Coimisiún na Scrúduithe Stáit
State Examinations Commission

Junior Certificate Examination, 2013

Technical Graphics
Ordinary Level
Section B

(280 marks)

Monday, 17 June
Morning 9:30 - 12:00

Instructions

*(a) Answer **any four** questions. All questions carry equal marks.*

(b) The number of the question must be distinctly marked by the side of each answer.

*(c) Work on **one side** of the answer paper only.*

(d) Write your examination number on each sheet of paper used.

SECTION B. Answer **any four** questions. All questions carry equal marks.

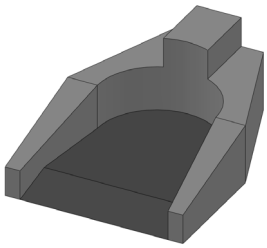
1. The graphics show a design for a **golf putting aid**.

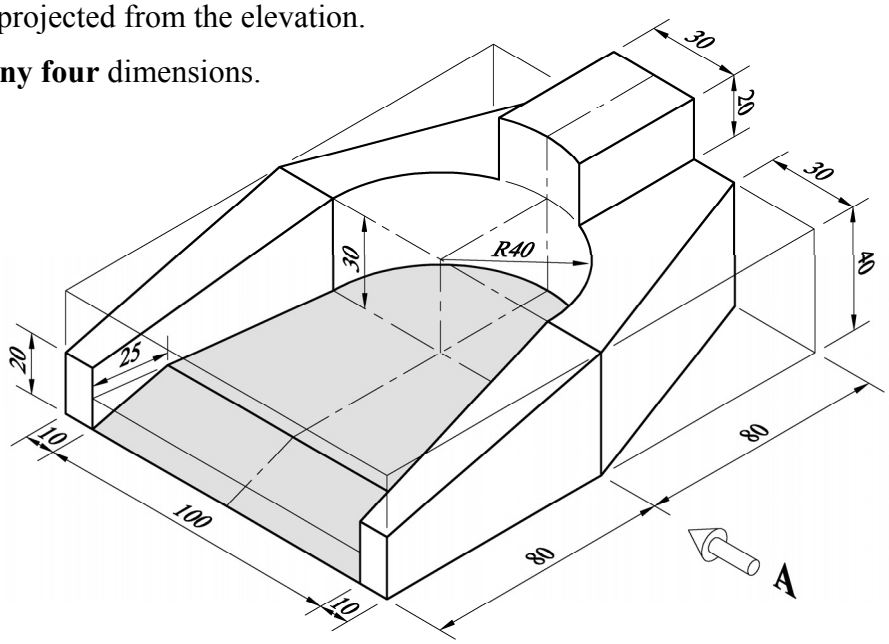
Draw:

(a) An elevation in the direction of arrow **A**.

(b) A plan projected from the elevation.

(c) Insert **any four** dimensions.

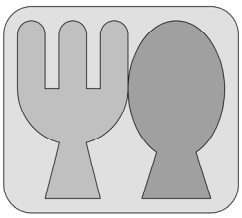


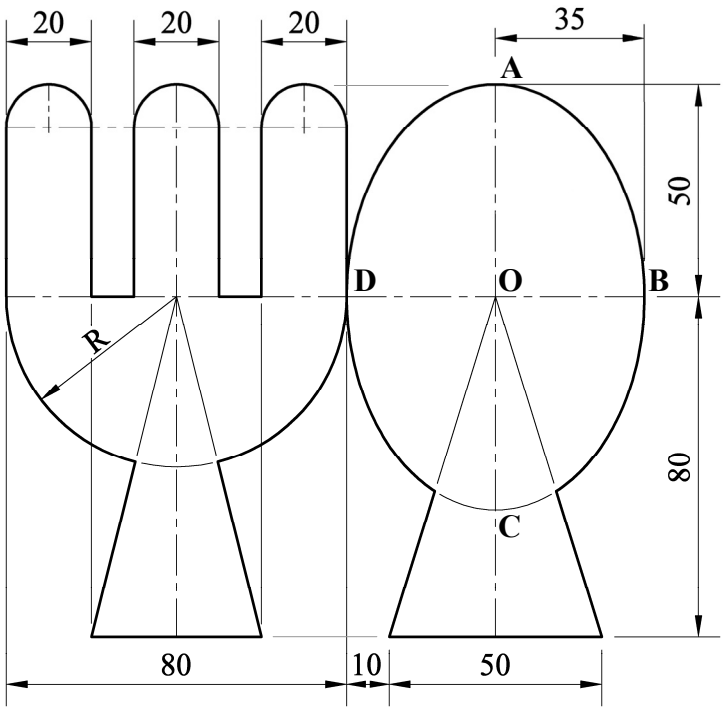


2. The graphics show a logo for a phone app (application). The app gives restaurant reviews and the logo is based on semi-circles and an ellipse as shown.

The curve **ABCD** is elliptical. **AC** is the **major axis** of the ellipse and is 100 mm long. **OB** is half the **minor axis** and is 35 mm long.

Draw the given ellipse and complete the logo showing clearly all construction.





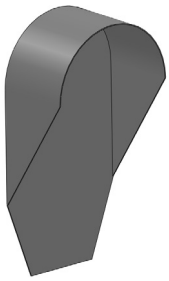
3. The graphics show a design for a telephone booth.

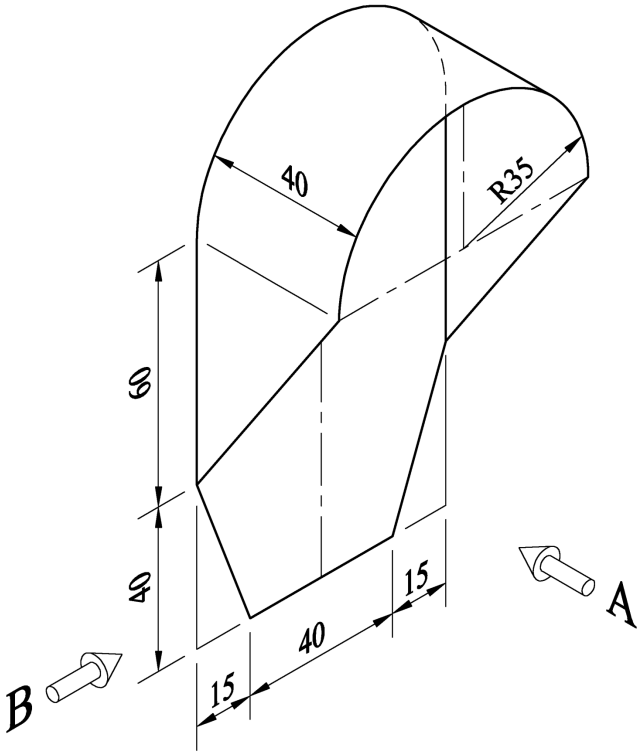
Draw:

(a) An elevation in the direction of arrow **A**.

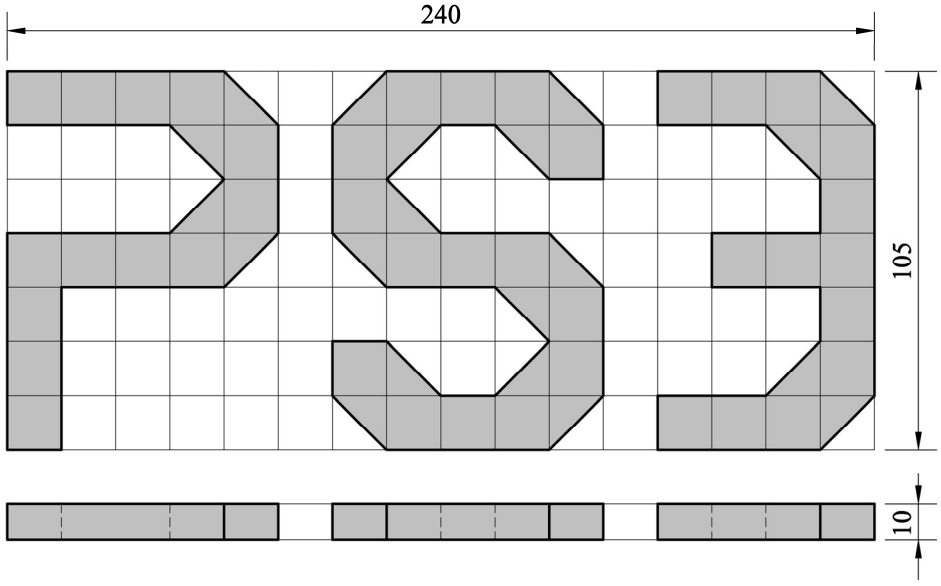
(b) An end view in the direction of arrow **B**.

(c) The complete **surface development** of the telephone booth.





4.



The figure shows the elevation and plan of a logo for a **games console - PS3**.
The grid in elevation is made up of 15mm squares and the thickness in plan is 10mm.

Draw **one** of the following views:

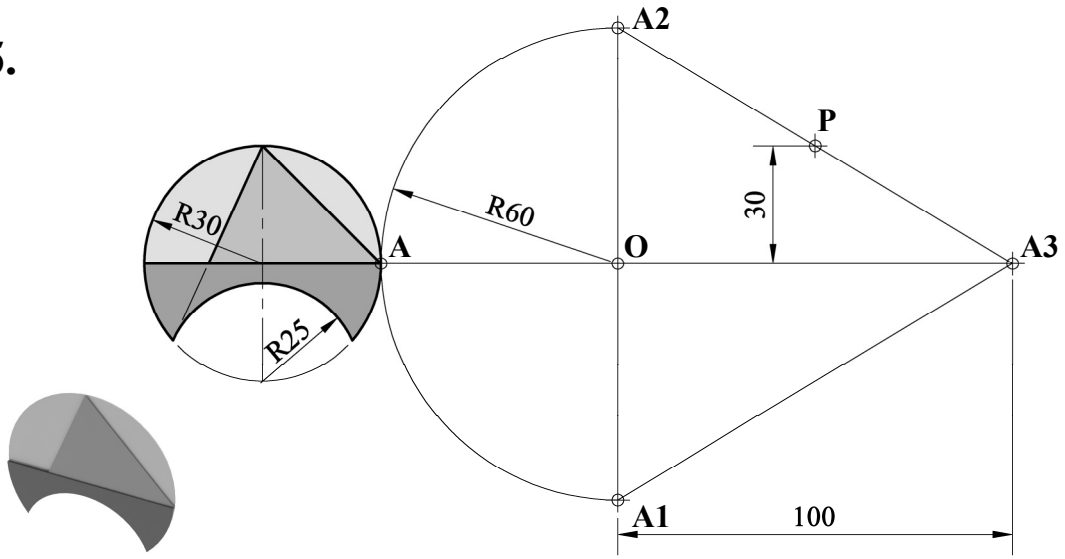
(a) An **isometric** view of the initials.

or

(b) An **oblique** view of the initials.

***Note**: The solution must be presented on standard drawing paper.*

5.



The given figure shows the design of a logo for a boating club.
Also shown is a small 3D graphic of the logo.

(a) Draw the given logo and then locate the points **A**, **A1**, **A2**, **A3, O** and **P** as shown.

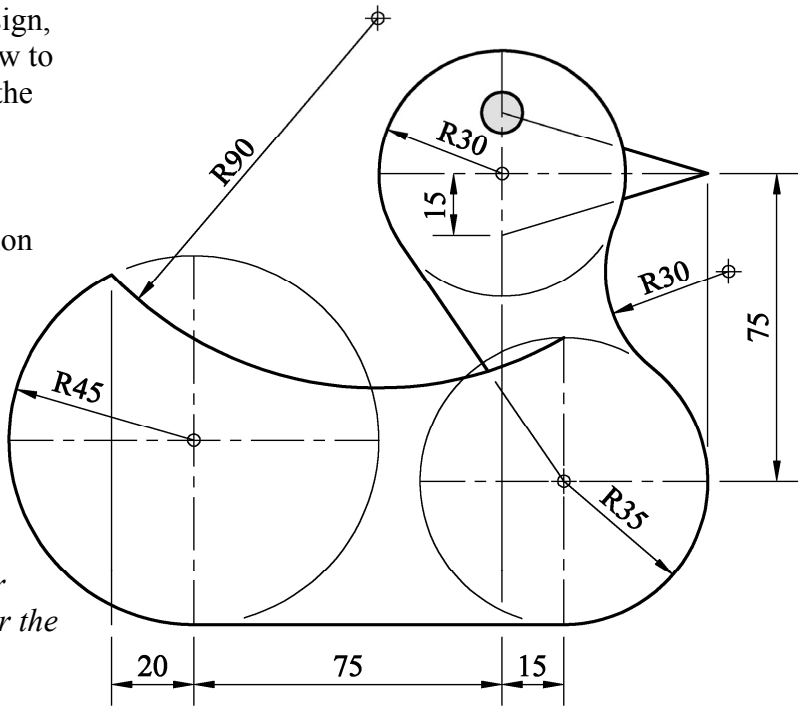
(b) Find the image of the given logo under the following transformations:

(i) From point A to A1 by a **translation**;
(ii) From point A1 to A2 by an **axial symmetry** in the line **A-A3**;
(iii) From point A2 to A3 by a **central symmetry** in the point **P**.

6. The figure shows the design for a child's toy duck.

Draw the given design, showing clearly how to find the centres of the circles shown.

Show all construction lines, tangents and points of contact.



Note: *Choose your own dimensions for the eye of the duck.*