Coimisiún na Scrúduithe Stáit
State Examinations Commission

Junior Certificate Examination, 2017

Technical Graphics
Ordinary Level
Section B
(280 marks)

Monday, 19 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.

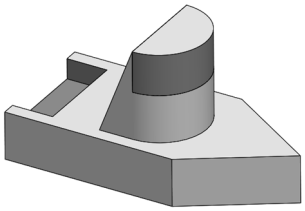
1. The figure shows a design for a toy tug boat.
A 3D graphic is also shown.

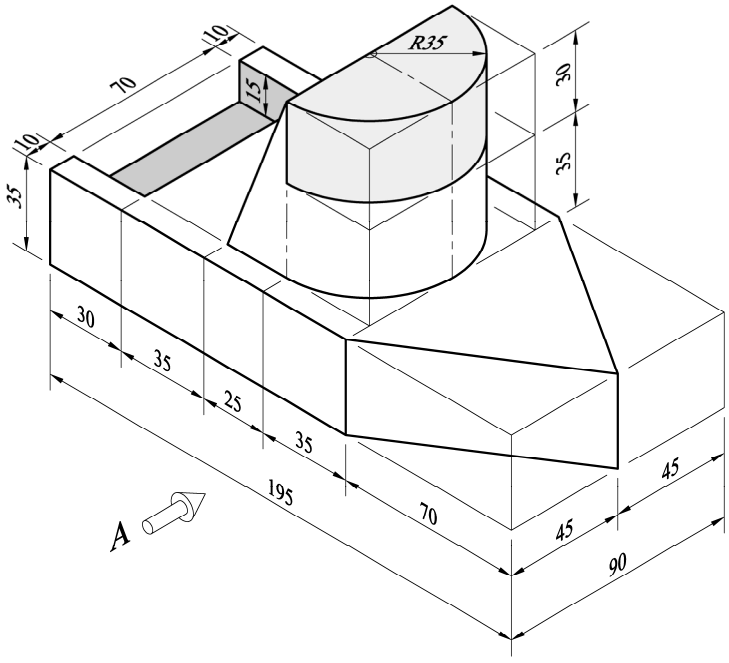
Draw:

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

(b) A plan projected from the elevation.

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



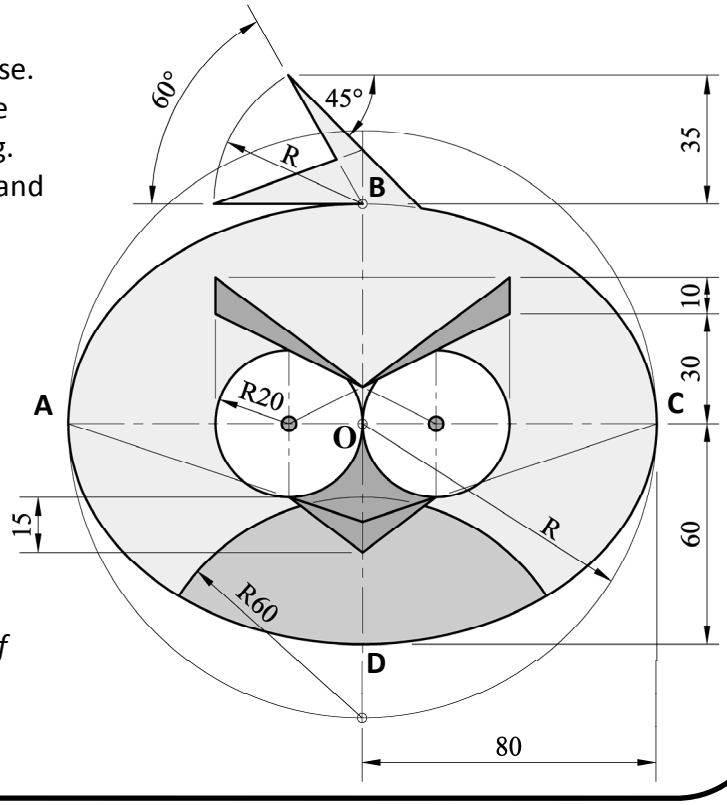


2. The graphic shows a design for an ***angry bird*** character.
The design is based on circles and an ellipse as shown.

The curve **ABCD** is an ellipse.
AC is the **major axis** of the ellipse and is 160 mm long.
OD is half the **minor axis** and is 60 mm long.

Draw the given ellipse and complete the design showing clearly all constructions.

Note: *Choose your own dimension for the pupils of the eyes.*



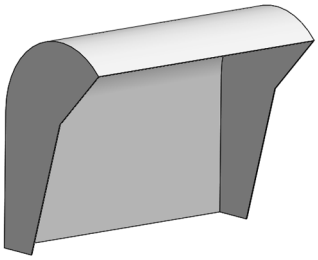
3. The graphics show a bicycle shelter.

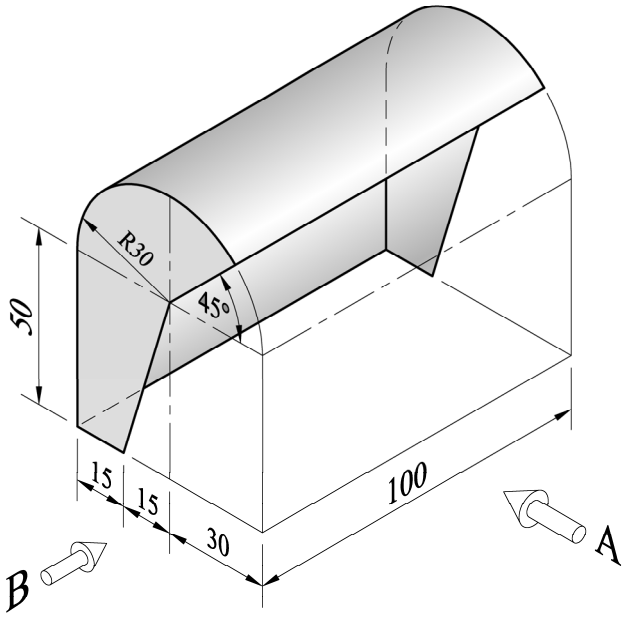
Draw:

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

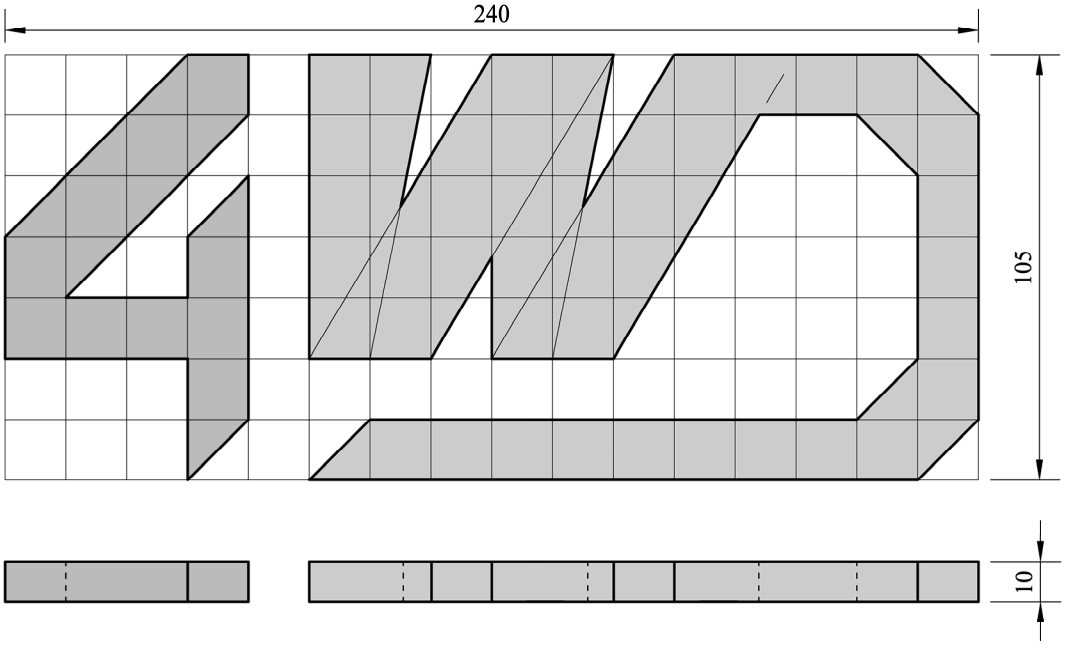
(b) An end view in the direction of arrow **B**.

(c) The complete **surface development** of the bicycle shelter.





4.



The figure shows the elevation and plan of a **4 W**heel **D**rive logo.

The grid in elevation is made up of 15 mm squares and the thickness in plan is 10 mm.

Draw **one** of the following views:

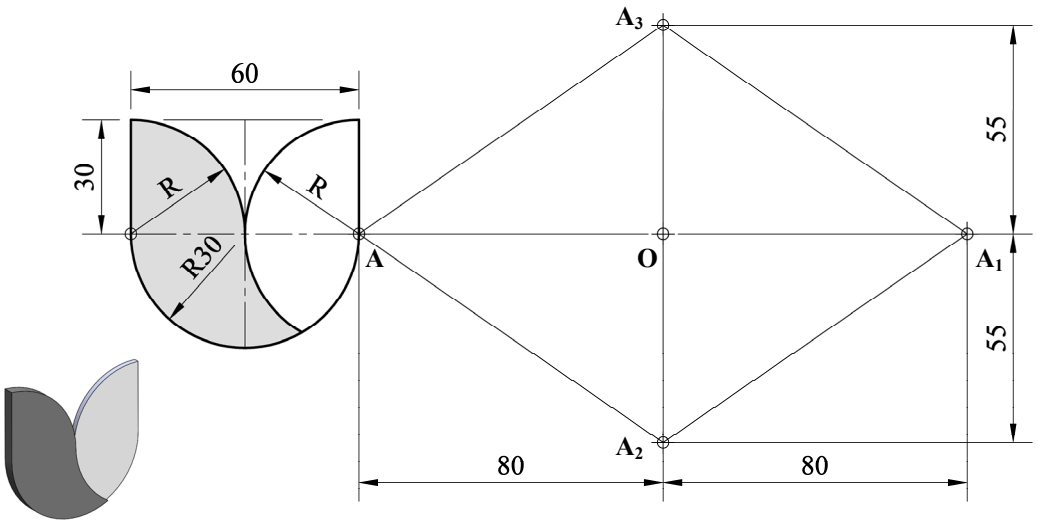
(a) An **isometric** view of the logo.

or

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

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

5. The graphics show the design of a logo for a flower shop.



(a) Draw the given logo and then locate the points **A**, **A_1**, **A_2**, **A_3** and **O** as shown.

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

(i) From point A to A_1 by an **axial symmetry** in the line **A_2-A_3**
(ii) From point A_1 to A_2 by a **translation**
(iii) From point A_2 to A_3 by a **central symmetry** in the point **O**.

Note: *All geometric constructions must be clearly shown on your drawing.*

6. The figure shows a design for a toy forklift.

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

Show all construction lines, tangents and points of contact.