



Coimisiún na Scrúduithe Stáit
State Examinations Commission

Leaving Certificate Examination

Design & Communication Graphics
Higher Level

Section A (60 marks)

3 Hours

Centre No.

This examination is divided into three sections:

- SECTION A (Core - Short Questions)
SECTION B (Core - Long Questions)
SECTION C (Applied Graphics - Long Questions)

- SECTION A**
- Four questions are presented.
 - Answer **any three** on the A3 sheet overleaf.
 - All questions in Section A carry **20 marks** each.

- SECTION B**
and
SECTION C
- Eight questions are presented.
 - Answer **any two** on drawing paper.
 - All questions in Section B and Section C carry **60 marks** each.

General Instructions:

- *Construction lines must be shown on all solutions.*
- *Write the question number distinctly on the answer paper in Sections B and C.*
- *Work on one side of the drawing paper only.*
- *All dimensions are given in metres or millimetres.*
- *Write your Examination number in the box below and on all other sheets used.*

Examination Number

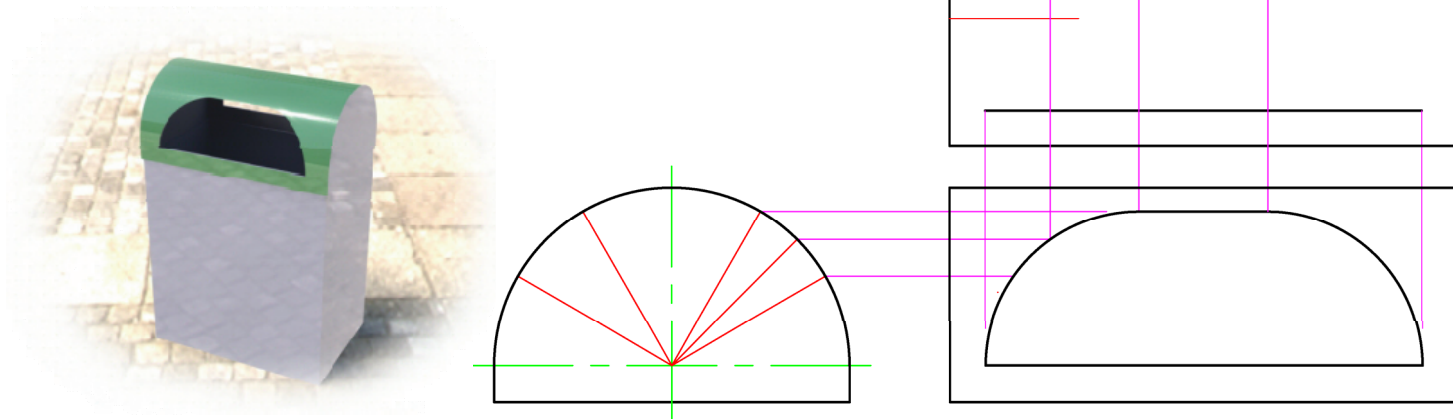
SECTION A - Core - Answer any three of the questions on this A3 sheet.

A-1. The 3D graphic below shows a metal rubbish bin.

The drawing shows the elevation and end view of the lid of the bin. There are front and back openings in the surface of the lid as shown.

The incomplete surface development of the lid has been projected from the elevation.

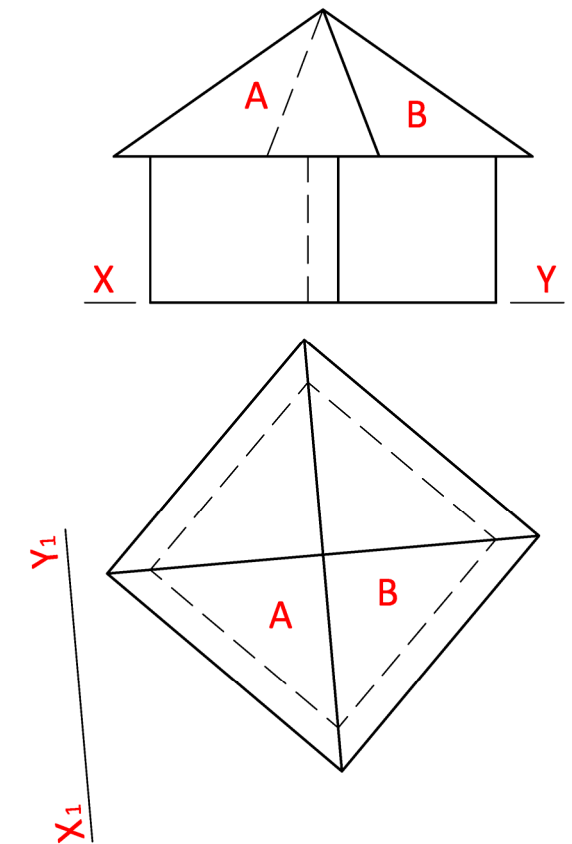
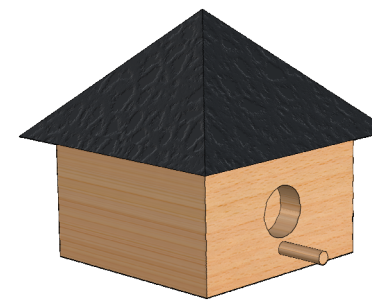
Complete the surface development.



A-3. The 3D graphic below shows a birdhouse. The drawing shows the elevation and plan of a similar birdhouse.

(a) Using the given X_1Y_1 , draw the true length of the line of intersection between faces **A** and **B**, and hence determine the dihedral angle between the two faces.

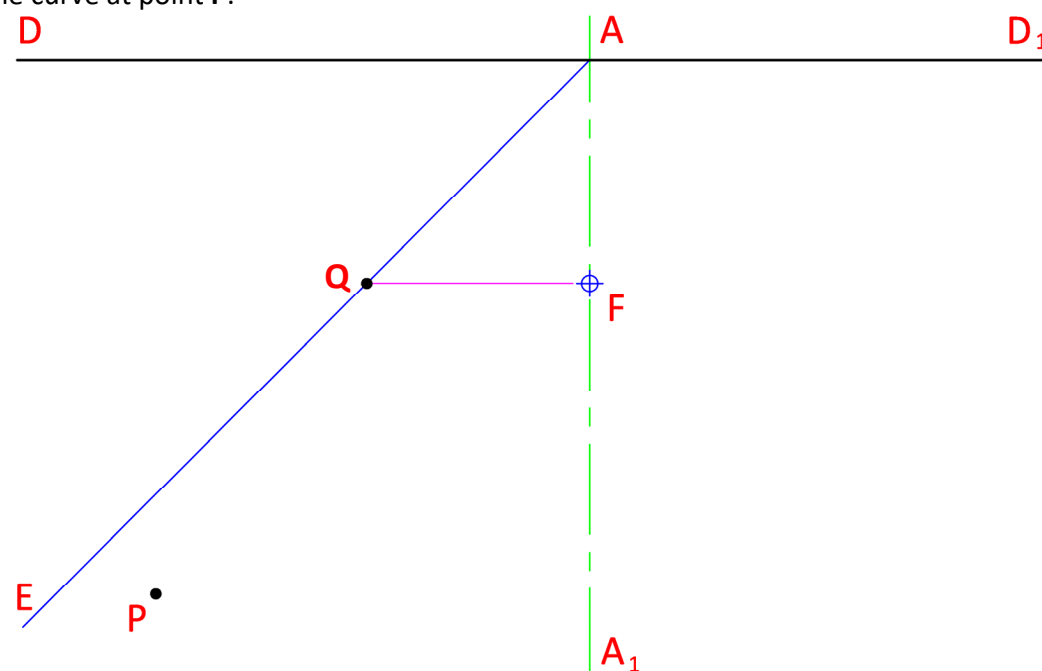
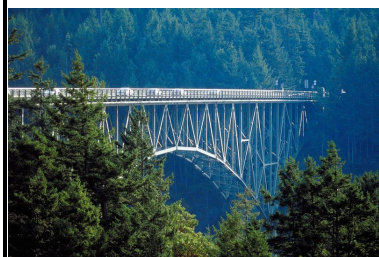
(b) Determine, and indicate in degrees, the true inclination of the surface **A** to the horizontal plane.



A-2. The image below shows a bridge with a parabolic supporting arch. The drawing on the right shows the axis AA_1 , directrix DD_1 , focus F and eccentricity line E of a similar parabola. Two points on the curve, P and Q , are given.

(a) Locate the vertex, ten additional points on the curve, and draw the parabola.

(b) Draw a tangent to the curve at point P .



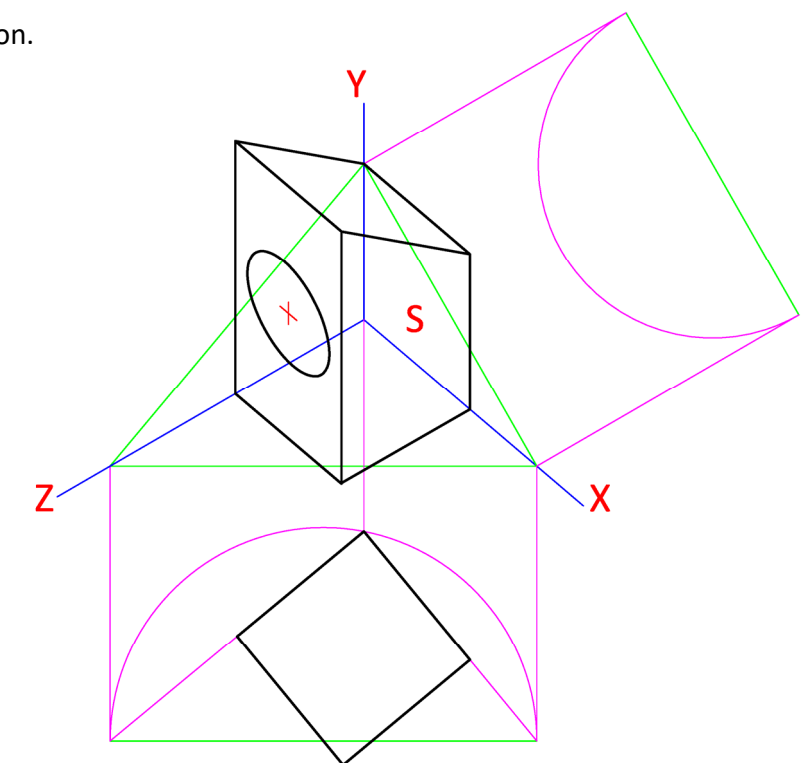
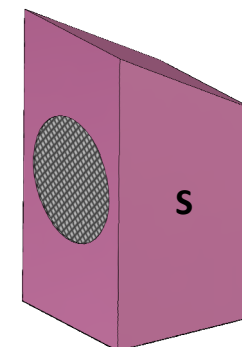
A-4. The 3D graphic below shows a speaker from a music system.

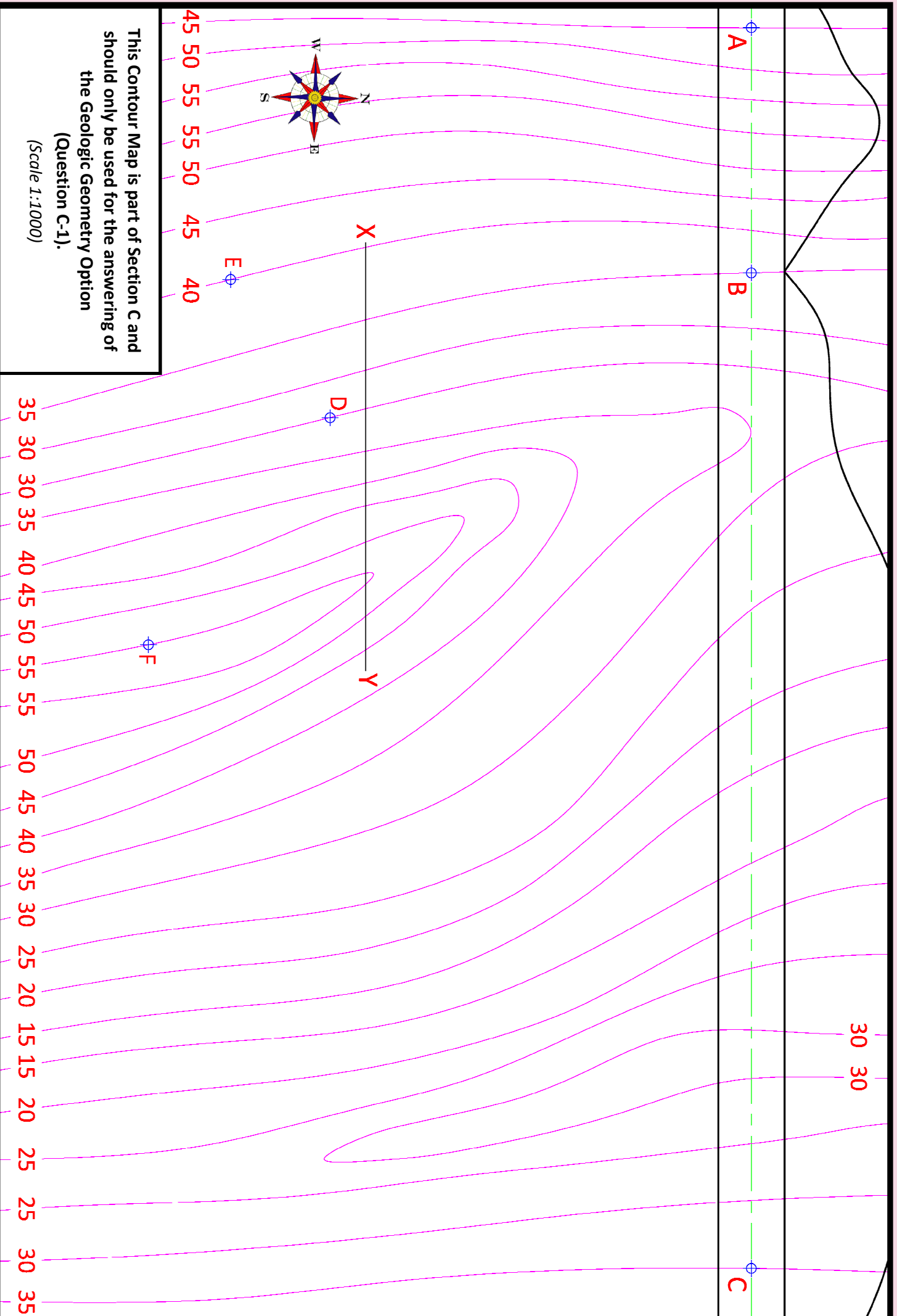
An incomplete trimetric projection, using the axonometric axes method, of a similar speaker is given.

The plan is shown in its required position.

(a) Draw the elevation of the speaker in the correct position on the XY plane.

(b) Determine the true shape of the surface S .





30 30

A

B

C

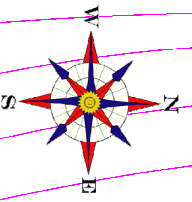
X

Y

D

E

F



45 50 55 55 50 45 40

35 30 30 35 40 45 50 55 55 50 45 40 35 30 25 20 15 15 20 25 25 30 35

This Contour Map is part of Section C and should only be used for the answering of the Geologic Geometry Option (Question C-1). (Scale 1:1000)