



Leaving Certificate Examination, 2014

Design & Communication Graphics
Higher Level

Section A (60 marks)

Wednesday, 18 June
Afternoon, 2:00 - 5:00

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**
- Three questions are presented.
 - Answer **any two** on drawing paper.
 - All questions in Section B carry **45 marks** each.

- SECTION C**
- Five questions are presented.
 - Answer **any two** (i.e. the options you have studied) on drawing paper.
 - All questions in Section C carry **45 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.*

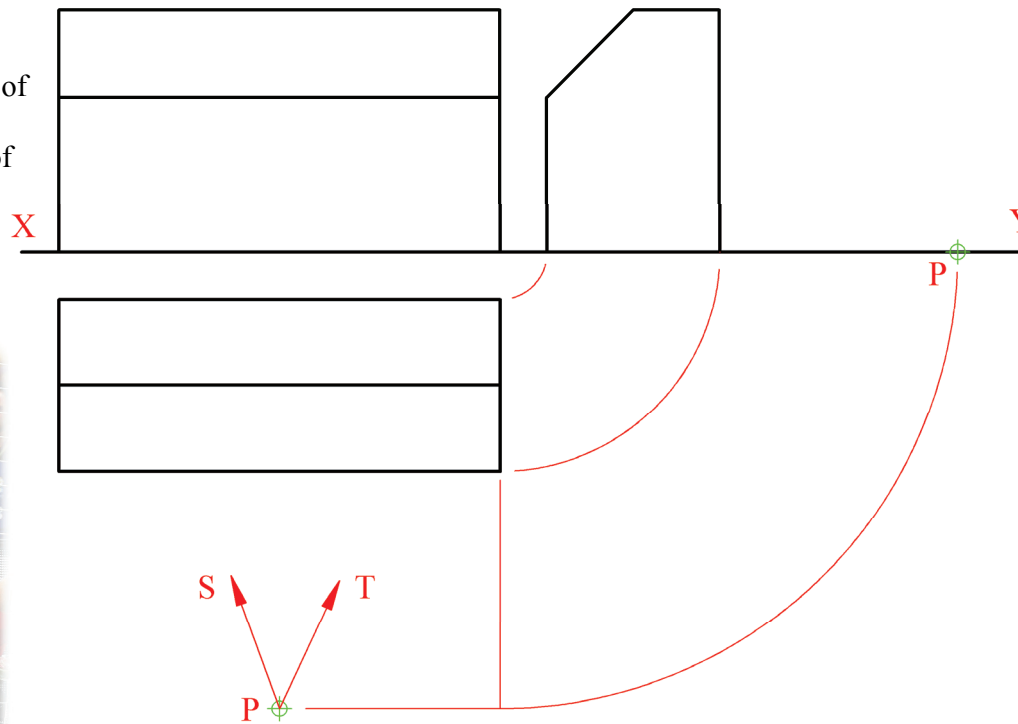
Examination Number:

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

A-1. The drawing shows the projections of a set of soccer goal posts. A ball is positioned at **P** for two penalty kicks during a World Cup match. The ball travels in a **straight line** and hits the net each time.

(a) The line **PS**, in plan, shows the start of the flight path of the ball for the 1st penalty kick. The ball crosses the goal line at a height that is halfway between the ground and the crossbar. Draw the projections of the **full** flight path.

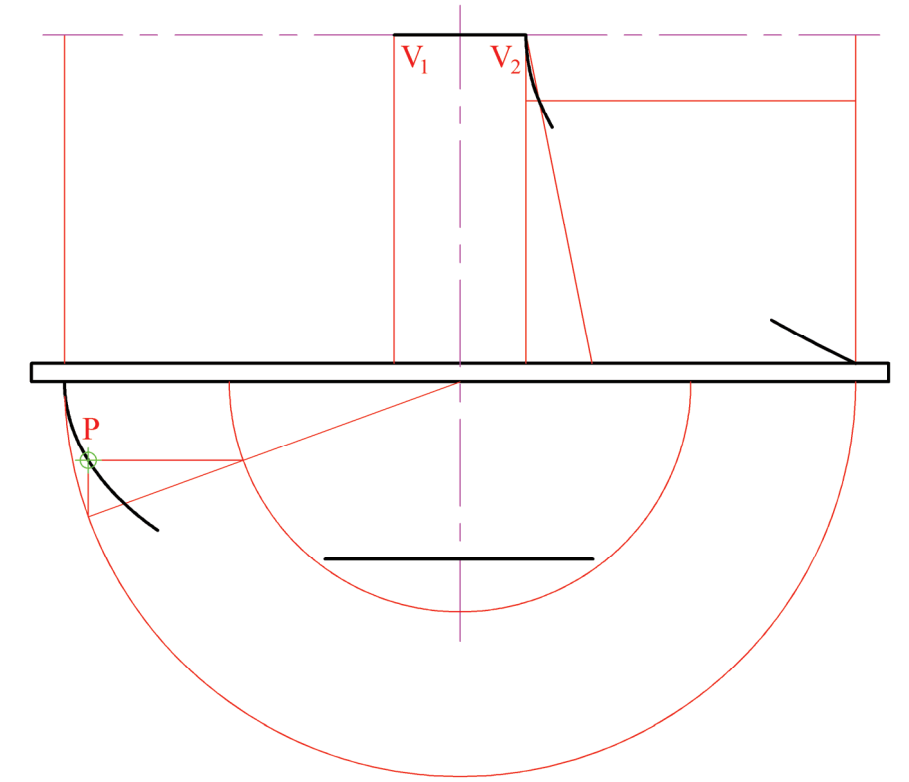
(b) Similarly, the line **PT**, which makes an angle of 15° with the ground, shows the flight path of the ball for the 2nd penalty kick. Draw the projections of the **full** flight path.



A-3. The 3D graphic below shows a *tagine*, which is a type of clay oven frequently used in North African cooking. The drawing on the right shows the incomplete elevation of the *tagine*. The upper “lid” is based on two semi-parabolas which are inscribed in rectangles and the lower dish is based on a semi-ellipse.

(a) **V₁** and **V₂** are the vertices of the semi-parabolas. **P** is a point on the semi-ellipse. Small portions of two of the curves have already been drawn. Complete the elevation of the *tagine*. Show clearly how the **exact** length of the base is obtained.

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



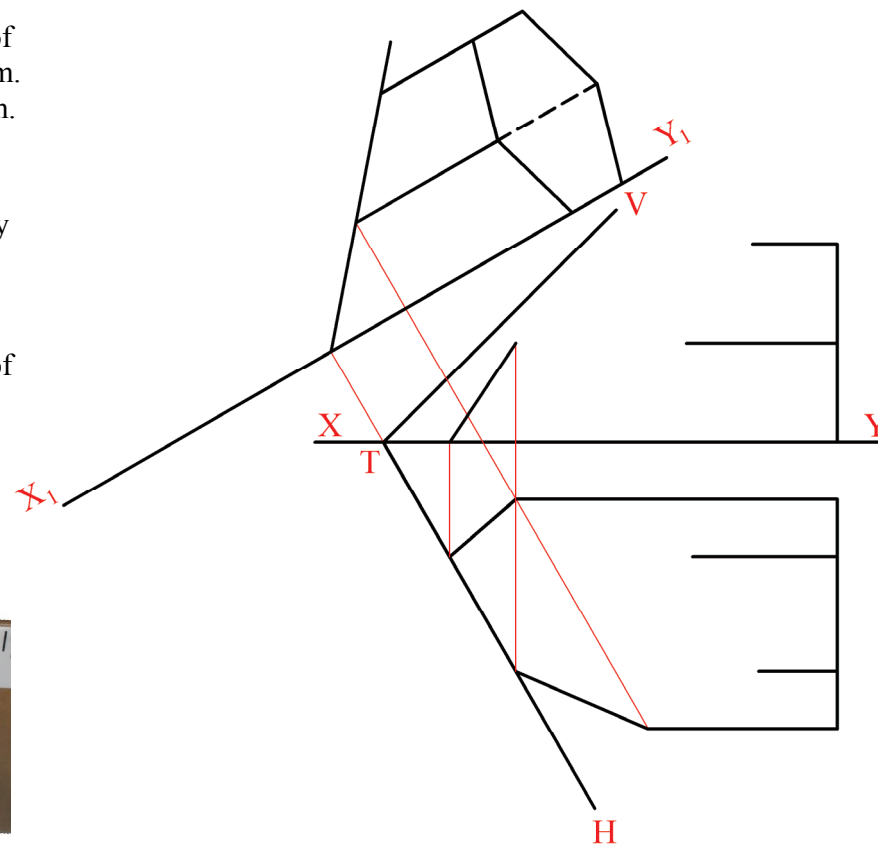
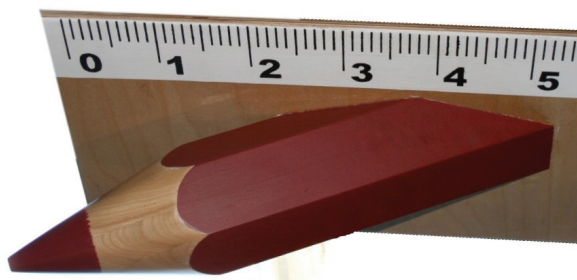
A-2. The 3D graphic below shows a piece of play equipment from a science museum. It includes a truncated hexagonal prism.

The drawing on the right shows the incomplete projections of a similar hexagonal prism which has been cut by the oblique plane **VTH**.

An auxiliary elevation is also given.

(a) Complete the plan and elevation of the cut prism.

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

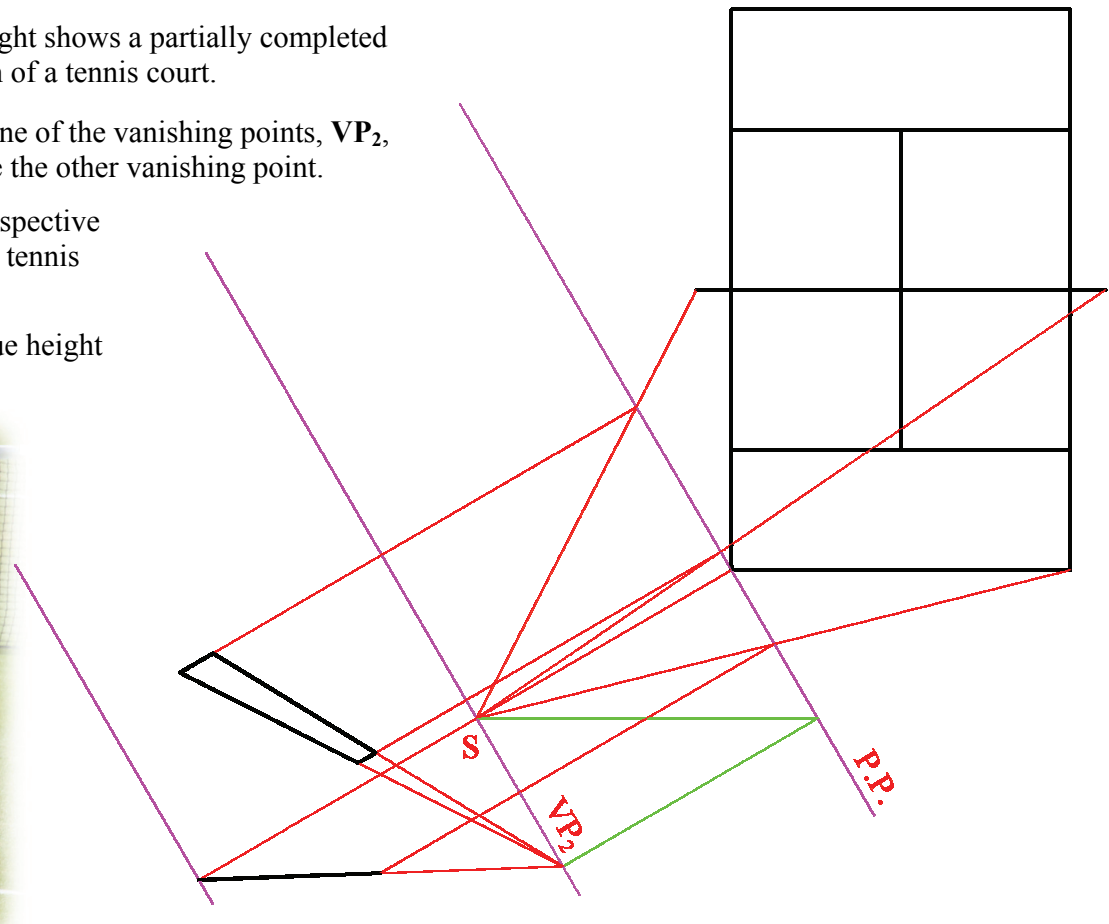


A-4. The drawing on the right shows a partially completed perspective projection of a tennis court.

(a) The position of one of the vanishing points, **VP₂**, is shown. Locate the other vanishing point.

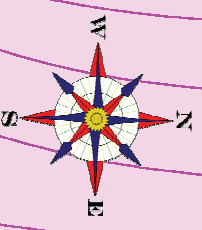
(b) Complete the perspective projection of the tennis court and the net.

(c) Determine the true height of the net.



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)



70 65 60 55 55 60

65

E 65

70 65 60 55 50 50 55 60 65 70

D E

A B C

O

75 80 85 90 85 80 75 70 65 60 60 65 70 75