Coimisiún na Scrúduithe Stáit
State Examinations Commission

Junior Certificate Examination, 2013

Technical Graphics
Ordinary Level
Section A
(120 marks)

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

Centre Number

Instructions

(a) *Answer **any ten** questions in the spaces provided. All questions carry equal marks.*

(b) *Construction lines must be clearly shown.*

(c) *All measurements are in millimetres.*

(d) *This booklet must be handed up at the end of the examination.*

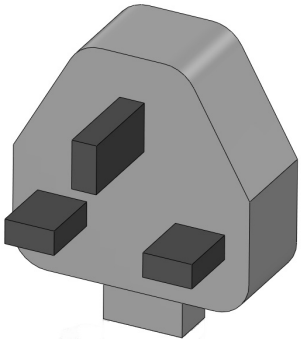
(e) *Write your examination number in the box provided below and on all other pages used.*

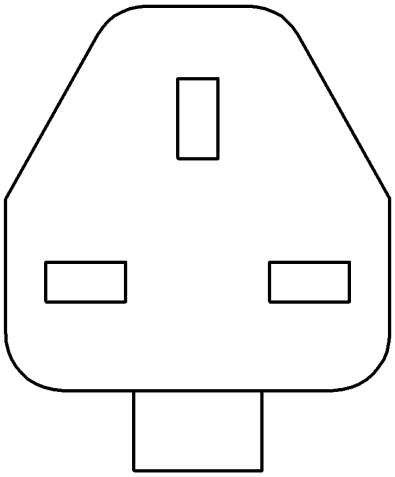
Examination Number:

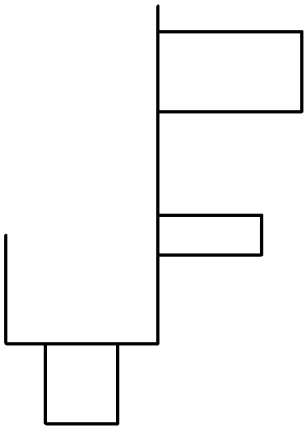
Question	Mark
Section A	
1	
2	
3	
4	
5	
6	
TOTAL	
GRADE	

SECTION A. Answer **any ten** questions. All questions carry equal marks.

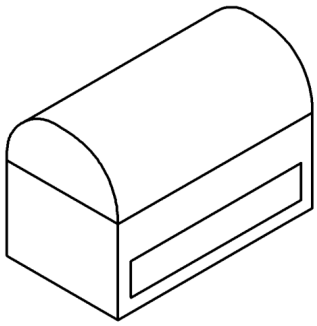
1. Shown is the elevation and **incomplete** end view of a plug top. Also shown is a 3D graphic of the plug top. **Insert** the missing lines in the end view.







2. In the space provided, make a **freehand pictorial sketch** of the jewellery box shown. Colour **or** shade the completed sketch.



3. Name the device shown and state its use.

Name:

_____

Use:

_____

_____

4. **Fig. 1** shows a media player logo inscribed in a square **ABCD**.

Draw the enlarged logo in the given square **ABCD** in **Fig. 2.**

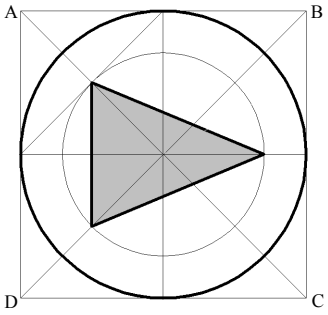


Fig. 1

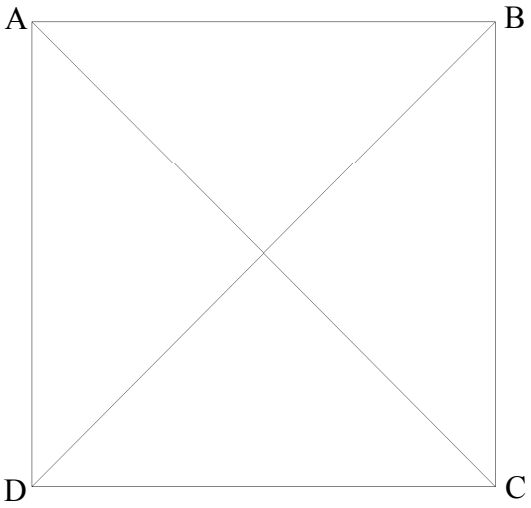


Fig. 2

5. **Fig. 1** shows the design of a presentation pointer based on an ellipse and a circle. **F** and $\mathbf{F_1}$ are the focal points of the ellipse. Locate the focal points in **Fig. 2** and complete the design by drawing the shape $\mathbf{AF_1BF}$.

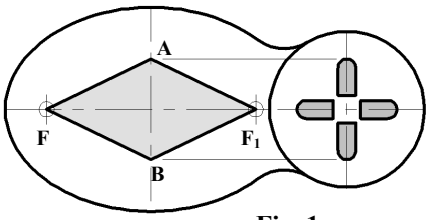


Fig. 1

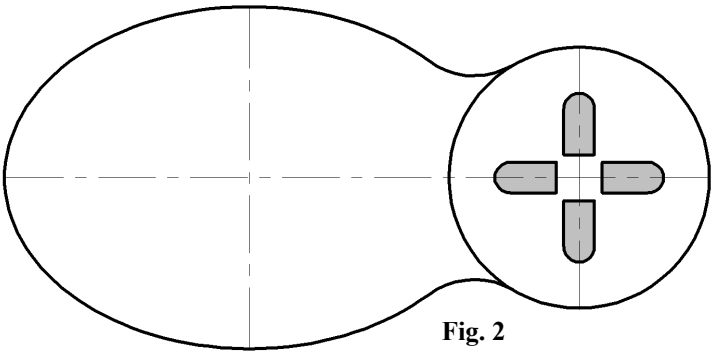
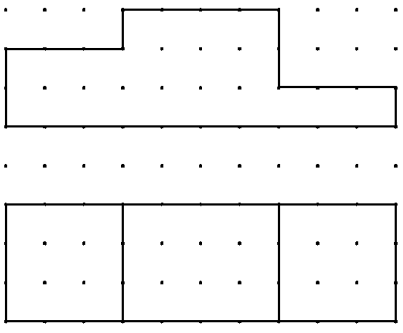


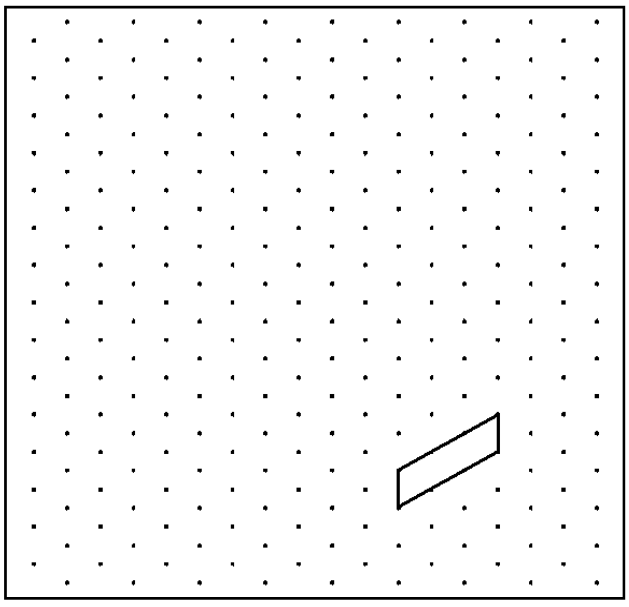
Fig. 2

6. The elevation and plan of an awards podium are shown.

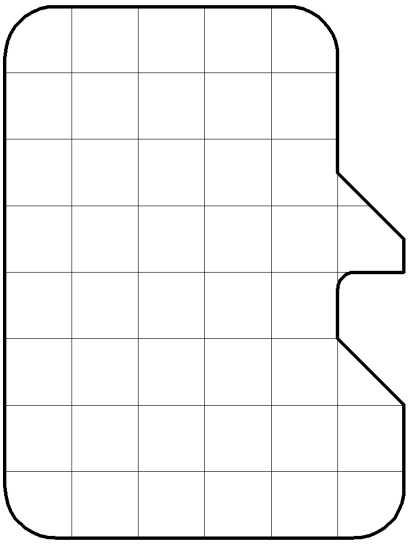
Make a well proportioned **freehand sketch** of the podium in the space provided.

Colour **or** shade the completed sketch.





7. The outline of a memory card is shown.
Also shown is a 3D graphic of the card.

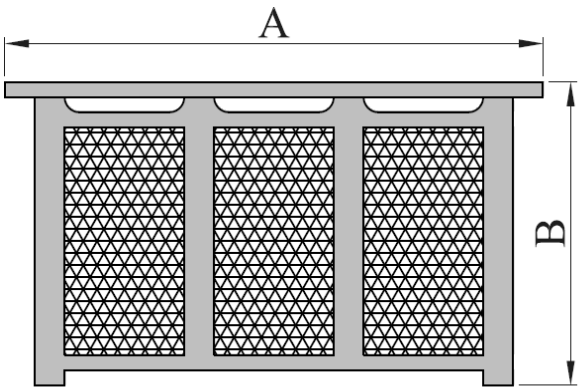


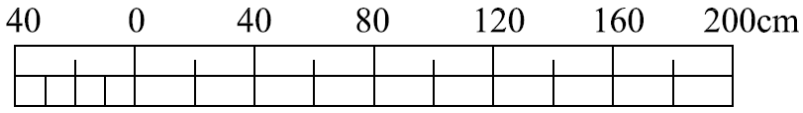
Write down the area of the memory card in square units.

1 square = 1 square unit.

Area of the card: _____ **square units**.

8. Using the scale provided, **measure** and **write down** the dimensions **A** and **B** for the radiator cover shown.

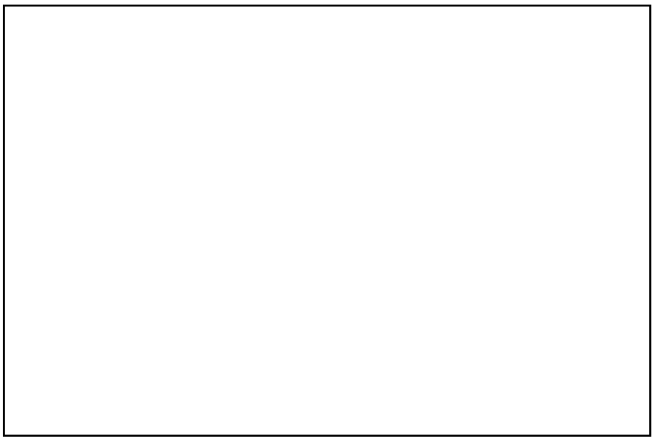


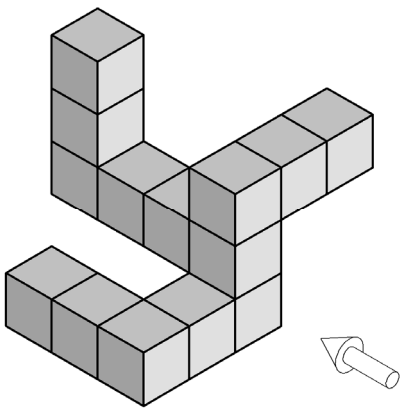


A: _____

B: _____

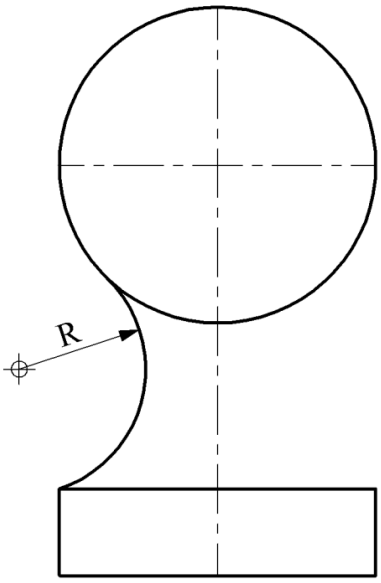
9. The figure shows a set of blocks.
Draw, in the space provided, the elevation of the blocks in the direction of the arrow.





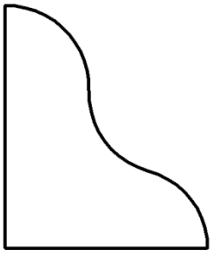
10. The figure shows the incomplete outline of a chess piece of symmetrical design. Also shown is a 3D graphic of the chess piece.

Complete the drawing of the chess piece showing all constructions and points of contact.

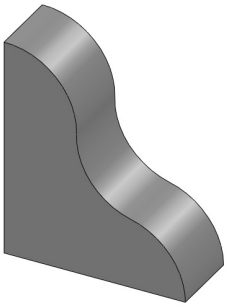


11. List the CAD commands used to produce the drawing of the bookend from **A** to **B** and **B** to **C**.

A



B



C

Commands: **A** ⟶ **B** _____ **B** ⟶ **C** _____

12. The graphics show a computer speaker.

Draw the **shadow** cast by the speaker shown in **Fig. 1** when the light source is parallel to the direction of the arrow.

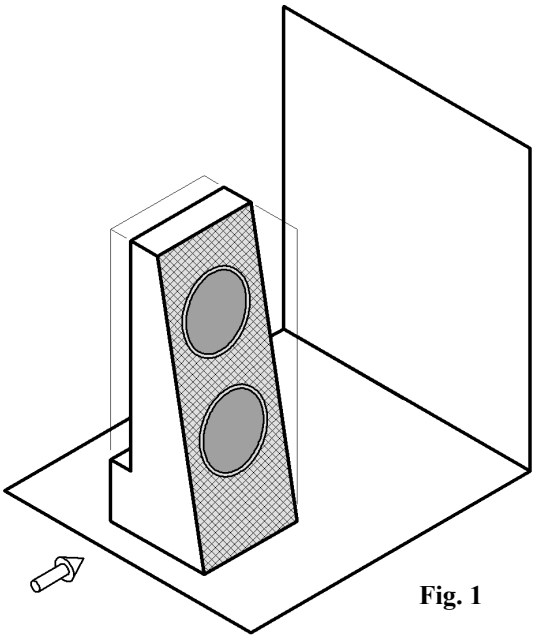


Fig. 1

13. **Fig. 1** shows a view of a watch based on a pentagon.

Fig. 2 shows an **incomplete** view of the watch. Complete the view by drawing the regular pentagon. Show all construction.

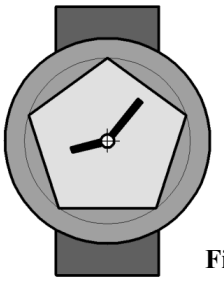


Fig. 1

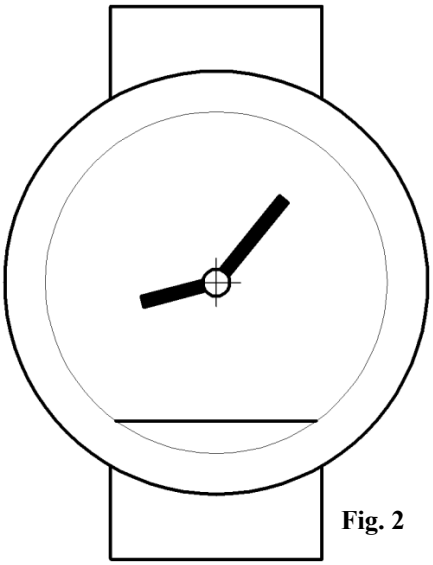
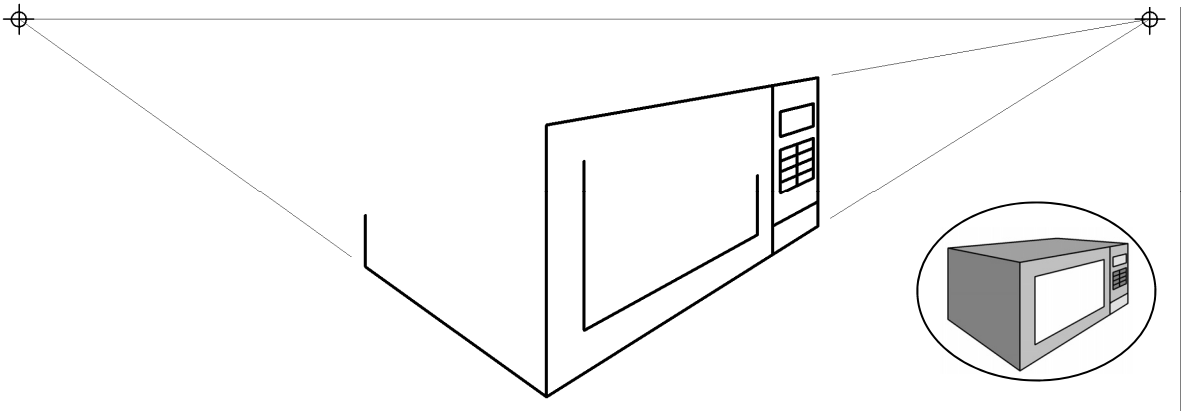


Fig. 2

14. The figure shows an **incomplete** two point perspective drawing of a microwave oven. A small 3D graphic of the oven is also shown. Complete the perspective drawing of the oven.



15. **Fig. 1** shows the design of a shipping logo.

Complete the logo in **Fig. 2** by constructing an axial symmetry in the line $\mathbf{LL_1}$.

Colour **or** shade the completed logo.

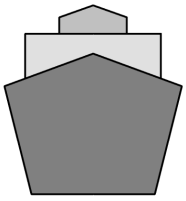


Fig. 1

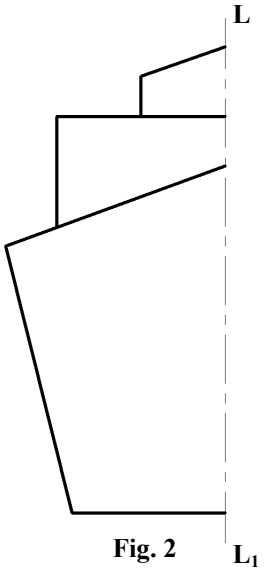


Fig. 2

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