

AN ROINN OIDEACHAIS AGUS EOLAÍOCHTA S61B

B JUNIOR CERTIFICATE EXAMINATION, 1999
TECHNICAL GRAPHICS — HIGHER LEVEL
THURSDAY 17 JUNE — MORNING, 9.30 - 12.30

15751

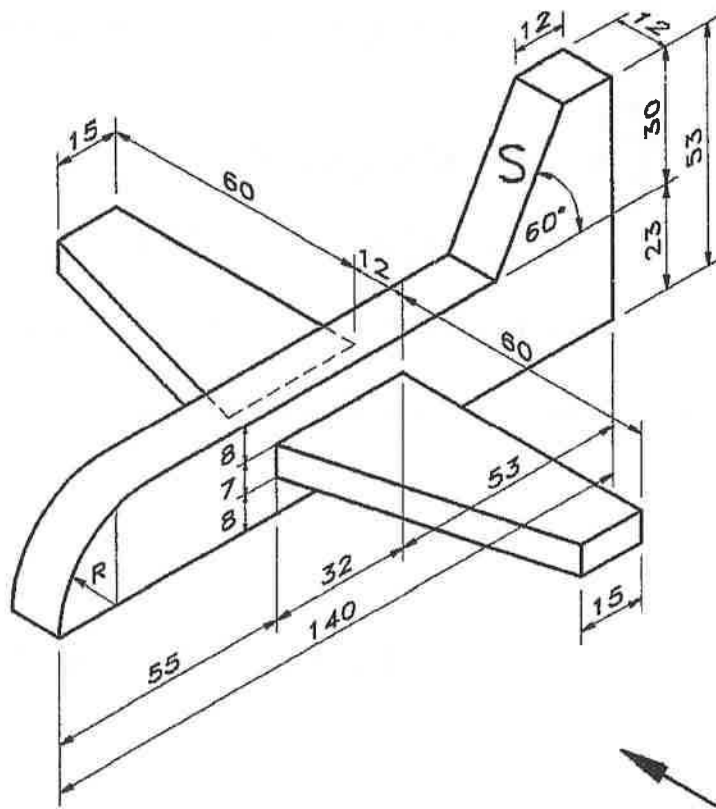
SECTION B — 280 MARKS

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.

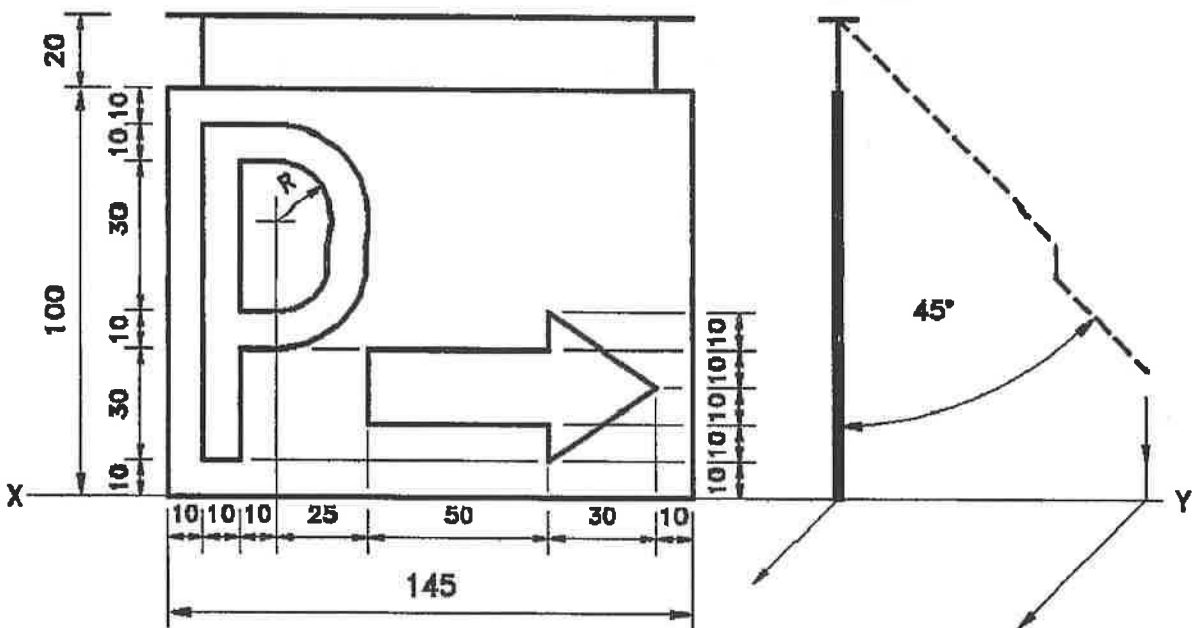
1. A pictorial view of a model aeroplane is shown.

- (a) Draw an elevation looking in the direction of the arrow.
- (b) Draw a plan projected from (a) above.
- (c) Draw an auxiliary plan projected from (a) above to include the true shape of the surface S.



2. The figure shows the elevation and end view of a hanging sign which can sway in the wind.

- (a) Draw the given views.
- (b) Draw the plan of the sign when it has blown to a position at 45° to the vertical plane as indicated by the dotted line in the end view.

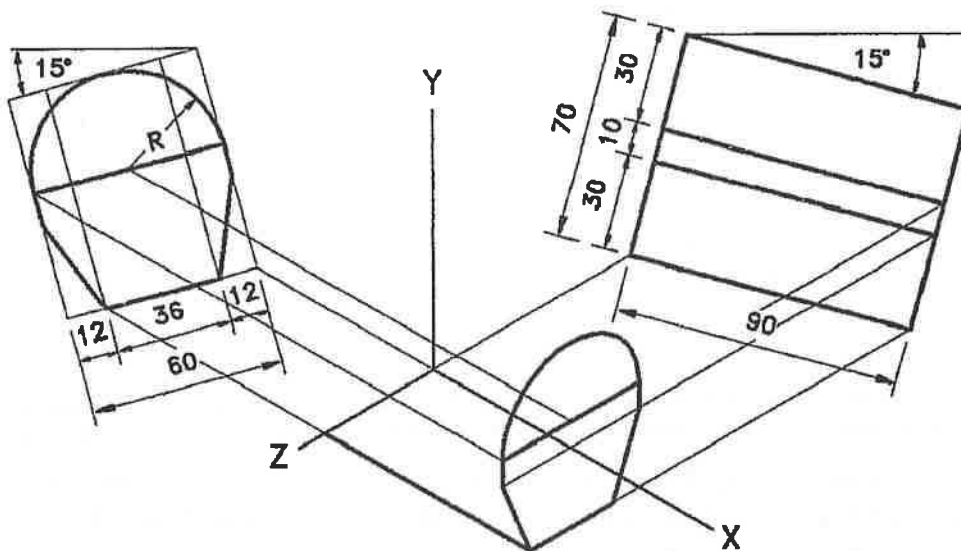


3. The figure shows the incomplete isometric projection of a treasure chest using the axonometric axes method. Both side elevations are also shown in their required positions.

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

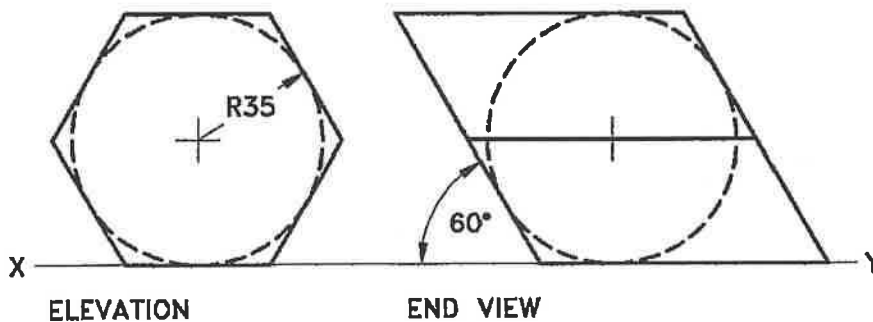
OR

(b) Draw the completed isometric projection using isometric scale.



4. The elevation and end view of a container based on a hexagonal prism is shown. The container encloses a sphere which is tangential to all surfaces.

- (a) Draw the given views and project the plan.
- (b) Show the projections of the points of contact between the sphere and the hexagonal ends of the container.
- (c) Develop one of the hexagonal ends of the container.



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

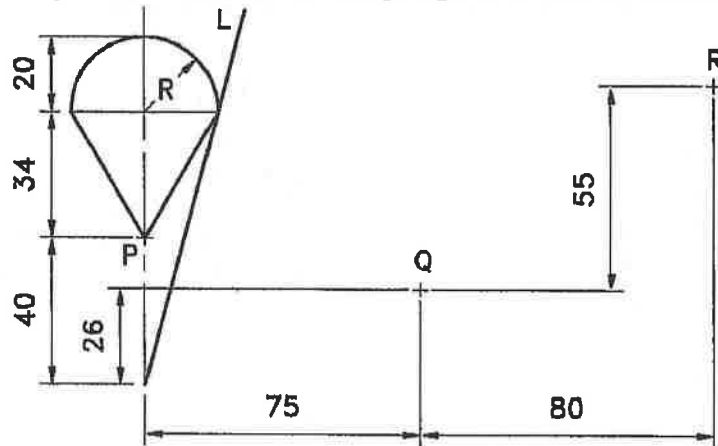
(i) Axial symmetry in the line L.

(ii) Translation equal to \vec{QR} .

(iii) Central symmetry in point Q.

(iv) Rotation anti-clockwise through 120° so that R will be the image of the vertex P.

Draw the given figure and determine the image figures in each of the transformations.



6. The figure shows a design for a sports trophy. It consists of a parabola ABC and an ellipse having a major axis of 140 and a minor axis of 82. Draw the given design showing clearly the construction required to determine the position of the vertex B of the parabola and also the point of contact D between the ellipse and the base of the trophy.

