Coimisiún na Scrúduithe Stáit
State Examinations Commission

Junior Certificate Examination, 2011

Technical Graphics
Ordinary Level
Section A
(120 marks)

Monday, 20 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 The **incomplete** elevation and the end view of a post box are shown. Also shown is a 3D graphic of the post box. **Insert** the missing lines in the elevation.

POST
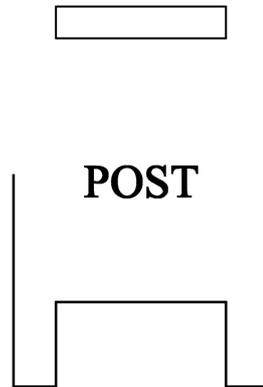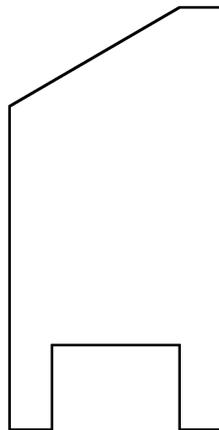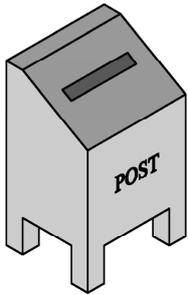
2 In the space provided, make a **freehand sketch** of the toolbox shown. Colour **or** shade the completed sketch.
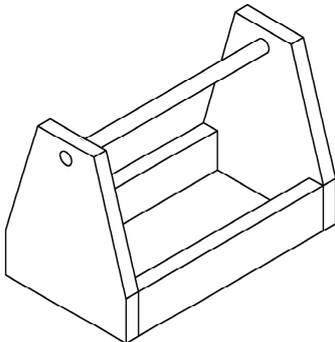
3 Name the computer components labelled **A** and **B** and give one use for each.

A: _____

Use _____

_____

B: _____

Use _____

_____

A

B
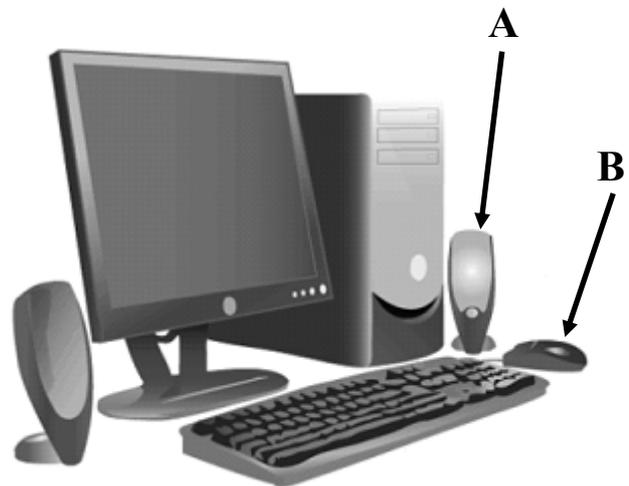
4 **Fig.1** shows a logo for a restaurant inscribed in the square **ABCD**.

Draw the enlarged logo in the given square **ABCD** in **Fig. 2**.
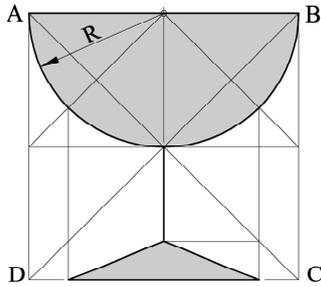
Fig. 1
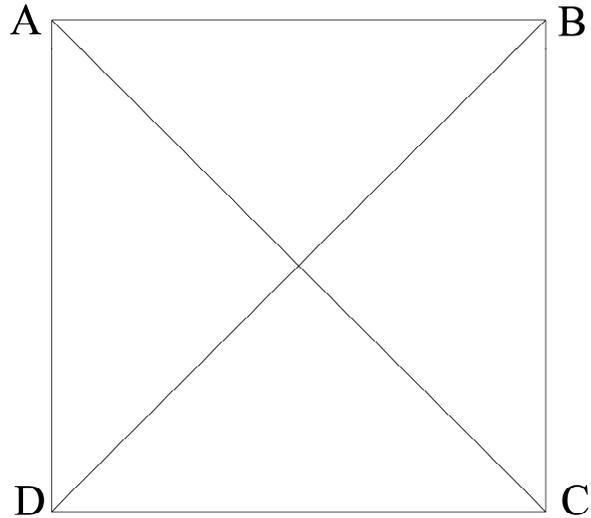
Fig. 2

5 **Fig.1** shows the design of a computer mouse based on an ellipse and two arcs.
F1 is a focal point of the ellipse and is also the centre for the arc **AOB**.
Locate the focal point **F1** in **Fig. 2** and complete the design by drawing the arc **AOB**.
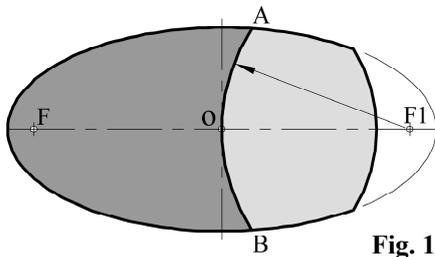
Fig. 1
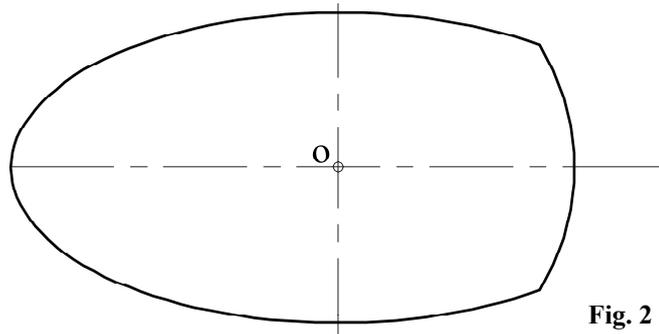
Fig. 2

6 The elevation and plan of a bridge are shown. Complete the given sketch of the bridge on the grid provided. Colour **or** shade the completed sketch.
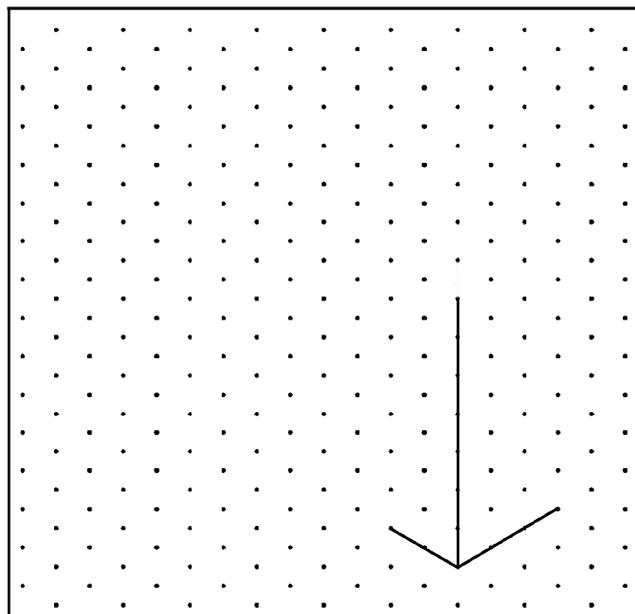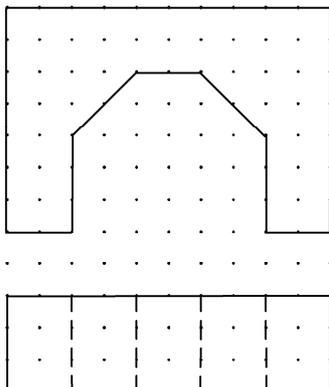
7 The outline of a boat and sail is shown.

Write down the area of the sail in square metres.

1 square = 1 square metre.

Area of the sail: _____ square metres.
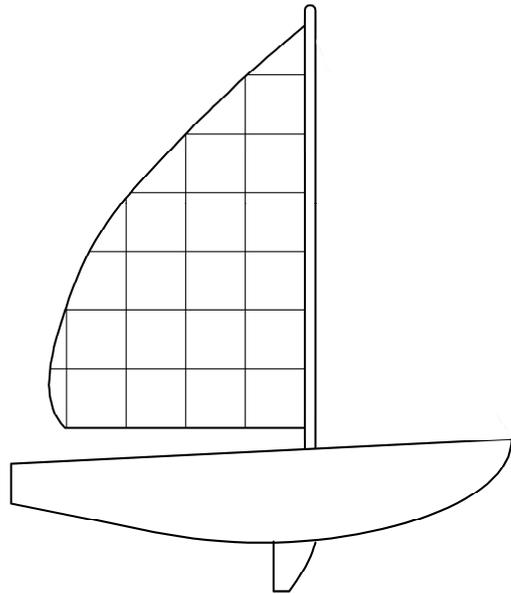
8 Using the scale provided, **measure** and **write down** the dimensions **A** and **B** of the pool table shown.

A: _____

B: _____

A

B

0.2   0   0.2   0.4   0.6   0.8   1.0   1.2   1.4   1.6   1.8   2.0   2.2 m
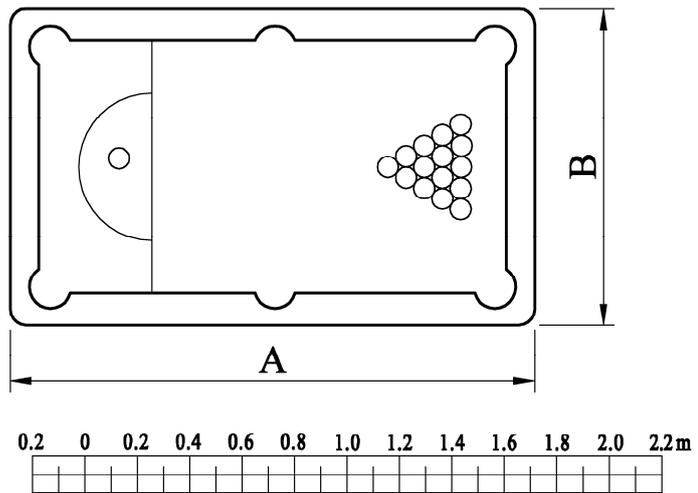
9 The figure shows a set of blocks.
Draw, in the space provided, an elevation of the blocks in the direction of the arrow.
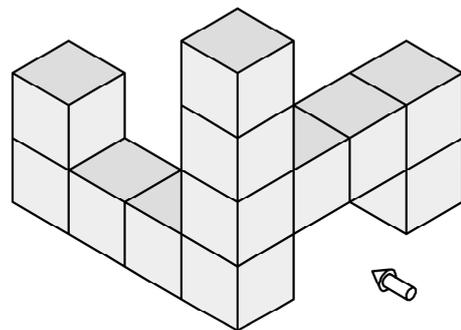
**10** The drawing shows the outline of a piano.

Show clearly the points of contact between the circles **A**, **B** and **C**.
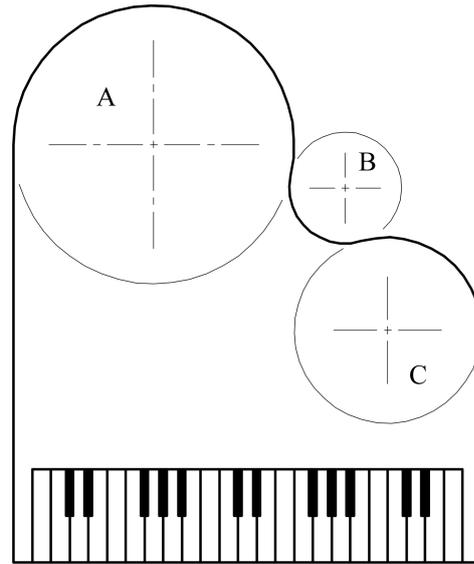
11 List the CAD commands used to produce the figures **A** to **B** and **B** to **C**.

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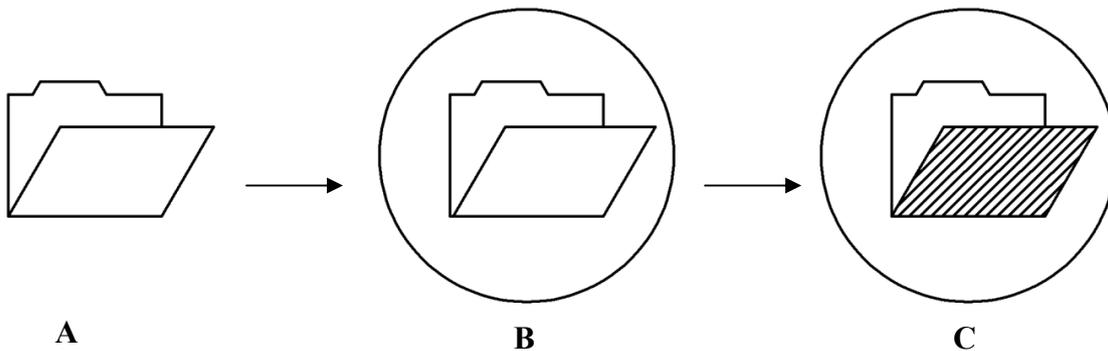
Commands: A ⟶ B _____   B ⟶ C _____

12 Draw the **shadow** cast by the clock when the direction of light is parallel to the arrow.
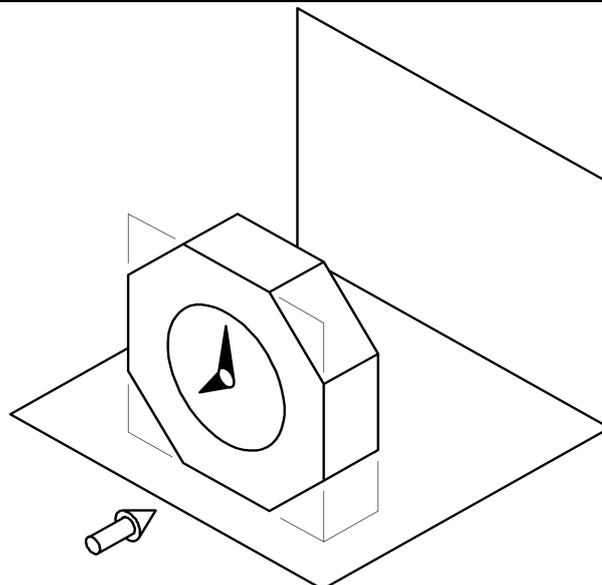
13 The figure shows a small weighing scales.

   (a) Name the shape of the base **A**.

   (b) Write down the size of the angle **B**.

   Shape of base **A**: _____

   Size of angle **B**: _____
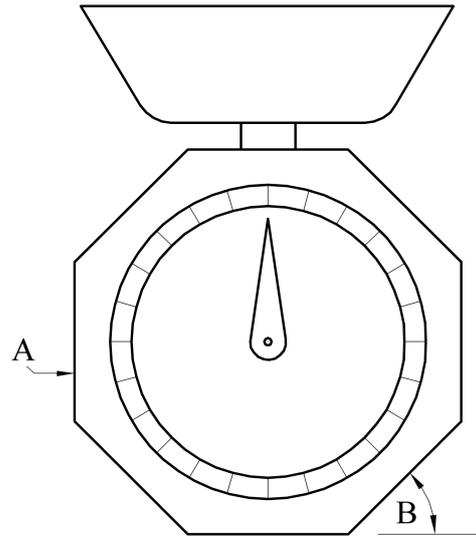
14 The figure shows an incomplete perspective drawing of a data projector.
A small 3D graphic of the projector is also shown. Complete the perspective drawing.
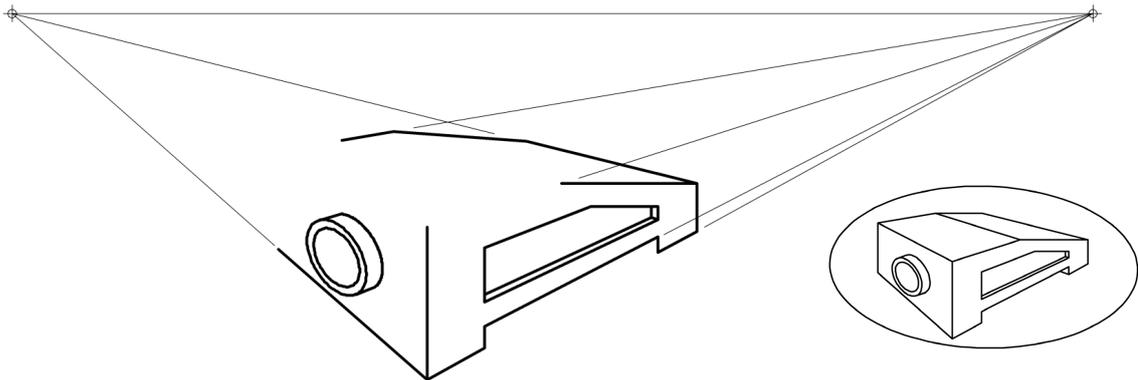
15 The diagram shows a design for a door handle.

   Rotate the lever **L** in the direction of the arrow through 30º about the point **P** and complete the drawing of the lever in the rotated position.

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