Coimisiún na Scrúduithe Stáit
State Examinations Commission

Junior Certificate Examination, 2015

Technical Graphics
Ordinary Level
Section B
(280 marks)

Monday, 15 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.

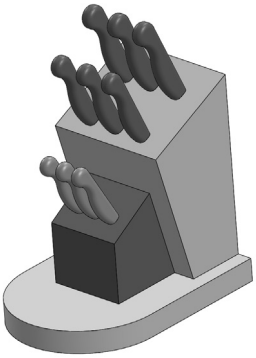
1. The figure shows a design for a kitchen knife block.
A 3D graphic is also shown.

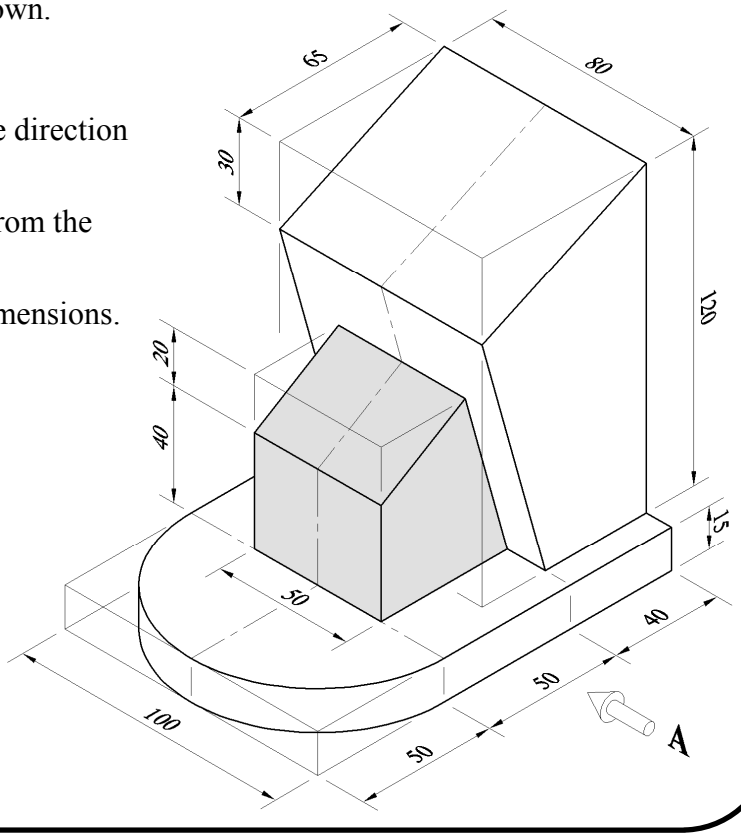
Draw:

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

(b) A plan projected from the elevation.

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

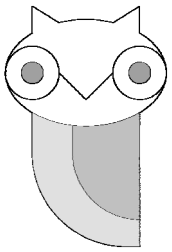


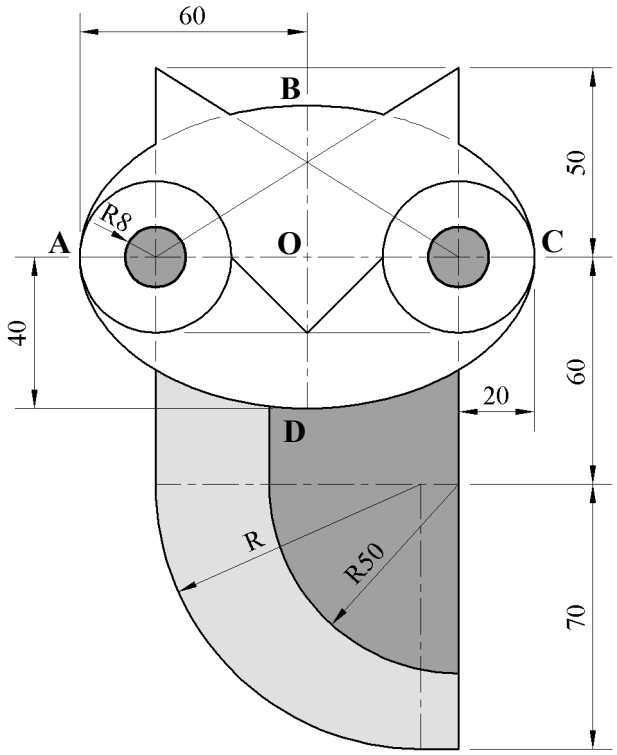


2. The graphics show the logo for a social media company (Hootsuite™).
The owl logo is based on circles and on an ellipse as shown.

The curve **ABCD** is an ellipse. **AC** is the **major axis** of the ellipse and is 120 mm long. **OD** is half the **minor axis** and is 40 mm long.

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





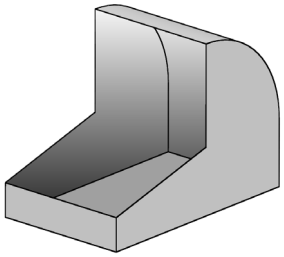
3. The graphics show the basket of a child's pram.

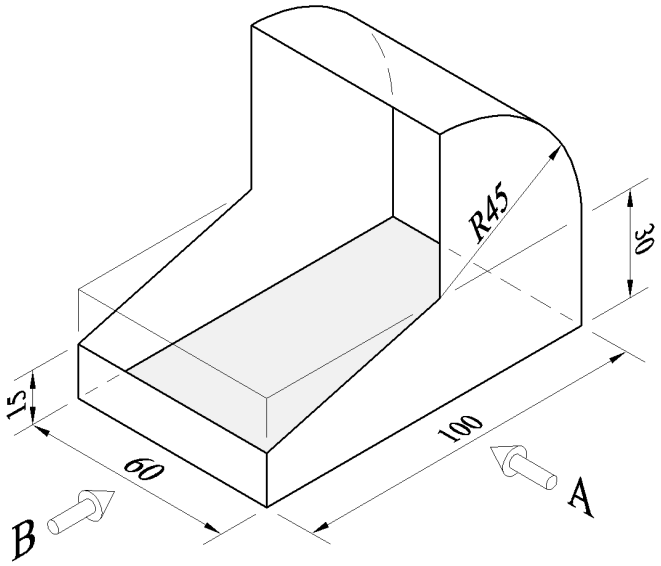
Draw:

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

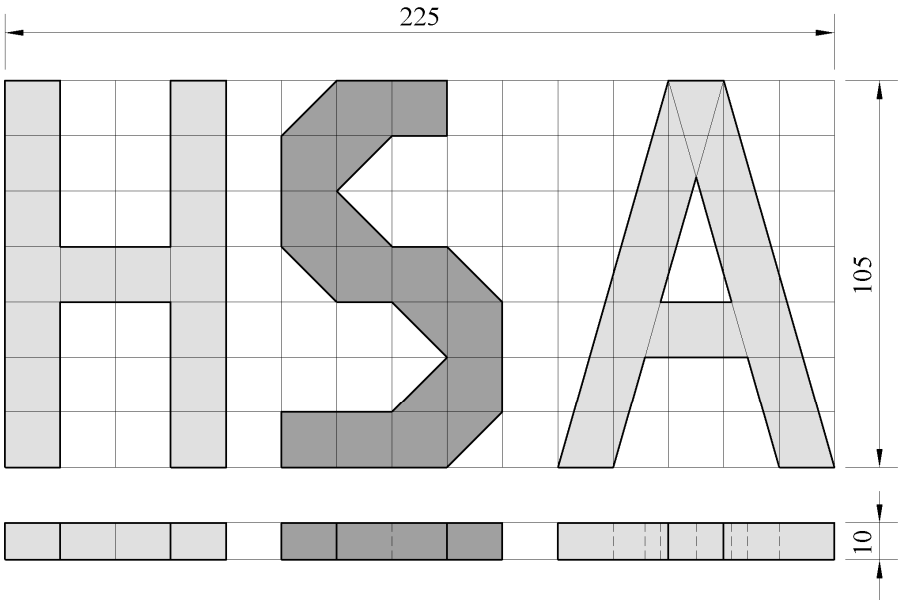
(b) An end view in the direction of arrow **B**.

(c) The complete **surface development** of the basket.





4.



The figure shows the elevation and plan of the initials for the **H**ealth and **S**afety **A**uthority (**HSA**).

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:

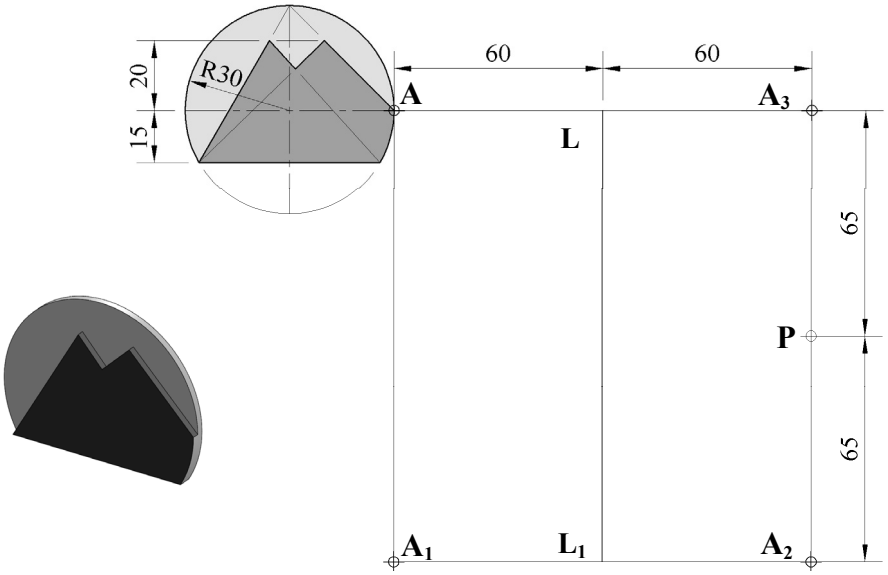
(a) An **isometric** view of the initials.

or

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

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

5. The graphics show the design of a logo for an Outdoor Adventure Centre.



(a) Draw the given logo and then locate the points **A**, $\mathbf{A_1}$, $\mathbf{A_2}$, $\mathbf{A_3}$, **P** and the line $\mathbf{L\text{-}L_1}$ as shown.

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

(i) From point A to A_1 by a **translation**;
(ii) From point A_1 to A_2 by an **axial symmetry** in the line $\mathbf{L\text{-}L_1}$;
(iii) From point A_2 to A_3 by a **central symmetry** in the point **P**.

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

6. The figure shows a design for a motorbike logo.

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

Show all construction lines, tangents and points of contact.