AN ROINN OIDEACHAIS

B

JUNIOR CERTIFICATE EXAMINATION, 1994

TECHNICAL GRAPHICS - HIGHER LEVEL

THURSDAY 16 JUNE - AFTERNOON, 2.00 - 5.00

SECTION B - 280 MARKS

## INSTRUCTIONS FOR SECTION B

(a) **Any four** questions to be answered.

(b) All questions carry equal marks.

(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.

1. The pictorial view of a solid is shown. Also shown is a line joining points P and Q which will be partly visible as indicated. Make a full-size drawing of this solid in orthographic projection showing:-

(a) An elevation looking in the direction of the arrow A.

(b) An end-view looking in the direction of the arrow B.

(c) A plan projected from (a) above.

(d) Show the visible portions of the line PQ in each of the three orthographic views.
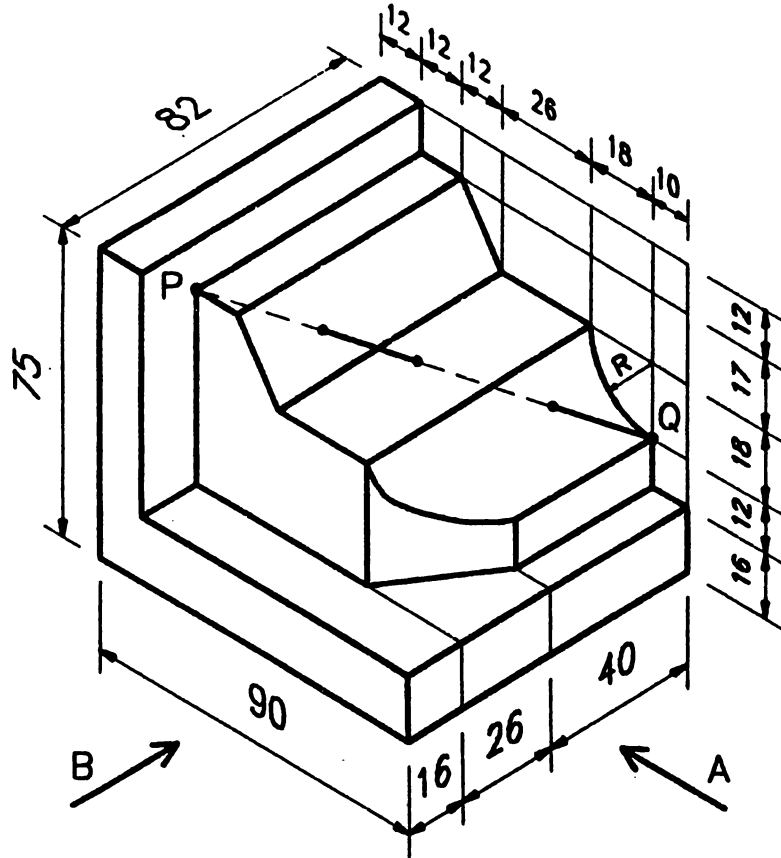
2. Shown is the plan of a cone A, base diameter 80mm and altitude 65mm, and a cylinder B, diameter 62mm and length 112mm. Both solids rest on the horizontal plane and are in contact.

(a) Draw the elevation and plan of the cone and cylinder in the given position.

(b) A sphere of diameter 32mm rests on the horizontal plane in the position S so that it is in contact with both cone and cylinder. Draw the sphere in plan and elevation.

(c) Show all points of contact in elevation and plan.
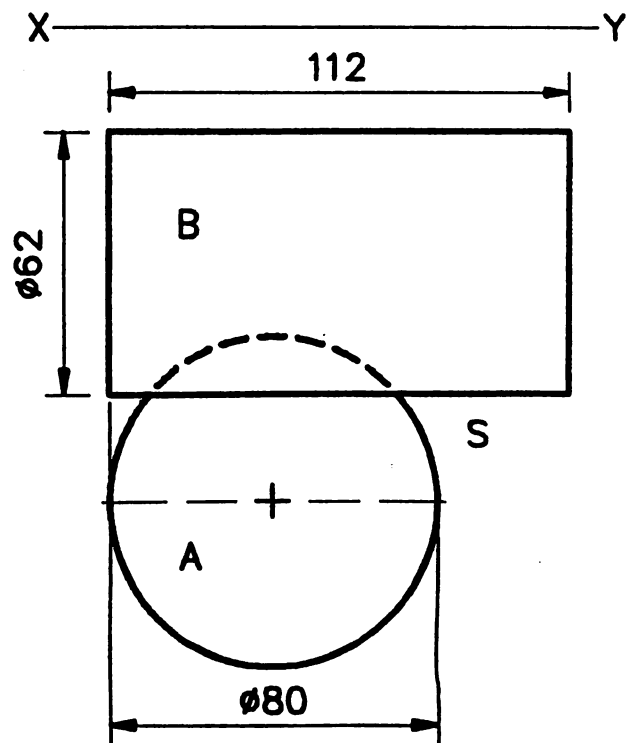
3. The figure shows an incomplete isometric projection of a solid using the axonometric axes method. The side-elevation and plan are also shown in their required positions.
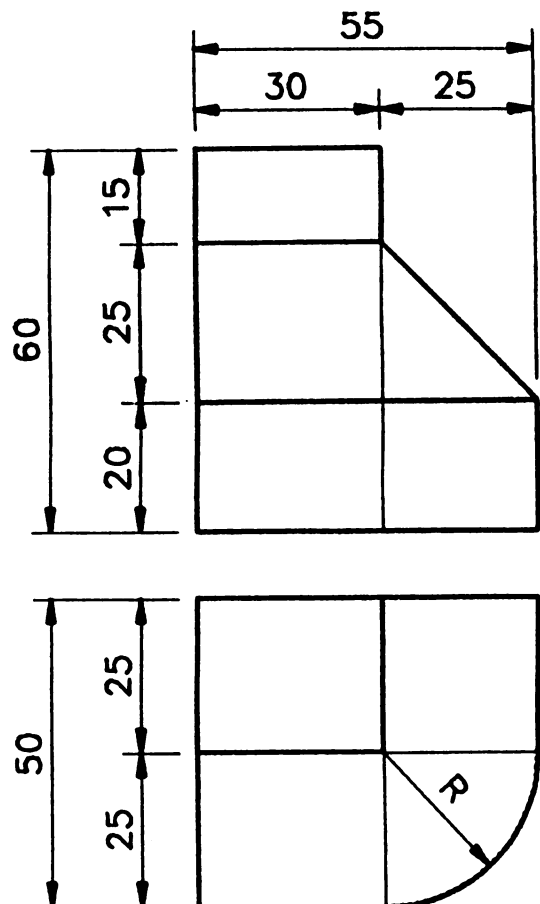
(a) (i) Draw the plan as given.
   (ii) Draw the axes X,Y, and Z.
   (iii) Draw the side-elevation.
   (iv) Draw the completed isometric projection.

OR

(b) Draw the completed isometric projection using isometric scale.
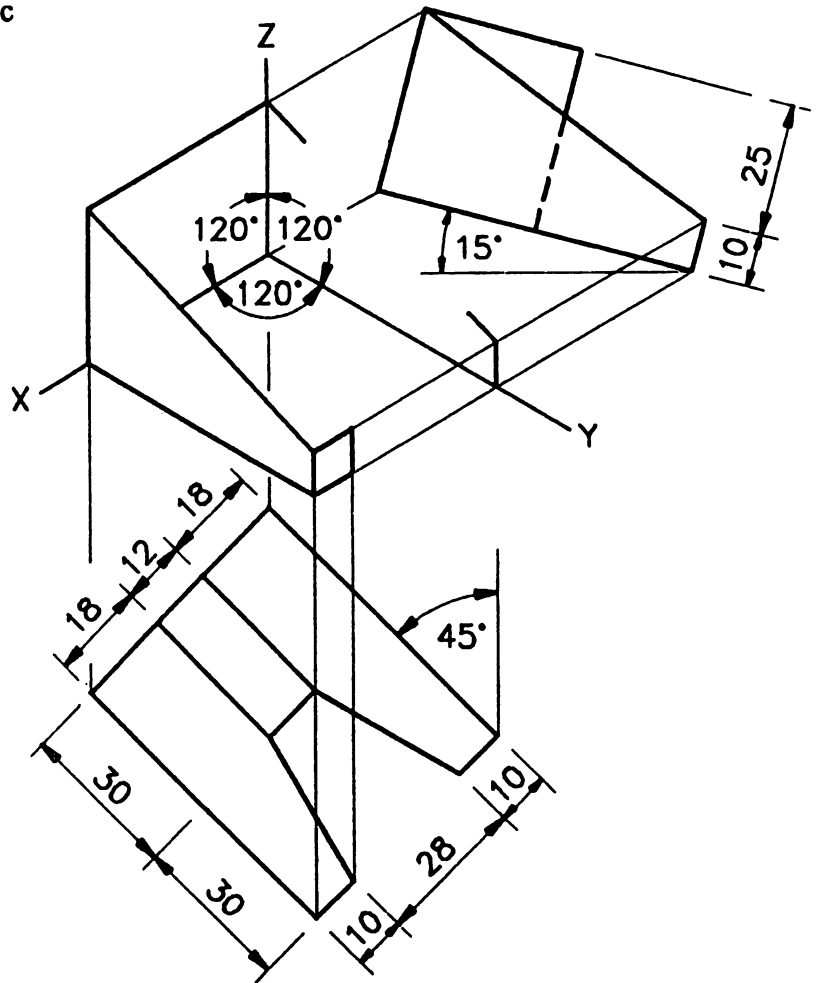
4. The figure shows the elevation and plan of a container with an open top. Draw the surface development of this container.

5. The quadrant shown is subjected to transformations in the following order:-

(i) Central symmetry in a point.

(ii) Axial symmetry.

(iii) Rotation clockwise through 120°.

(iv) Translation.

A1, A2, A3, and A4 show the positions of the vertex A under these transformations.
Draw the given figure and determine the image figure in each of the transformations.
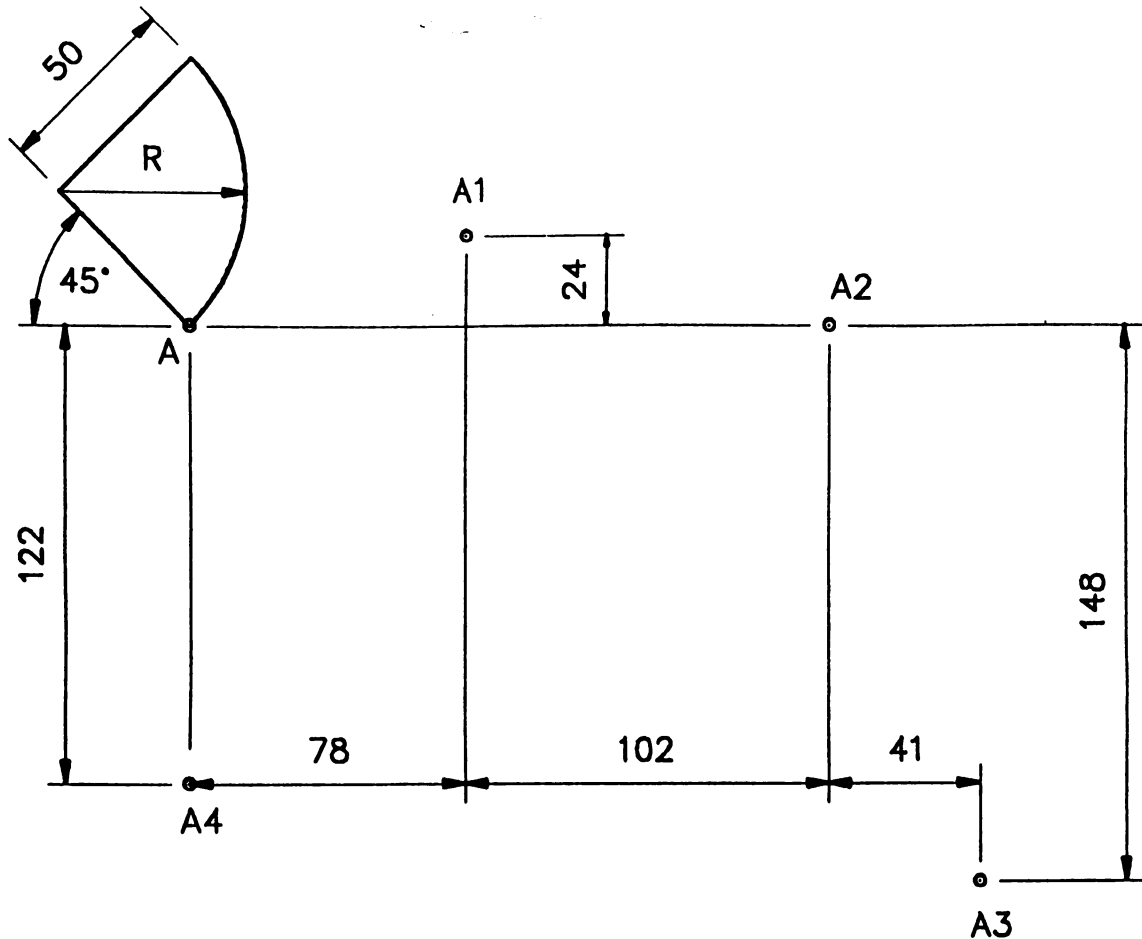
6. The logo shown is based on a semi-ellipse ACB, a parabola, and three tangential circles. Draw the logo to the given dimensions showing clearly all construction lines.