B

JUNIOR CERTIFICATE EXAMINATION, 1997

TECHNICAL GRAPHICS — HIGHER LEVEL

THURSDAY, 19 JUNE — AFTERNOON, 2.00 - 5.00

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 question.

(d) Work on one side of the paper only.

(e) Examination number must be distinctly marked on each sheet of paper used.

1. A pictorial view of a structure is shown.

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

(b) Draw an end view looking in the direction of the arrow B.

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

(d) Draw an auxiliary plan of the structure to include the true shape of the surface S.
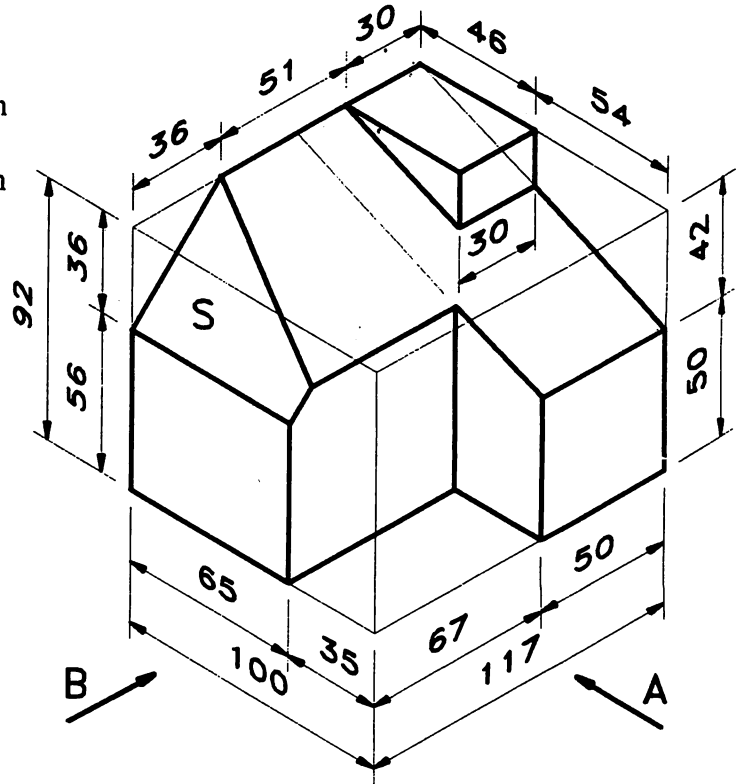
2. The figure shows the elevation and plan of a flag containing a logo. The flag is flying in an easterly direction as shown.

(a) Draw the given elevation.

(b) On the same X—Y line, draw the elevation when the flag is flying in a south westerly direction as indicated by the dotted line in the plan.
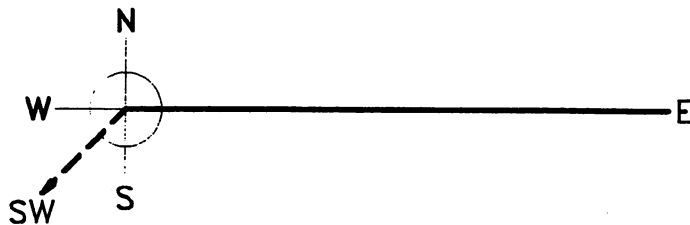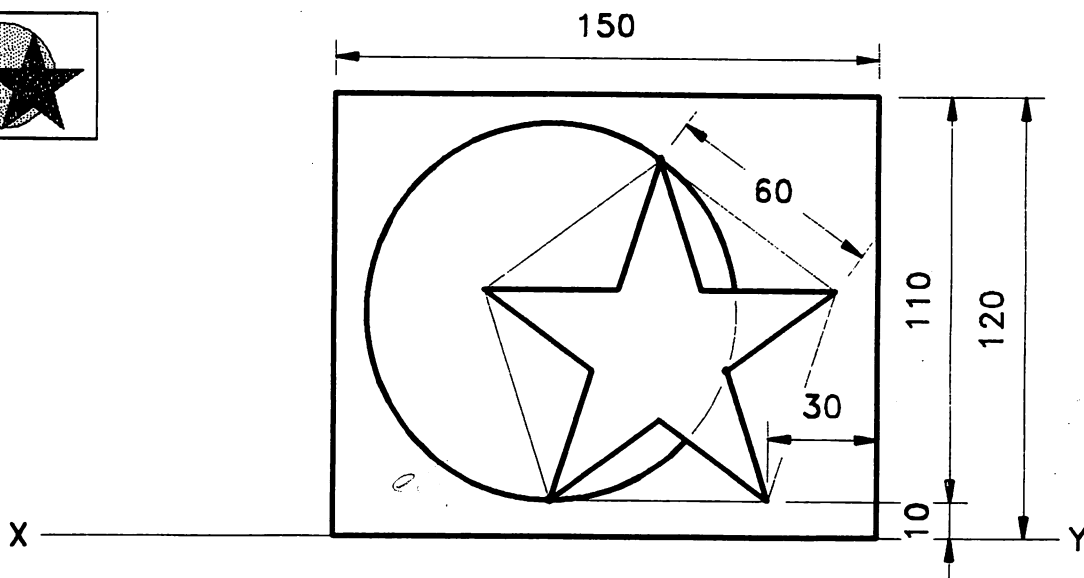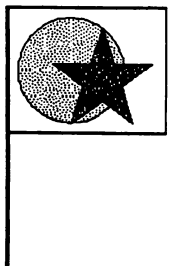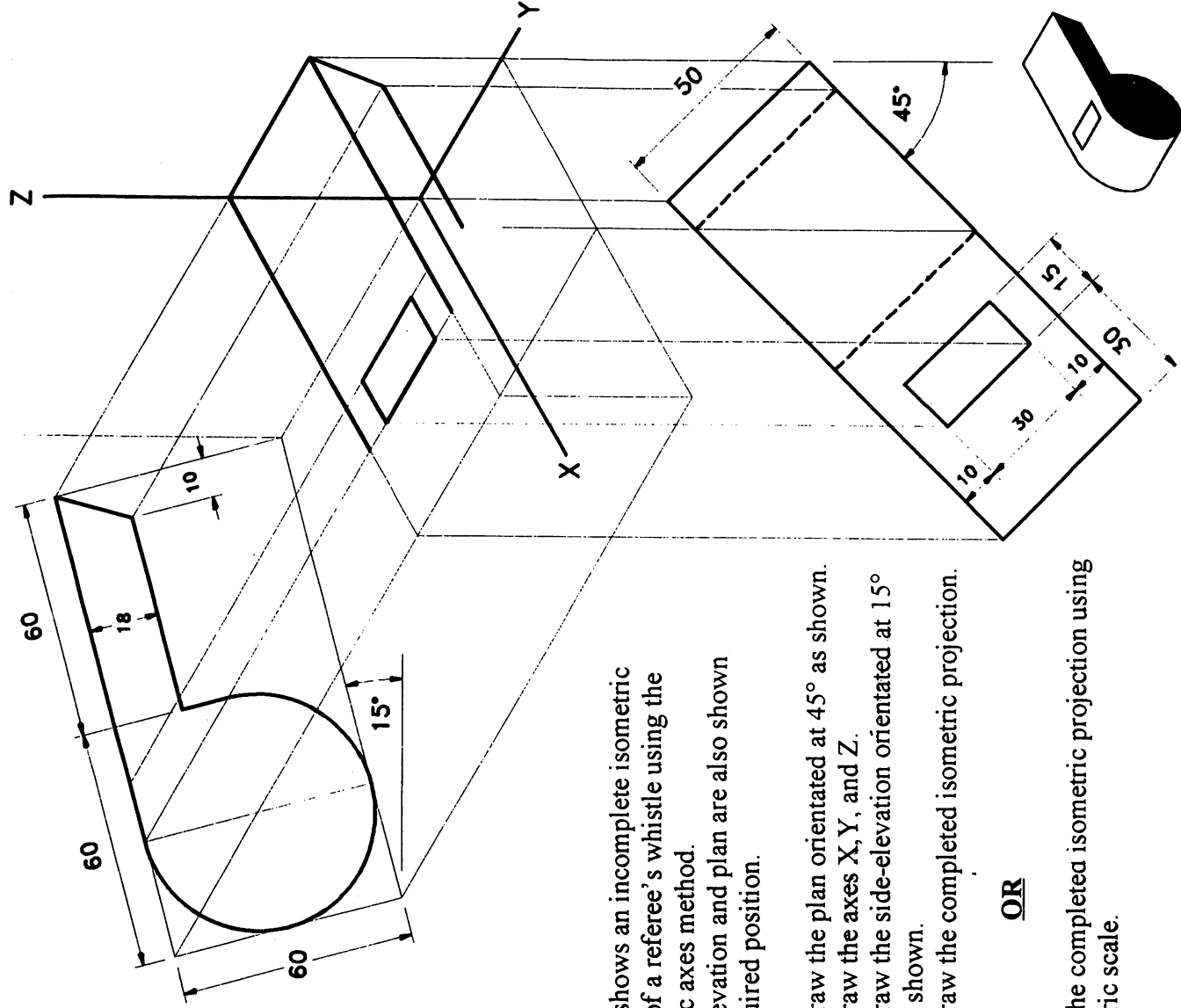
3. The figure shows an incomplete isometric projection of a referee's whistle using the axonometric axes method.
The side elevation and plan are also shown in their required position.

(a) (i)   Draw the plan orientated at 45° as shown.
    (ii) Draw the axes X, Y, and Z.
    (ii) Draw the side-elevation orientated at 15° as shown.
   (iii) Draw the completed isometric projection.

OR

(b) Draw the completed isometric projection using isometric scale.
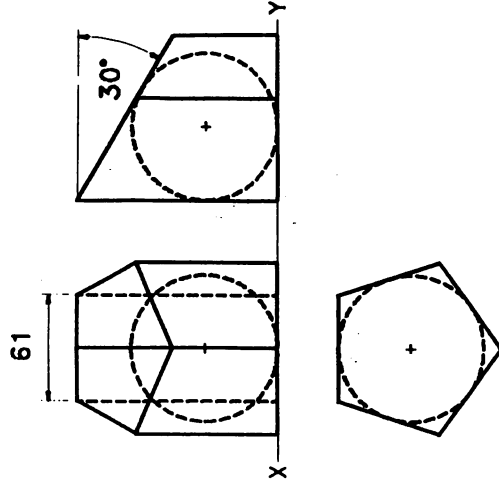
4. The orthographic views of a container based on a regular pentagonal prism are shown.
The container encloses a sphere which is tangential to all surfaces.

(a) Draw the given views showing the projections of all the points of contact.
(b) Develop the top surface of the container.

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5. The figure shown is subjected to transformations <u>in the following order</u>:-
   (i)   Translation equal to QR.
   (ii) axial symmetry in the line L.
   (iii) Central symmetry in point R.
   (iv) Rotation anti-clockwise about point R until the vertex A reaches the line M.

Draw the given figure and determine the image figures in each of the transformations.
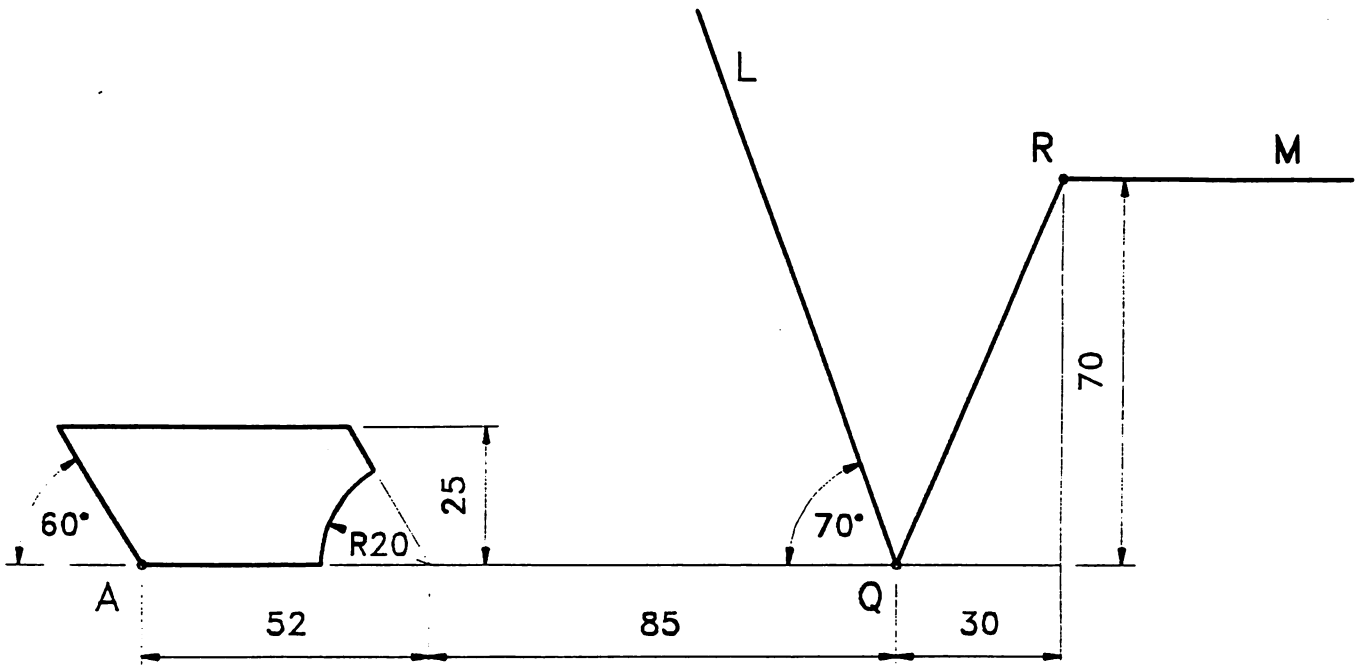
6. The figure represents the outline elevation of a stadium. The curve ABC is a semi-ellipse with minor axis 120mm. The curves DEF and D_1E_1F are based on the same parabola with vertices located at E and E_1 respectively Draw the outline of the building showing all constructions clearly.