Coimisiún na Scrúduithe Stáit
State Examinations Commission

Junior Certificate Examination, 2012

Technical Graphics
Ordinary Level
Section B

(280 marks)

Monday, 18 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 letterbox.

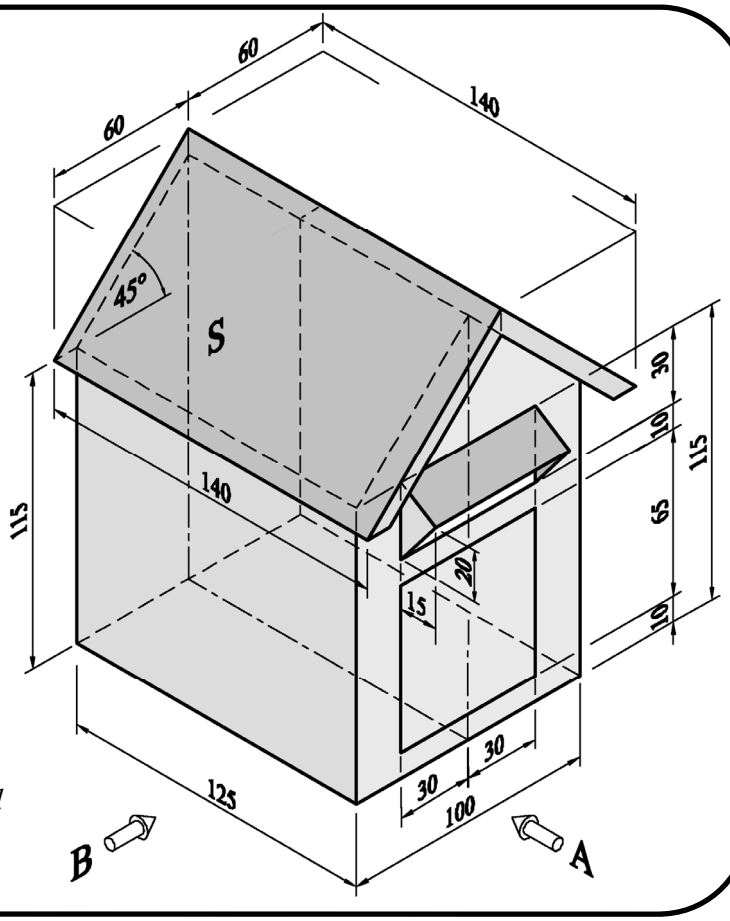
Draw:

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

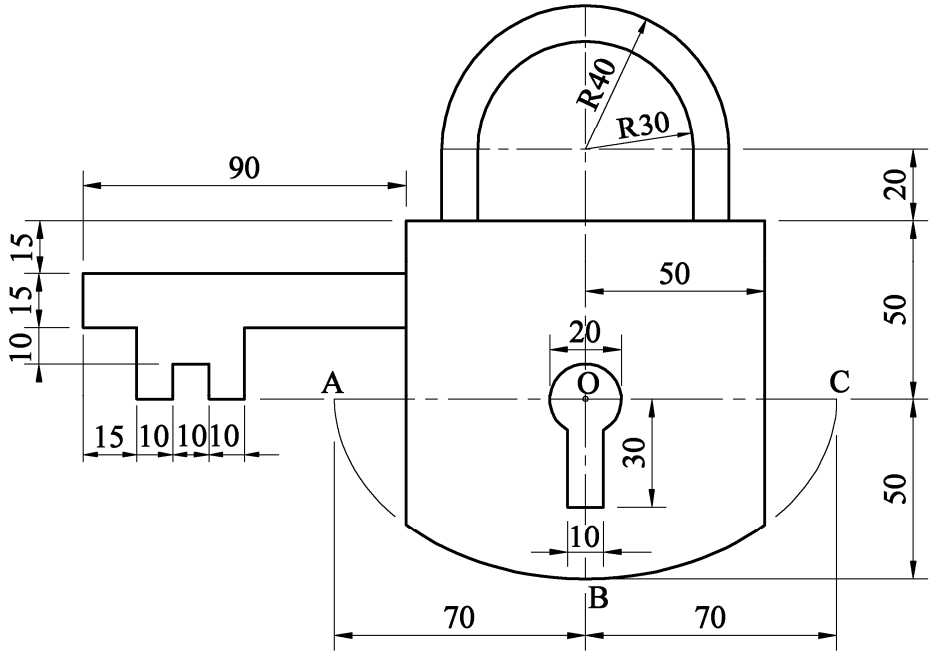
(b) An end elevation in the direction of arrow **B**.

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

Note:
*The back surface **S** is vertical as shown.*



2 The figure shows the design of a logo for a locksmith.
The curve **ABC** is a semi-ellipse. **AC** is the **major axis**, **OB** is half the **minor axis** and is 50 mm long as shown.
Draw the given logo showing clearly all construction lines.



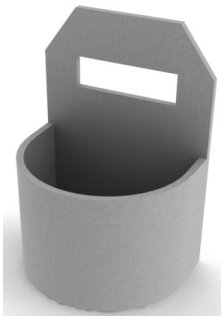
3 The figure shows a design for a cup-holder. Also shown is a 3D graphic of the cup-holder.

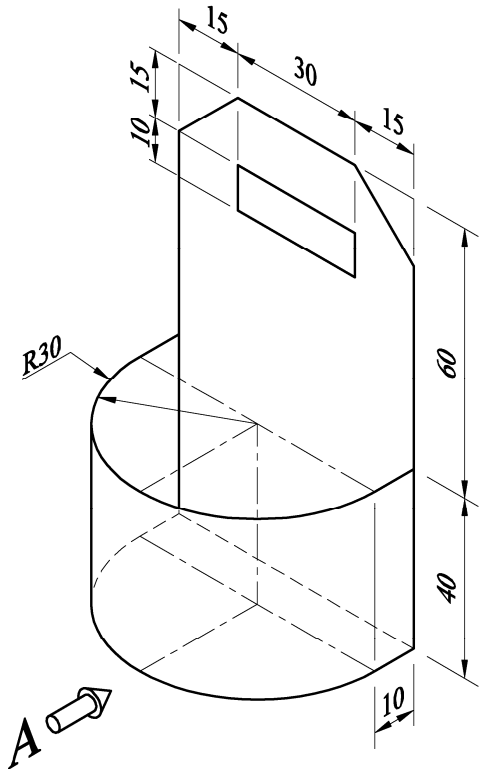
Draw:

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

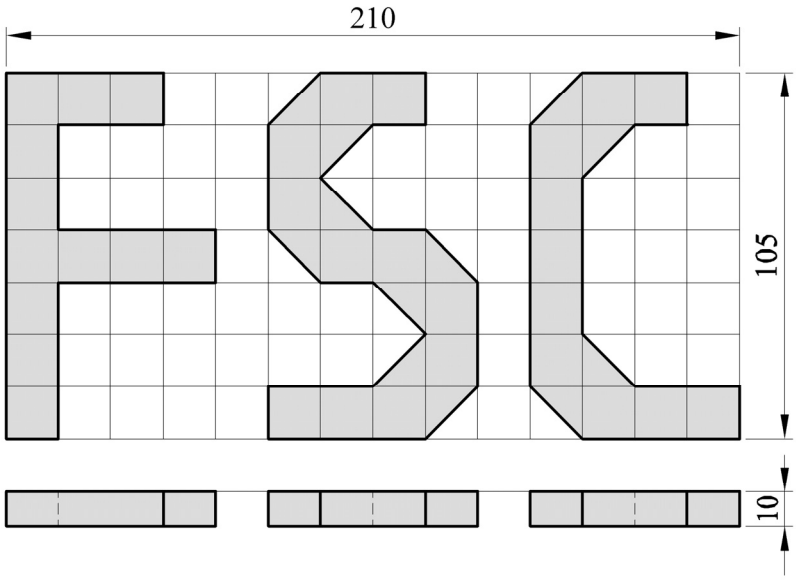
(b) A plan projected from the elevation.

(c) The complete **surface development** of the cup-holder.





4



The figure shows the elevation and plan of the initials for the **F**orest **S**tewardship **C**ouncil (**FSC**). The Forest Stewardship Council promotes the responsible management of the world's forests.
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:

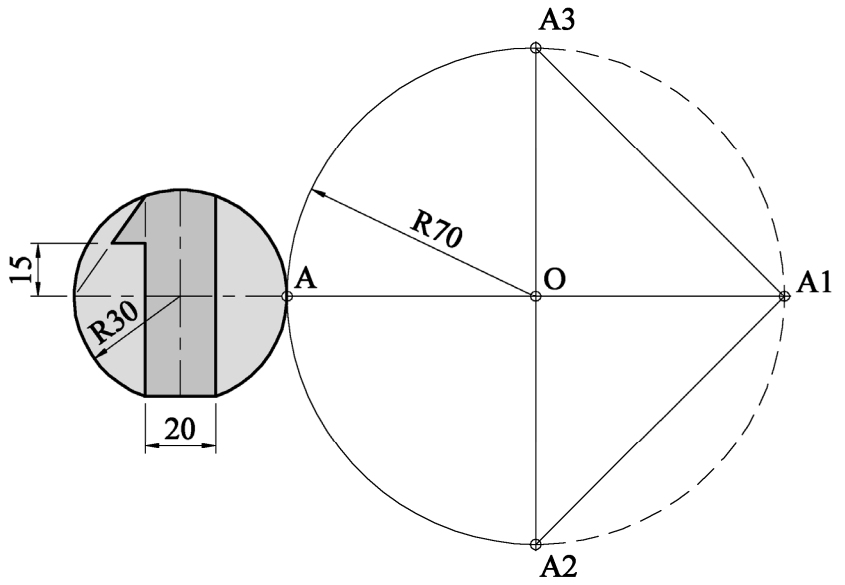
(a) An **isometric** view of the initials

or

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

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

5



The given figure shows the design of a logo for a television channel - Channel **1**.
Also shown is a small 3D graphic of the logo.
Draw the given logo and then locate the points **A**, **A1**, **A2**, **A3** and **O** as shown.

Find the image of the given logo under the following transformations:

(a) From point A to A1 by an **axial symmetry** in the line **A2-A3**;
(b) From point A1 to A2 by a **translation**;
(c) From point A2 to A3 by a **central symmetry** in the point **O**.

6 The figure shows the design of a logo to indicate that an area is safe for swimming.
Draw the semi-circle of radius 100 mm as shown and then complete the given logo.
The line **LM** is a tangent to the circle from **L**.

Show all construction lines, tangents and points of contact.