



Leaving Certificate Examination, 2023

Design & Communication Graphics
Higher Level

Section A (60 marks)

Centre No.

Thursday, 22 June
Morning, 9:30 - 12:30

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** questions on the A3 sheet overleaf.
 - All questions in Section A carry **20 marks** each.

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

- SECTION C**
- Five questions are presented.
 - Answer **one** question (i.e. the option you have studied) on drawing paper.
 - All questions in 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.*

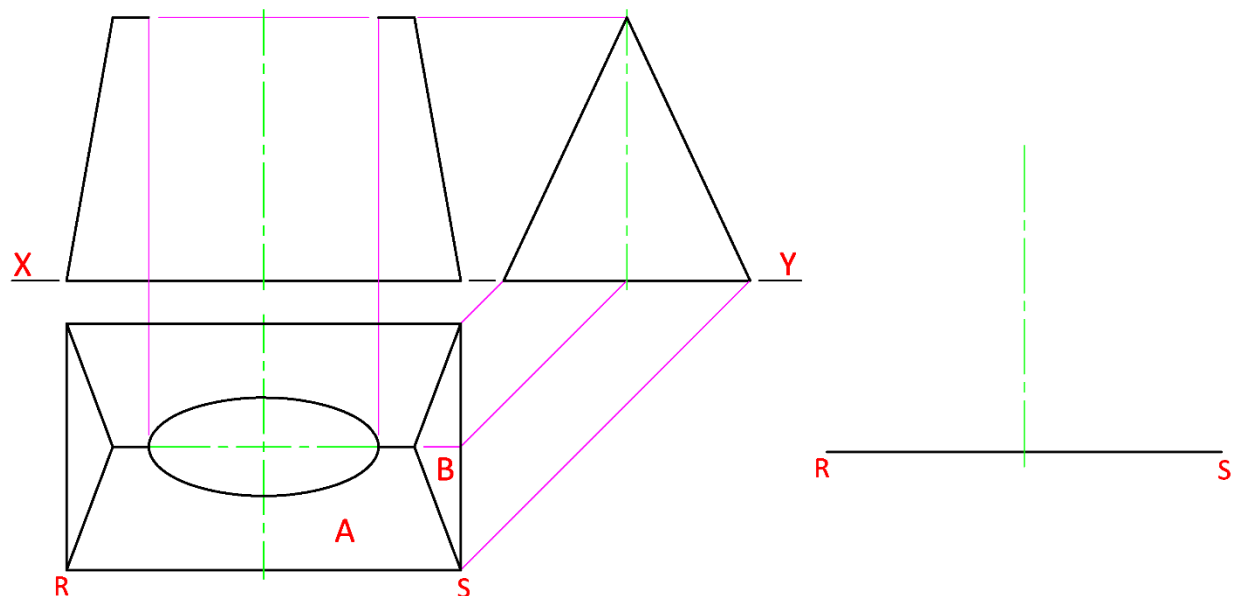
Examination Number

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

A-1. The image on the right shows a tissue box. The opening at the top of the box is elliptical in plan.

The drawing below shows the plan, incomplete elevation and end view of a similar tissue box. The position of a surface development of surface **A** is also shown.

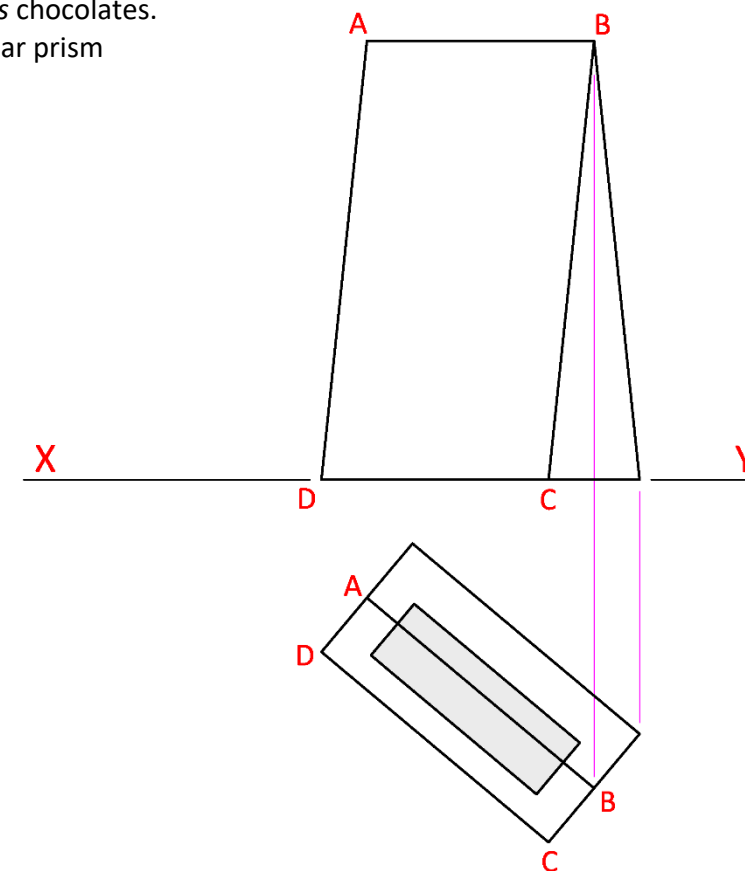
- (a) Complete the elevation.
- (b) Complete a one-piece surface development of surfaces **A** and **B**.



A-3. The image below shows the packaging for *Skelligs* chocolates. The shape of the packaging is based on a triangular prism with a rectangular label at the top.

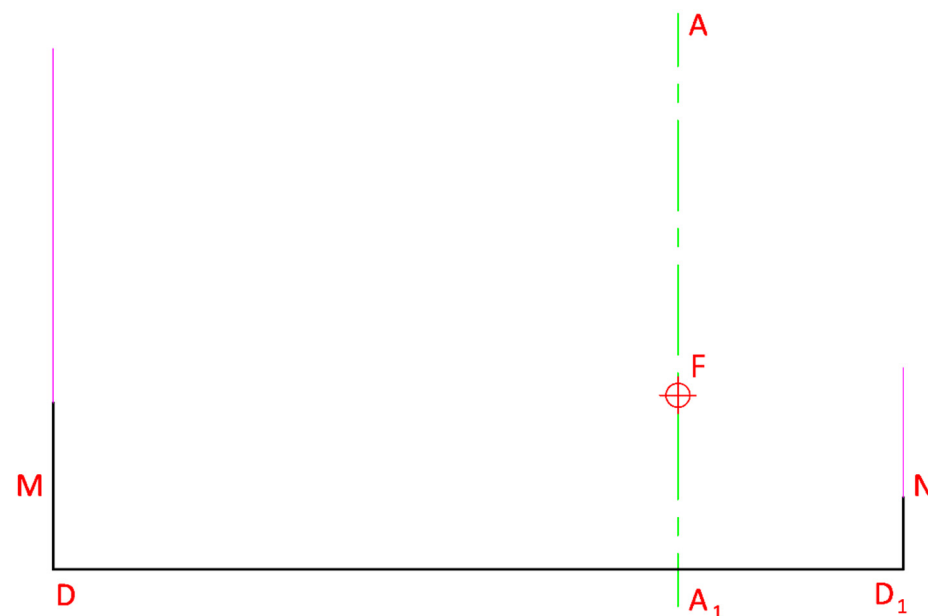
The drawing on the right shows the plan and incomplete elevation of a similar package.

- (a) Determine the horizontal and vertical traces of the oblique plane that contains the surface **ABCD**.
- (b) Complete the elevation of the label (shaded area in plan) including all hidden detail.



A-2. The image below shows the ski jump from the 2022 Winter Olympics in Beijing China. The ski jump slope is in the shape of a hyperbola. The drawing shows the axis **AA₁**, directrix **DD₁**, focus **F**, and incomplete edges **M** and **N** of a similar ski jump. The hyperbola has an eccentricity of 3:2.

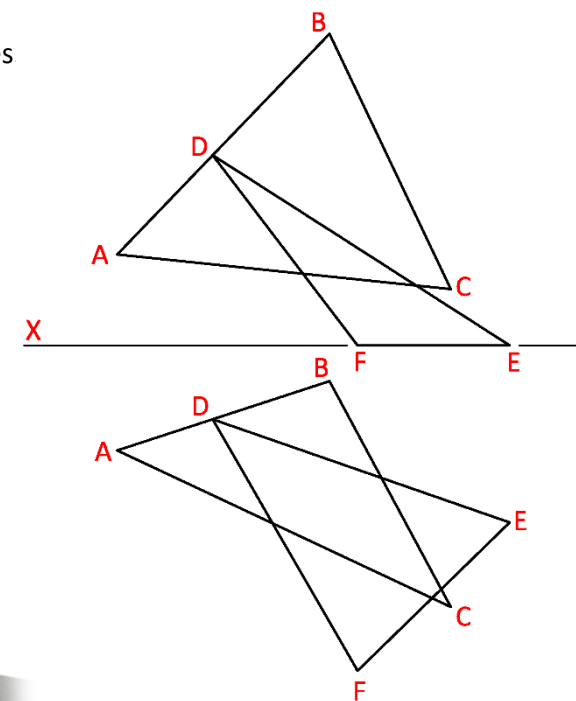
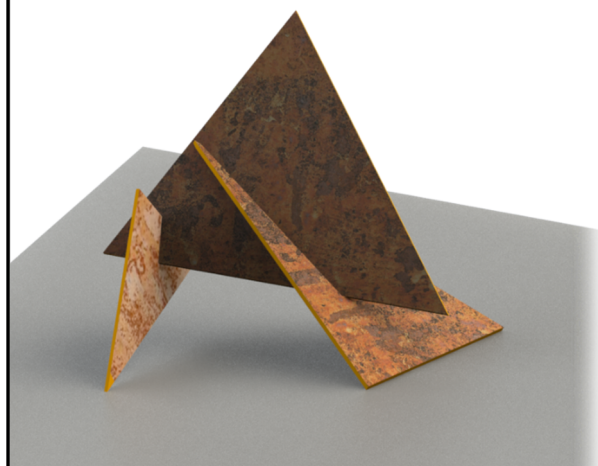
- (a) Locate the line of eccentricity and vertex of the hyperbola.
- (b) Draw the portion of the hyperbola between edges **M** and **N** and complete the ski jump.



A-4. The image below shows a sculpture based on intersecting triangular planes.

The drawing on the right shows the incomplete plan and elevation of two of these intersecting planes.

- (a) Draw the plan and elevation of the line of intersection between the two planes.
- (b) Determine the true shape of the plane **DEF**.



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)

