

INTERMEDIATE CERTIFICATE EXAMINATION, 1974

MECHANICAL DRAWING

WEDNESDAY, 26 JUNE - MORNING, 9.30 to 12.30

400 marks

INSTRUCTIONS

- (a) Five questions to be answered; one of these must be question No. 1, Section A. Two must be selected from Section B and two must be selected from Section C.
- (b) All questions carry equal marks. A maximum of 12 marks will be awarded for draughtsmanship in respect of each question and a maximum of 20 marks will be awarded for neatness, arrangement and presentation of answer sheets.
- (c) The number of the question must be distinctly marked by the side of each question.
- (d) Work on one side of the paper only.
- (e) Examination number must be distinctly marked on each sheet of paper used.
- (f) All construction lines must be clearly shown.
- (g) All measurements are in millimetres.

SECTION A

(This question must be attempted)

1. A shaped solid is shown in fig. 1. Make a full-size orthographic projection of the solid showing:-

- (a) an elevation looking in the direction of arrow X,
- (b) an end-view looking in the direction of arrow Y,
- (c) a plan projected from (a).

SECTION B

(Two questions to be attempted from this section)

2. The elevation and plan of a shaped solid are shown in fig. 2. Draw this solid full size in isometric projection;

or

using the isometric grid paper provided, make a neat well-proportioned freehand sketch of the solid.

3. The elevation and plan of a container are shown in fig. 3. The container has part of its top open.

Draw a full-size development of the container.

4. The plan of a sphere resting on a triangular prism of height 20 mm is given in fig. 4. The sphere and prism are cut by a plane as shown.

- (a) Draw full size the plan of the sphere and prism.
- (b) Project an elevation from the plan showing clearly the cut surfaces.

5. The elevation and plan of a solid are shown in fig. 5. Draw the elevation and plan of this solid when the base of the solid is inclined at an angle of 30° to the horizontal plane and the edge *ab* remains on the horizontal plane.

SECTION C

(Two questions to be attempted from this section)

6. Draw full size the design shown in fig. 6. showing clearly all construction lines.

7. Draw full size the shape shown in fig. 7. This shape is to be rotated about a point P so that points a_1 and b_1 become the new positions of points *a* and *b* respectively.

- (a) Find the position of the point P about which the shape is rotated
- (b) Draw the shape in its new position.

8. In the triangle shown in fig. 8. the sides *ab*, *bc* and *ca* are in the ratio of 4 : 5 : 7 respectively.

- (a) Using a geometrical construction draw this triangle full size to the dimension given.
- (b) Construct a triangle similar to *abc* whose sides will be tangential to a circle of radius 30 mm.

9. The design shown in fig. 9. contains a semi-ellipse and f_1 and f_2 are the focal points. Draw this design full size showing all construction lines.

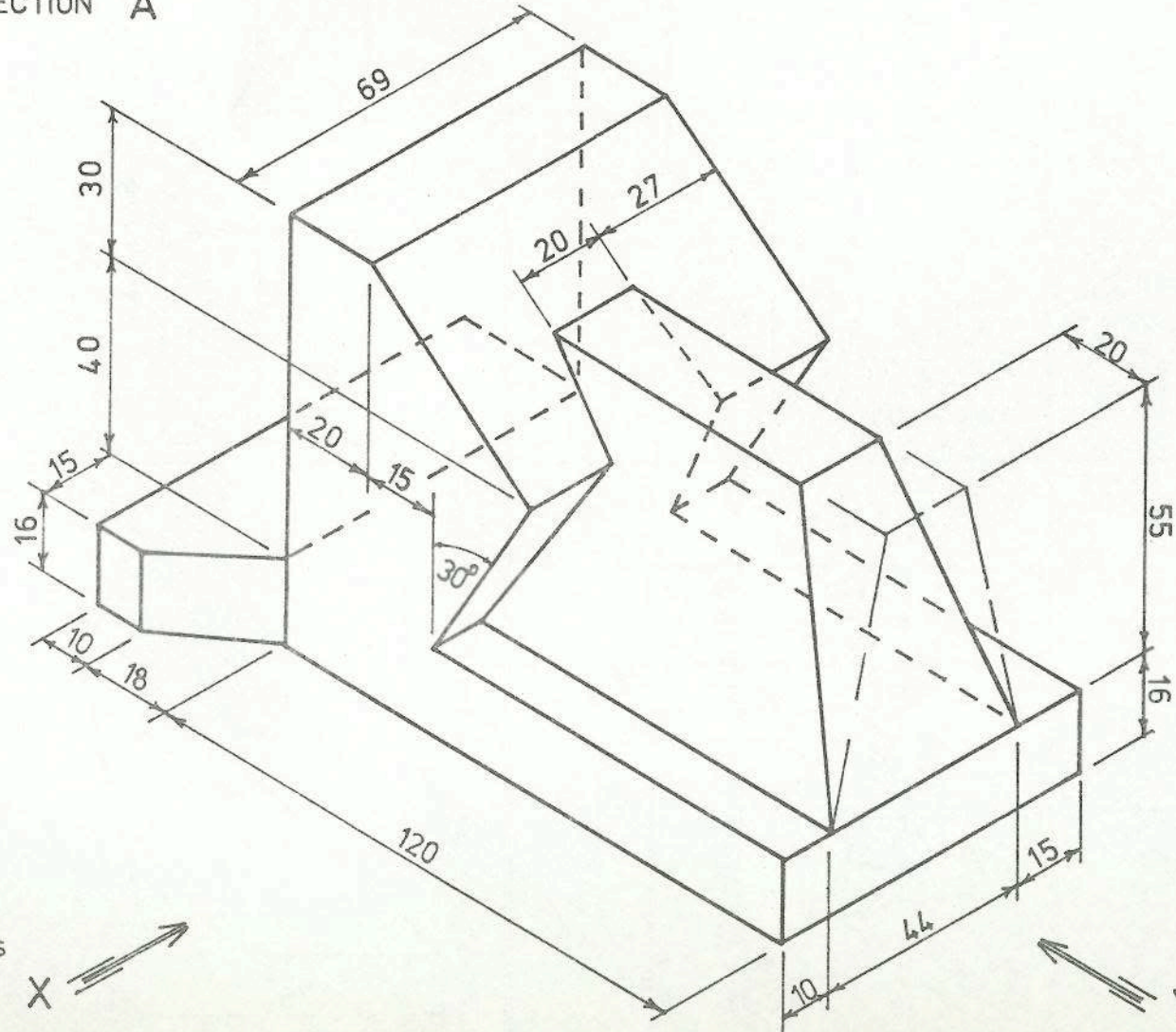
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LÍNÍOCHT MHEICNIÚIL

1974

INTERMEDIATE CERTIFICATE EXAMINATION
MECHANICAL DRAWING

ROINN A — SECTION A

for
figure 1



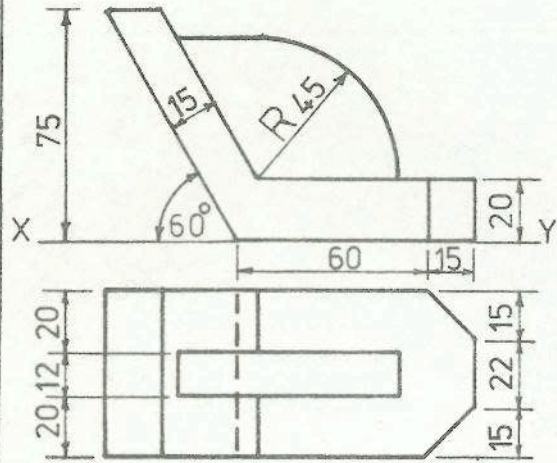
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All measurements are in millimetres



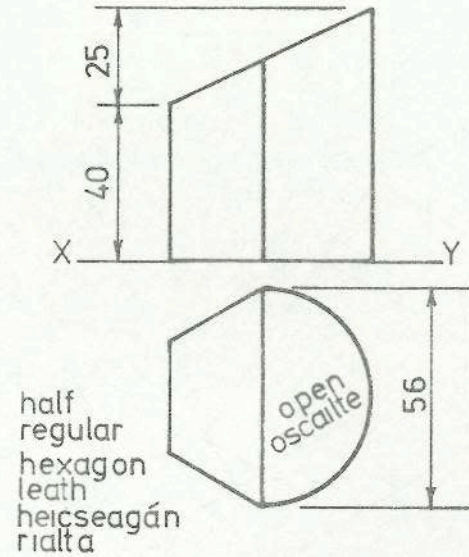
THALL OVER →

ROINN B — SECTION B

fíor figure 2

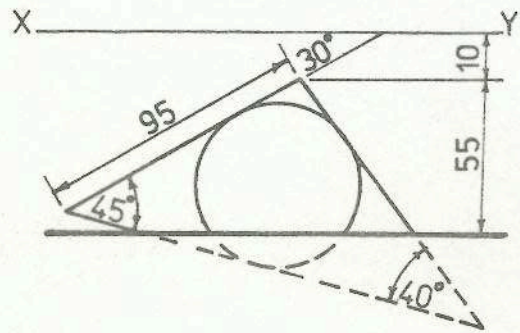


fíor figure 3

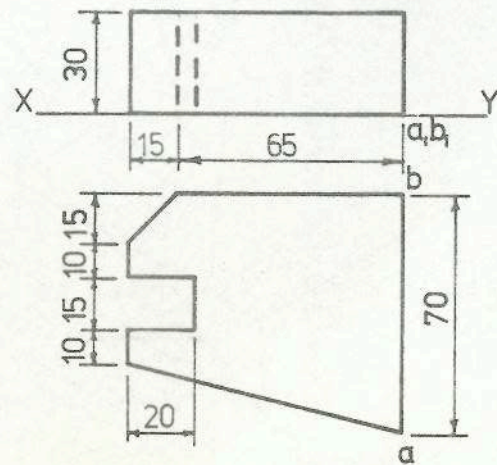


half regular hexagon
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fíor figure 4



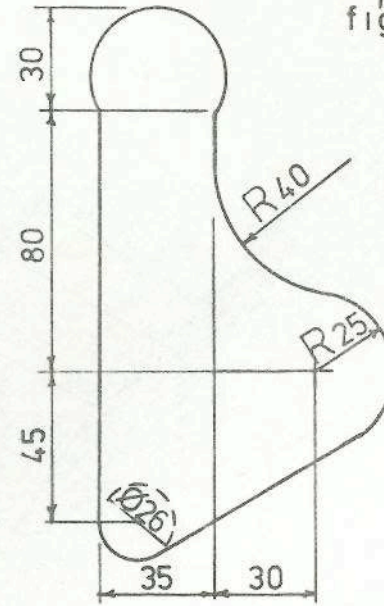
fíor figure 5



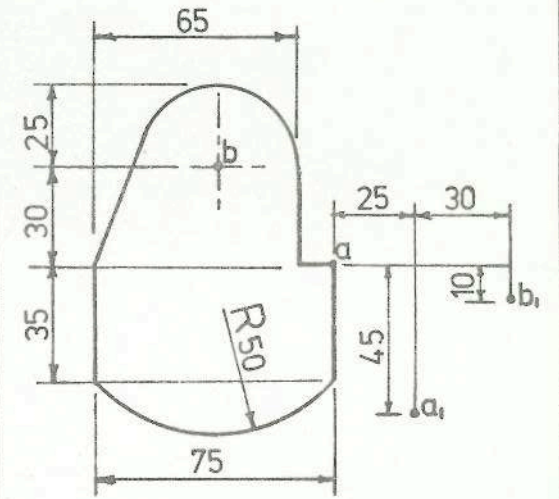
ROINN C — SECTION C

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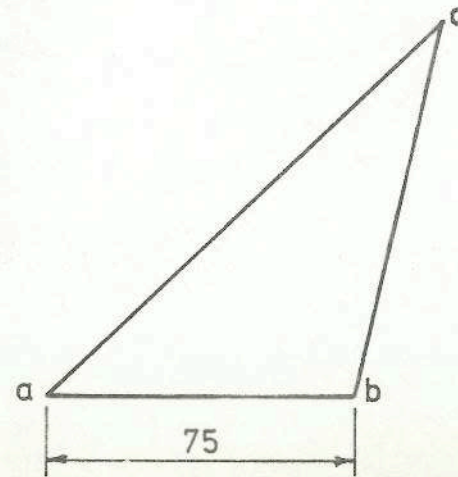
fíor figure 6



fíor figure 7



fíor figure 8



fíor figure 9

