pitch of 45° . Draw the plan and project the elevation. Find the pitch of surface B and determine the dihedral angle between surfaces A and B. Scale 1 : 100

2. The plan of three mouldings A, B and C is shown in fig. 2. Moulding A, whose cross-section is also shown, is level. Moulding B is inclined upwards at 30° . Moulding C is level. Determine the true shape of mouldings B and C. Scale 1 : 1

3. The plan and elevation of a building are shown in fig. 3. Make a perspective drawing of the building when the station point (s) is in the position shown, the picture plane 8000 mm from the station point and the horizon line 2000 mm above the ground line. Scale 1 : 100

4. The plan of part of a stair handrail is shown in fig. 4. The cross-section is rectangular and is 75 mm x 50 mm. The handrail rises uniformly a vertical distance of 300 mm from A to B. Draw the plan as given and project the elevation. Scale 1 : 5

5. Fig. 5 shows the plan and elevation of an oblique arch. The outer curve is a semi-ellipse when viewed in the direction of the arrow and the joint lines are normal to this curve. Draw the plan and elevation as given. Scale 1 : 10

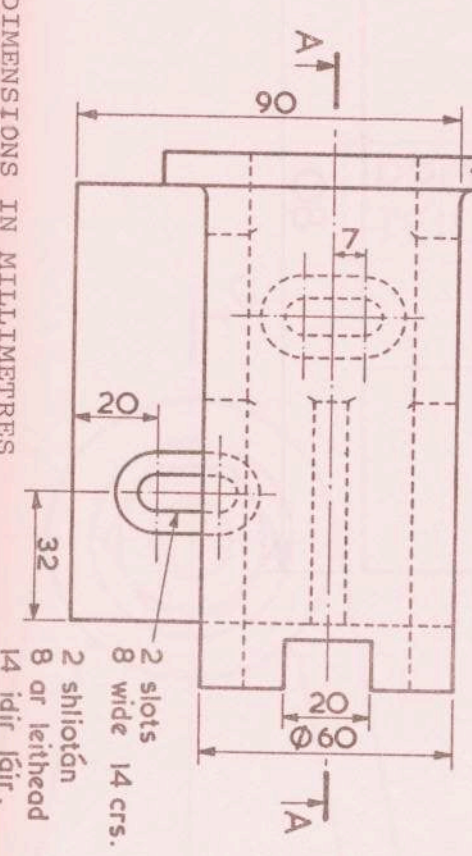
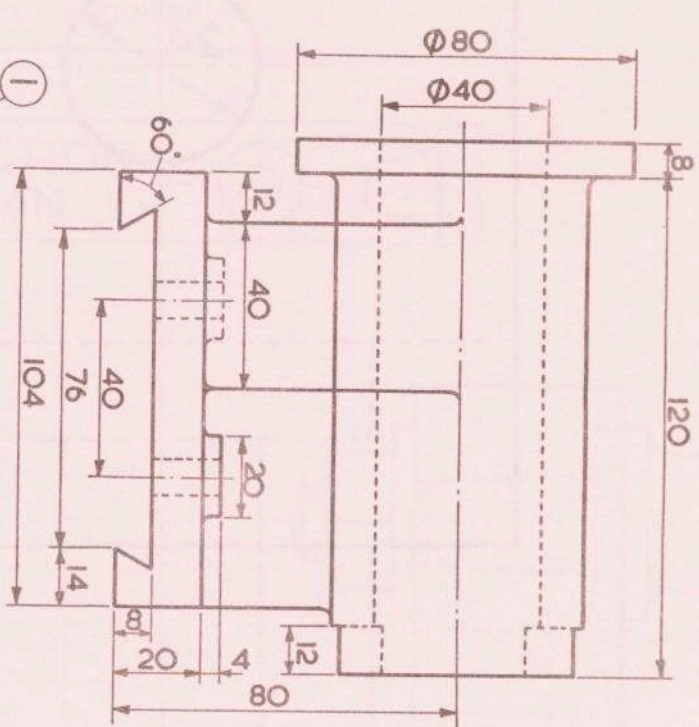
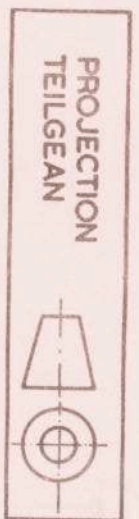
6. The elevation and end view of a building are shown in fig. 6. Draw the elevation, project the plan and show the shadows cast when the direction of the light is 45° in elevation and 45° in plan. Scale 1 : 100

7. The elevation and section A-A of a circular ventilator are shown in fig. 7.
(a) Determine the development of the top surface of the ventilator board.
(b) The curves on the development of the ventilator board form part of an ellipse. Complete this ellipse. Scale 1 : 10

CUID II
 PART II

LÍNÍOCHT TEICNIÚIL
 TECHNICAL DRAWING

A. INNEALTÓIREACHT
 A. ENGINEERING



DIMENSIONS IN MILLIMETRES
 TOISIÚ INNA MILLIMÉADAIR

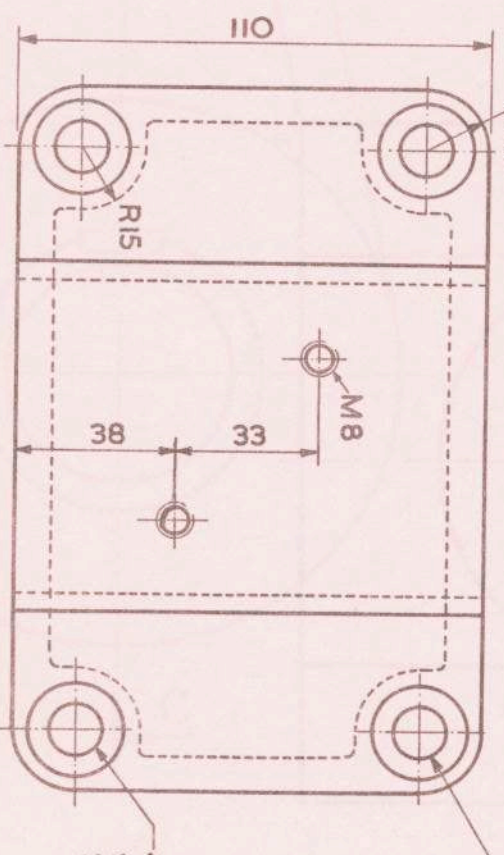
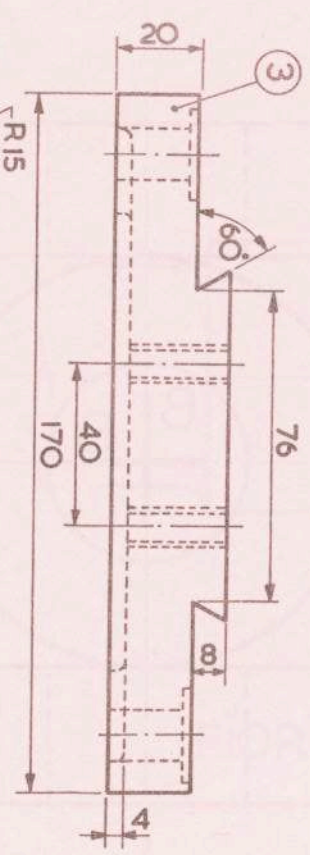
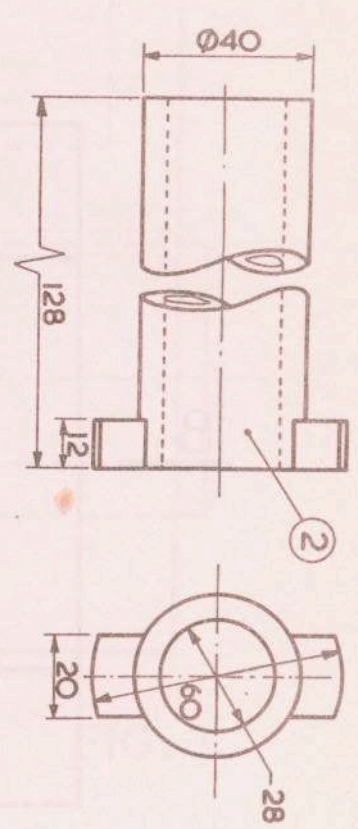
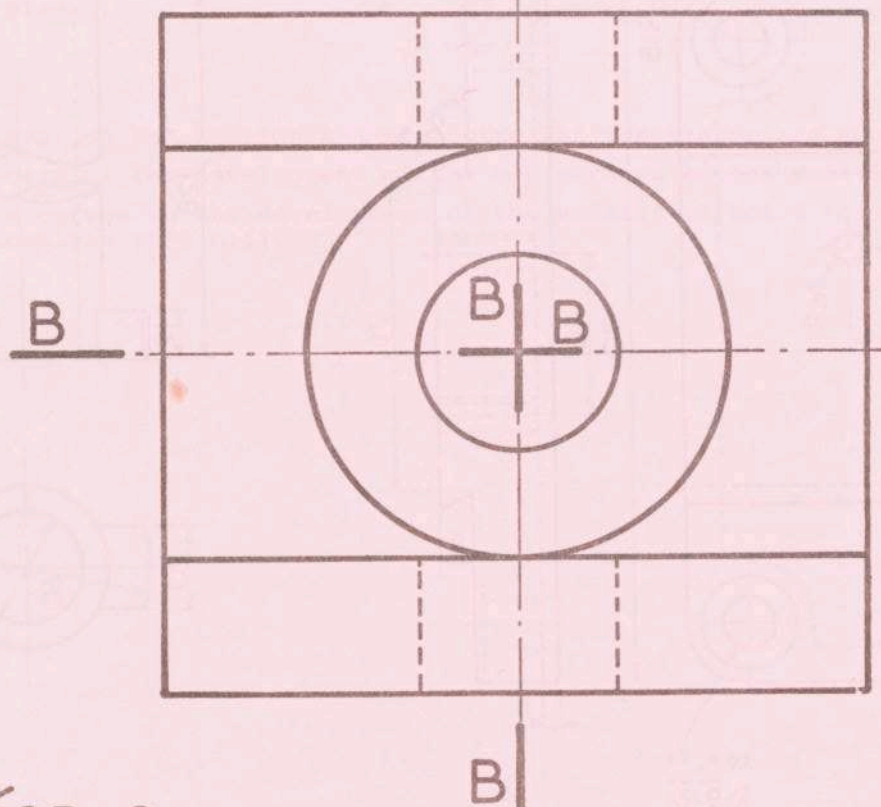
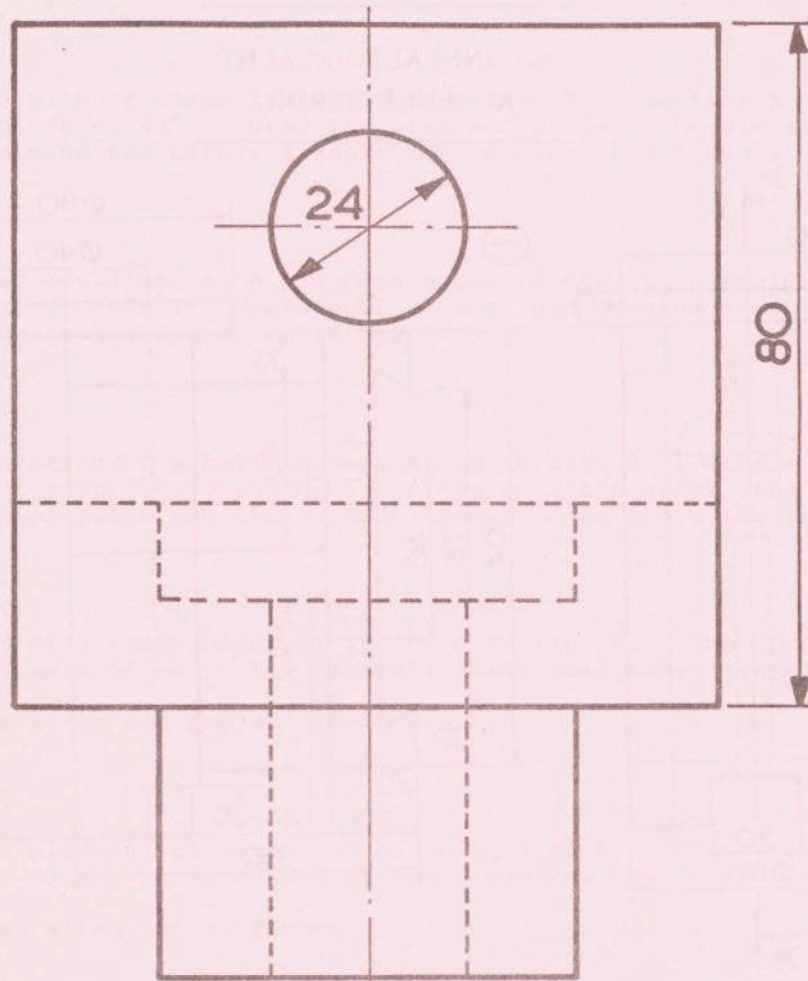
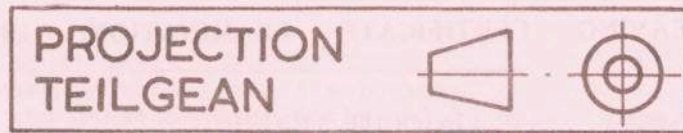


FIG. 1.
 FÍOR 1.

(FOR 2 - FÉACH THALL)
 (FIG. 2 - SEE OVER)

LÍNÍOCHT TEICNIÚIL
CUID II (A) INNEALTÓIREACHT
PART II (A) ENGINEERING

M.118(L2)



FÍOR 2

FIG. 2

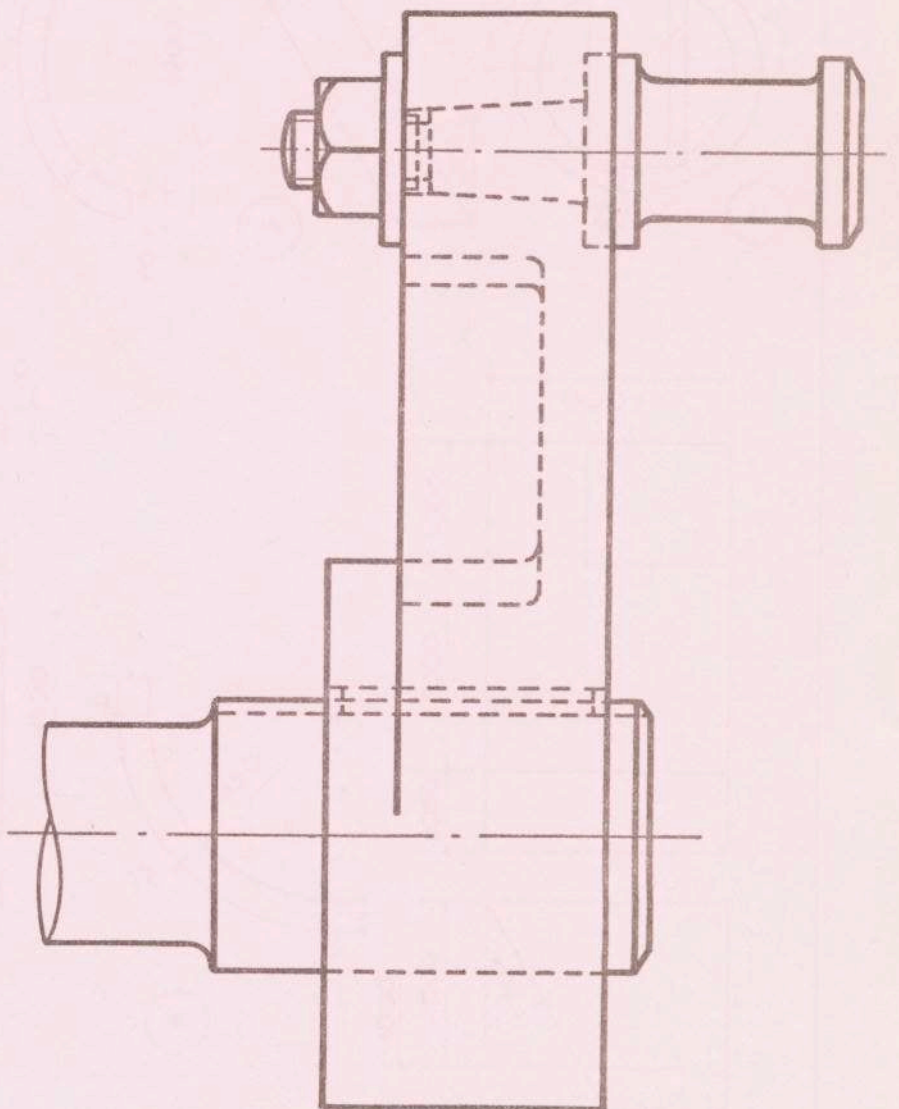
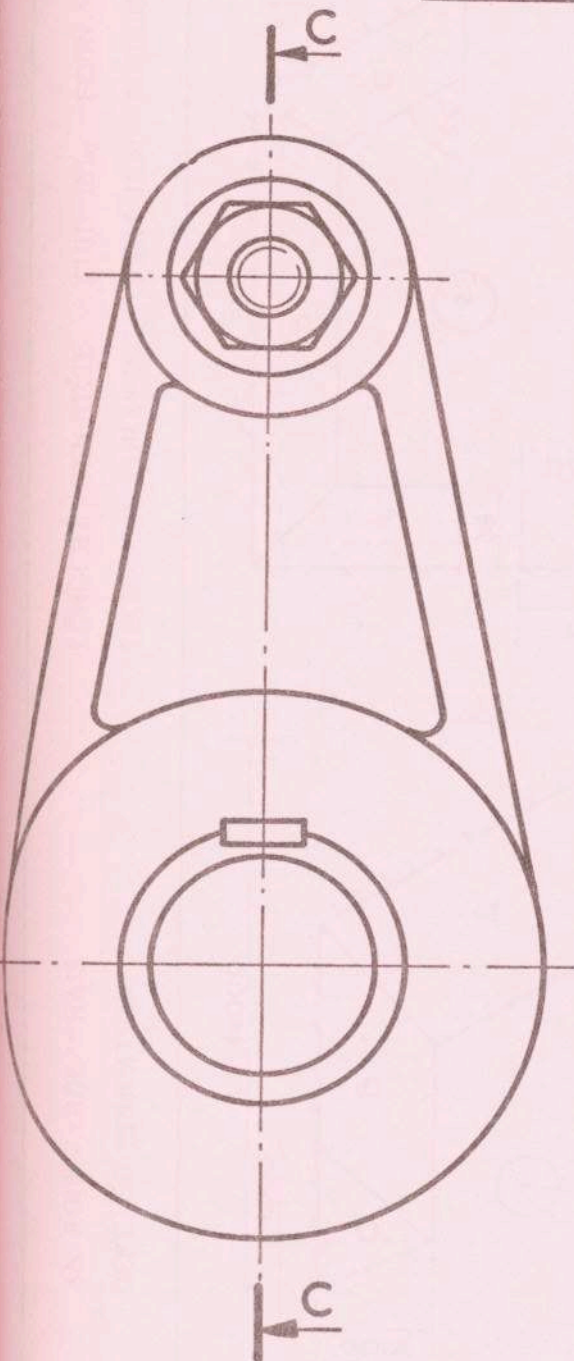
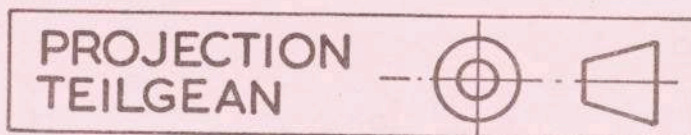
DIMENSIONS IN MILLIMETRES
TOISÍ INA MILLIMÉADAIR

AN ROINN OIDEACHAIS
SCRÚDÚ ARDTEISTIMÉIREACHTA, 1977
LEAVING CERTIFICATE EXAMINATION, 1977

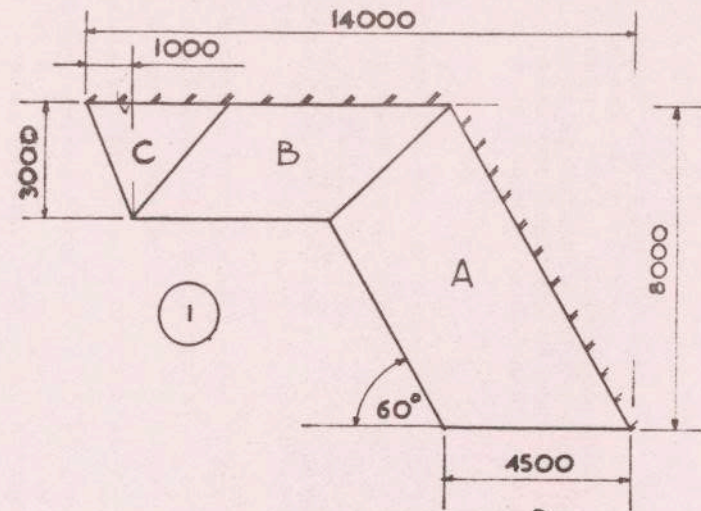
M.118(L3)

LINIOCHT TEICNIUIL
TECHNICAL DRAWING

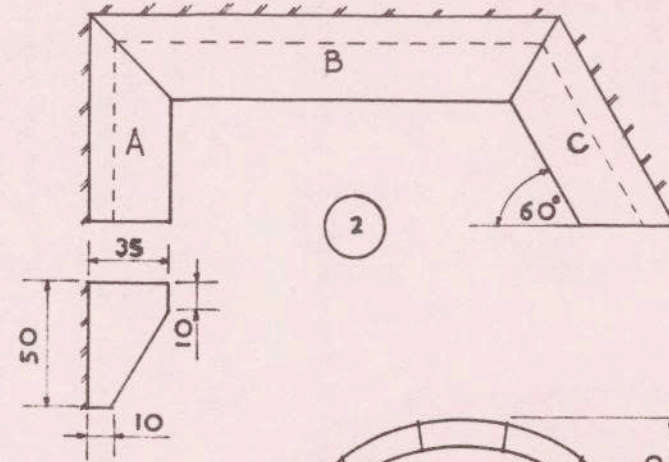
A. INNEALTÓIREACHT
A. ENGINEERING



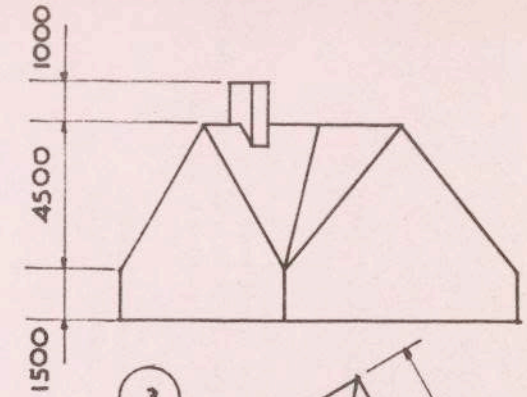
FÍOR 3. FIG. 3.



1

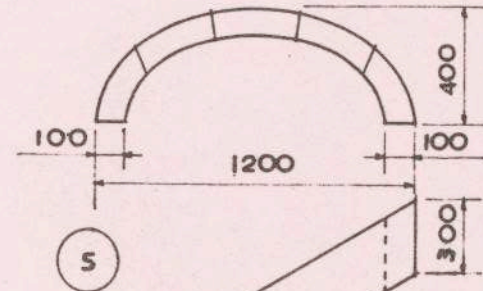
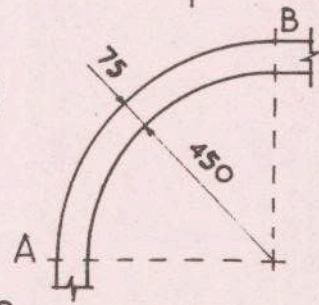


2

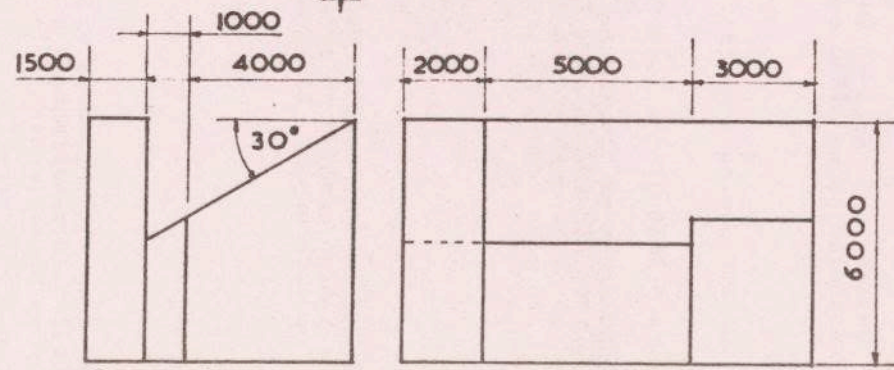


3

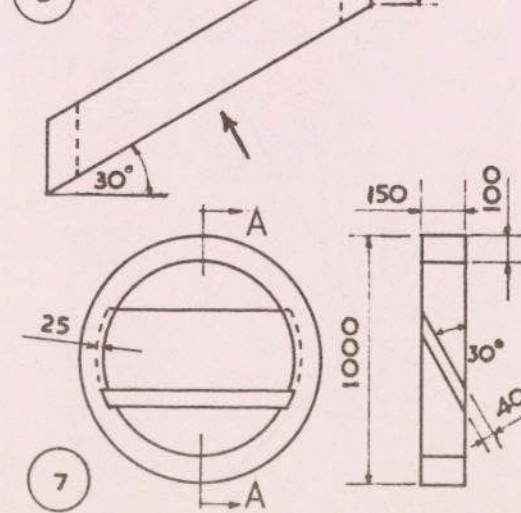
4



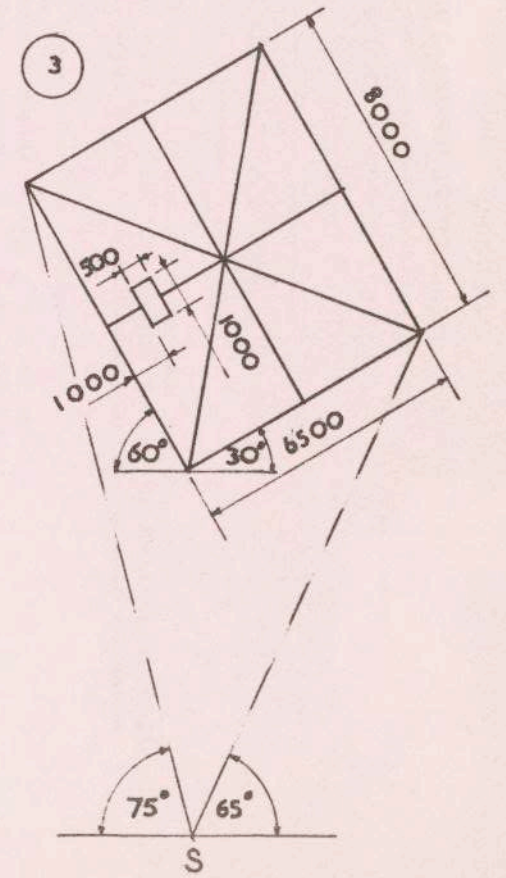
5



6



7



S