A4

# LEAVING CERTIFICATE EXAMINATION, 1971

## TECHNICAL DRAWING - COMMON LEVEL - PAPER II

WEDNESDAY, 23rd JUNE - AFTERNOON, 2 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) Tracings should be made on the tracing paper provided and be in ink.
(d) Where dimensions are omitted they may be estimated.
(e) Credit will be given for neat and orderly presentation of work.
(f) Candidates must work on one side of the paper only.
(g) The Examination Number must appear on each drawing sheet used.

NOTE: Two sets of drawings have been provided for Question 1, one dimensioned in inches and the other in millimetres. Candidates are free to work from either set of drawings. Candidates must indicate the units used.

1. The parts of a pulley assembly are tabulated below.

| Index | Part | No. Required |
|---|---|---|
| 1 | Bracket | 1 |
| 2 | Pin | 1 |
| 3 | Pulley | 1 |
| | Hexagonal Nut | 1 |
| | Washer | 1 |

The details of the bracket, pin and pulley are shown in Fig. 1. The hexagonal nut and washer are not shown, but they are of stock size to suit the pin.
Assemble the five parts together and draw the following views:-

(a) the elevation A with the parts assembled in the bracket;

(b) a sectional elevation on the cutting plane X-X and looking in the direction of the arrows.

First or third angle projection may be used in the solution. Letter the title 'PULLEY BRACKET ASSEMBLY' and insert four leading dimensions.

(120 marks)

2. (The use of straight edges or compass is not allowed for this question).
Shown in Fig. 2. is an exploded view of a machine vice assembly. Assemble the parts and sketch (on plain drawing paper) two views of the assembly. Choose views that will show the assembly most clearly. The views sketched should be in orthographic projection and be approximately full size.
Letter the title 'MACHINE VICE ASSEMBLY' and state type of projection used.

(40 marks)

3. On the tracing paper provided, make an ink tracing of the drawing in Fig. 3.

OR

3. Fig. 3. shows an elevation of a 'Surface Gauge' full size. Make a working drawing 1½ times full size of the base only.
The drawing should be fully dimensioned and in orthographic projection. The dimensions should be taken from Fig. 3. Draw the minimum number of views to clearly describe this detail.
(Drawings may be dimensioned in inches or millimetres).

(40 marks)

See over for Section B →

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) Candidates working in metric units should write the letter "M" distinctly beside the number of the question on the answer paper.

All dimensions on the question paper are in millimetres with inches in parentheses.

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1. Fig. 1. shows the position of a supply pipe which runs from point A to point B and is carried in the walls and roof surfaces of the building. Determine (a) the total length of pipe required, and (b) the true angle between runs MN and NB.

Scale 1 : 50 (½ inch in 12 inches)

2. The plan and incomplete elevation of two mouldings, A and B, are shown at Fig. 2. From the given section of the horizontal moulding at A', determine (a) the true shape of the mitre, and (b) the cross-section of the raking moulding, B.

Scale: full size.

3. Fig. 3. shows the projections of a canopy supporting a cylinder. To a scale of 1 : 50 (½ inch in 12 inches), determine the shadows cast by the canopy and the cylinder. The projections of the parallel rays on the vertical and horizontal planes are at 45°.

4. Fig. 4. shows the plan and incomplete elevation of portion of a piping system consisting of three pipes, A, B and C. Draw full size (a) the given views showing the complete elevation and (b) the development of the surface area of pipe B.

5. The projections of a roof for a ventilating turret are shown at Fig. 5. To a scale of 1 : 20 (½ inch in 12 inches), determine (a) the true shape of surface A, (b) the true shape of roof member R.S.

6. In the semi-elliptical arch shown at Fig. 6. the joint lines of the stones forming the arch are normals to its curve and the chords of the curves of the stones are equal. To a scale of 1 : 20 (½ inch in 12 inches), draw the complete elevation.

7. The arrangement of the stone capping for a gate pier is shown at Fig. 7. To a scale of 1 : 10 (1 inch in 12 inches), draw an isometric projection of the arrangement when viewed in the direction of arrow E.

AN ROINN OIDEACHAIS

CUID II
PART II

líníocht teicniúil
TECHNICAL DRAWING

A. innealtóireacht
A. ENGINEERING

SCRÚDÚ ARDTEISTIMÉIREACHTA, 1971
LEAVING CERTIFICATE EXAMINATION, 1971

M.118(A)

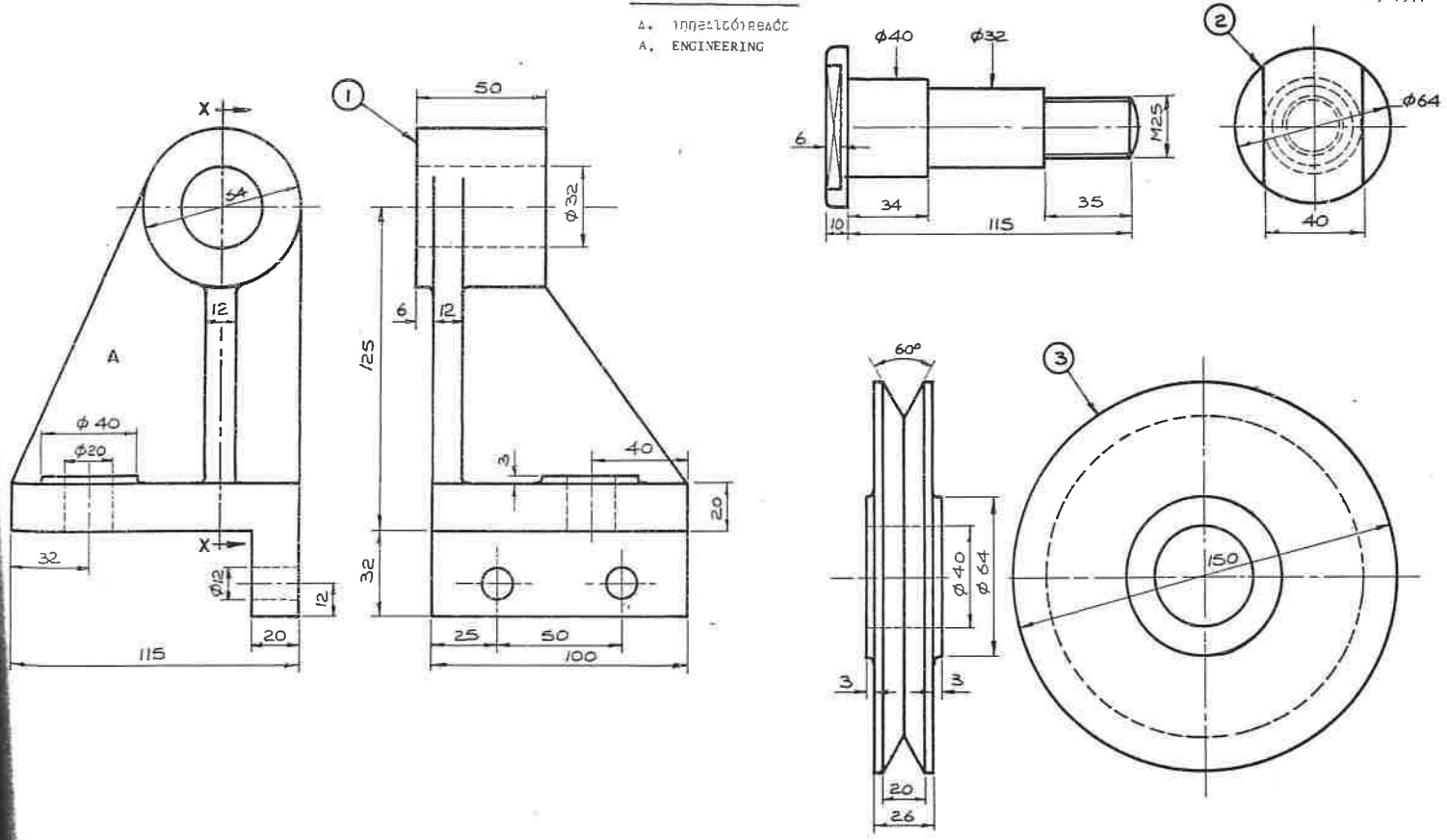



FIG. 1 ALL DIMENSIONS ARE IN MILLIMETRES. DIMENSIONS IN INCHES ON THE REVERSE SIDE.
FIOR 1 Na coisí so léir in milliméadair. Cá na coisí in orlaí ar an taobh eile.

A1

CUID II
PART II

LÍNÍOCHT TEICNIÚIL
TECHNICAL DRAWING

A. INNEALTÓIREACHT
A. ENGINEERING

SCRÚDÚ ARDTEISTIMÉIREACHTA, 1971
LEAVING CERTIFICATE EXAMINATION, 1971

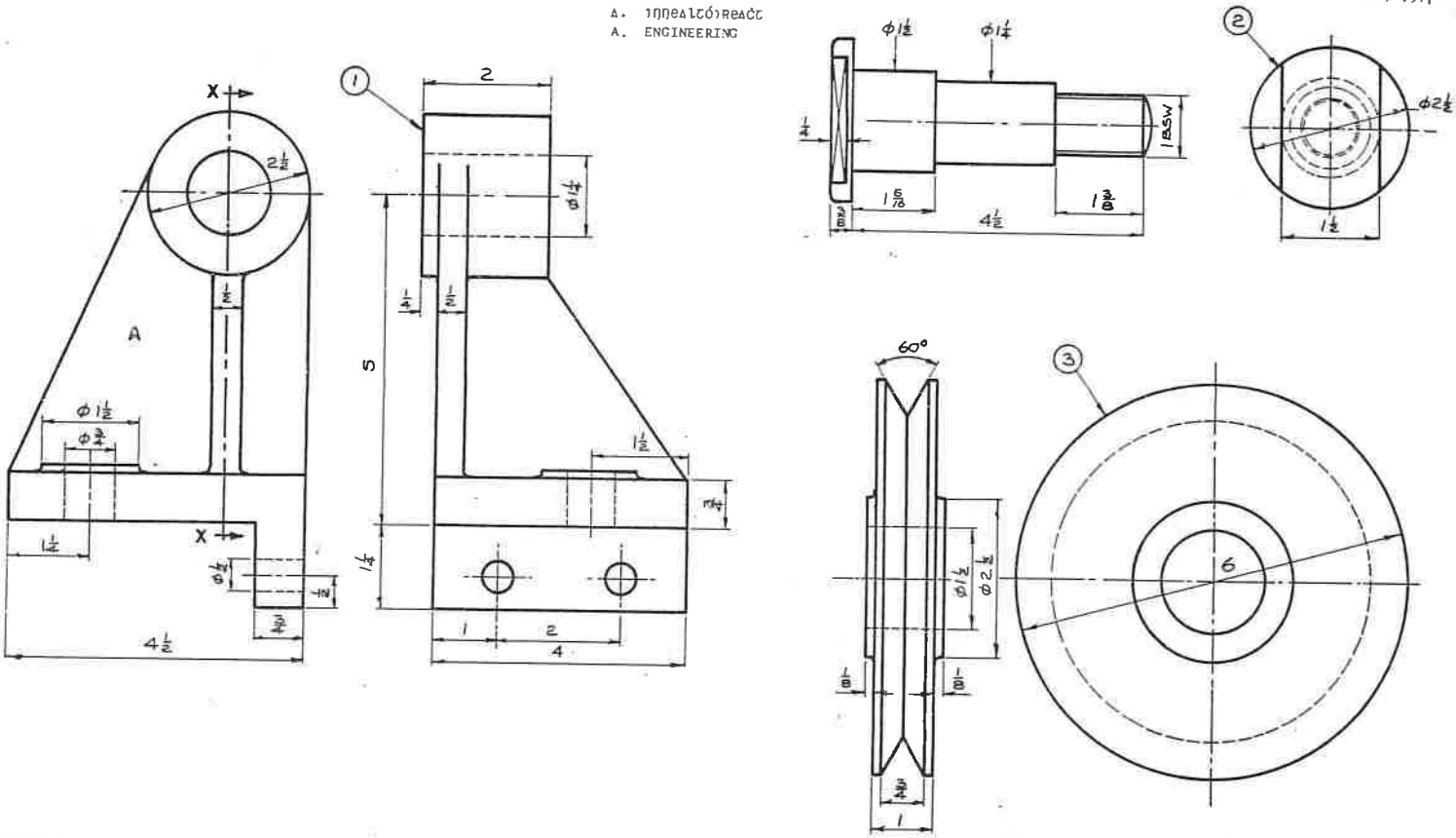



**FIG. 1** ALL DIMENSIONS ARE IN INCHES. DIMENSIONS IN MILLIMETRES ON THE REVERSE SIDE.
**FÍOR 1** NA TOISÍ SO LÉIR IN ORLAÍ. TÁ NA TOISÍ I MILLIMÉADAIR AR AN TAOBH EILE.

FIG. 2

FÍOR 2

(FIG. 3 - SEE OVER)
(Fíor 3 - féach cáil)

PART II (A) ENGINEERING

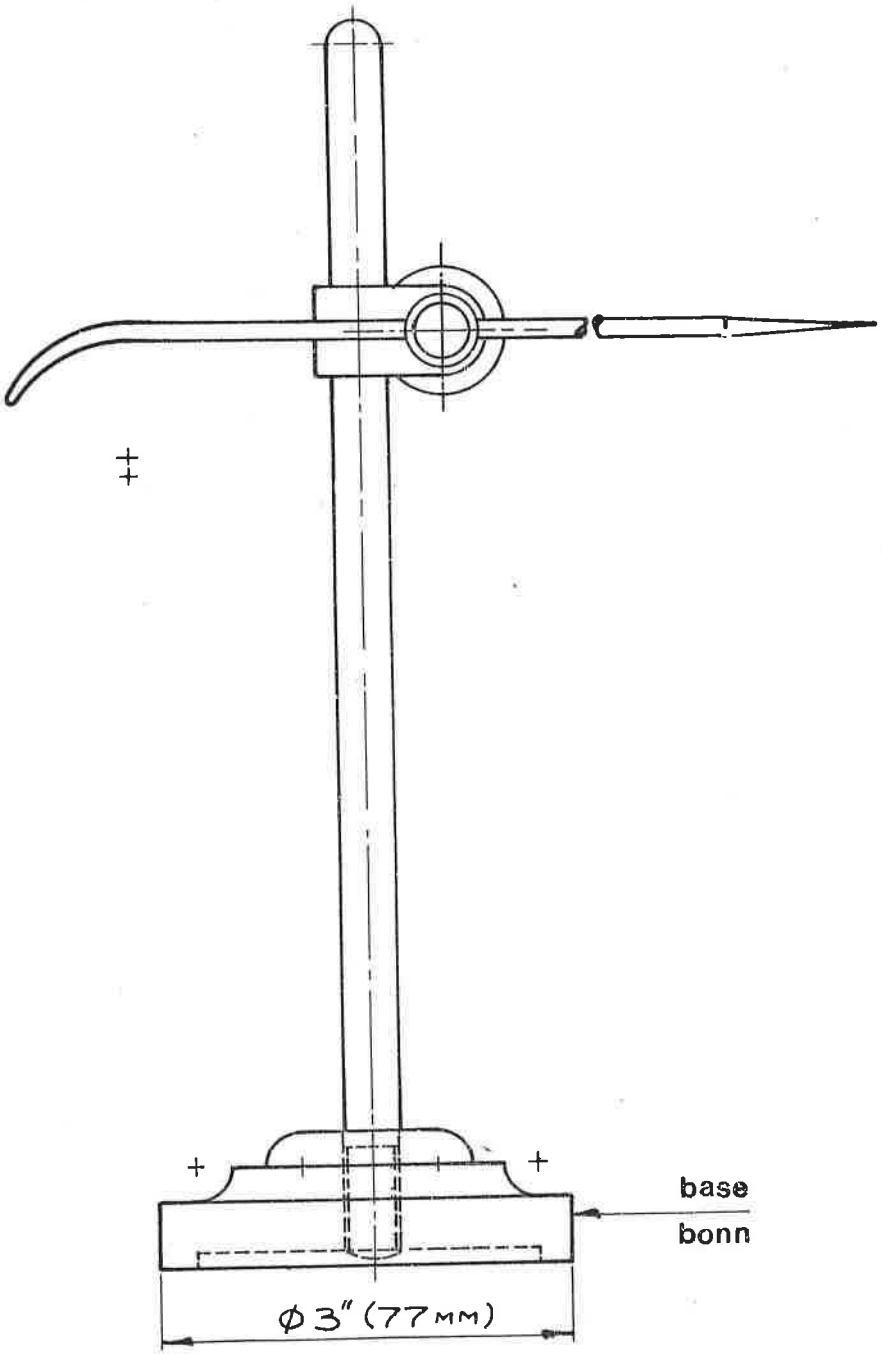



FIG. 3
FÍOR 3

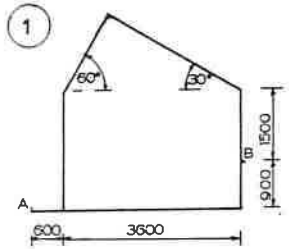
(FIG. 2 - SEE OVER)
(FÍOR 2 - FÉAC CAIL)

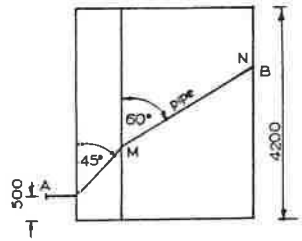
An Roinn Oideachais

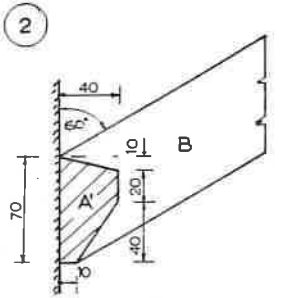
# LÍNÍOCHT THEICNIÚIL

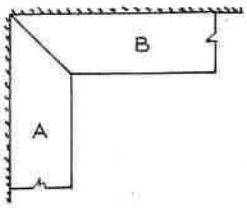
Scrúdúlthe Na hArdteistiméireachta 1971

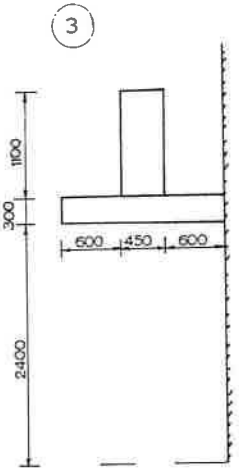
Cuid II(b) Foirgníocht
Part II(b) Building

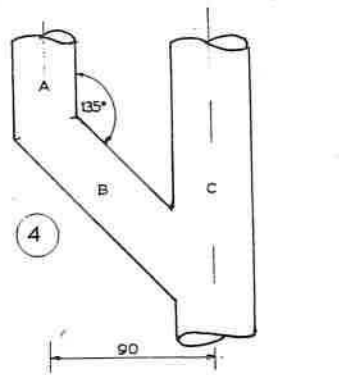


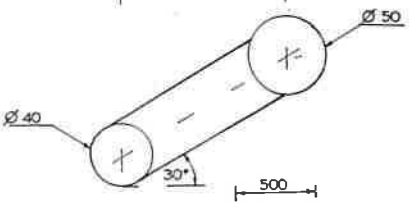



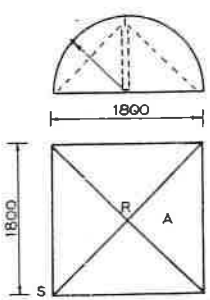



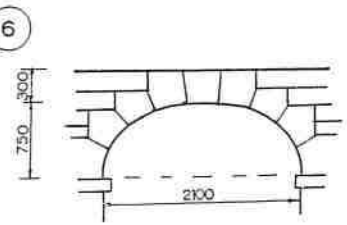



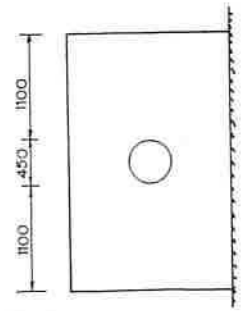



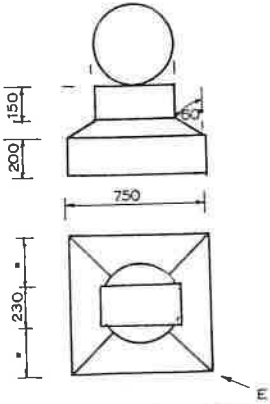




Na toisí go léir i milliméadair
All dimensions are in millimetres

Tá na toisí in orlaí ar an taobh eile
Dimensions in inches on the reverse side

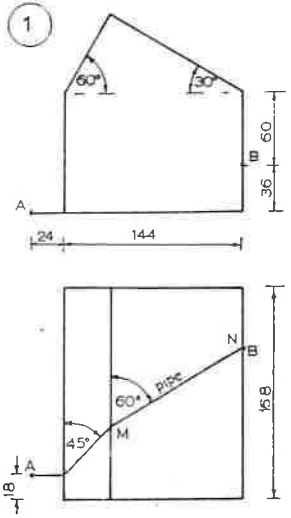
A10

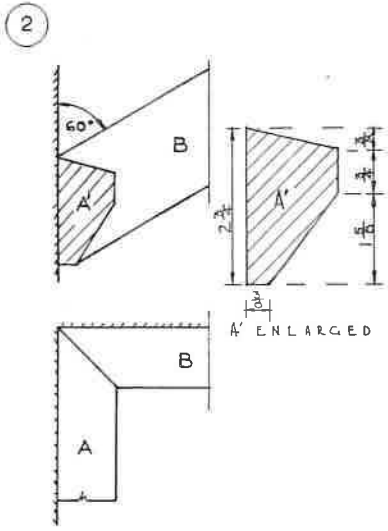
An Roinn Oideachais

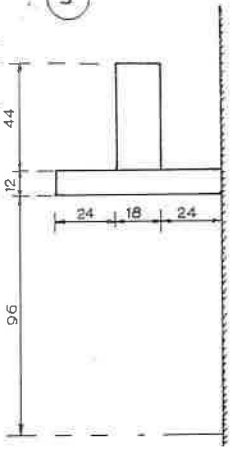
# LÍNÍOCHT THEICNIÚIL

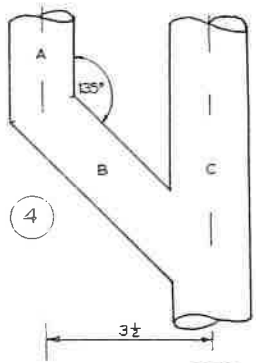
Scrúdaithe Na hArdteistiméireachta 1971

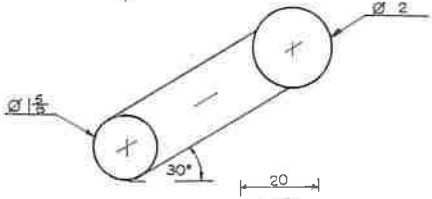
Cuid II(b) Folrgníocht
Part II(b) Building

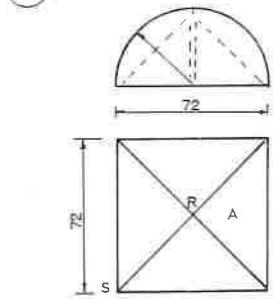


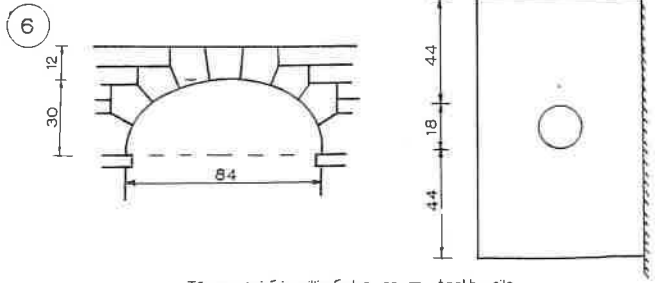



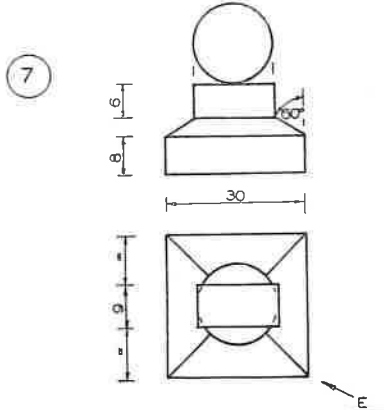




Na toisí go léir in orlaí
All dimensions are in inches

Tá na toisí i milliméadair ar an taobh eile
Dimensions in millimetres on the reverse side