



Coimisiún na Scrúduithe Stáit
State Examinations Commission

Junior Certificate Examination, 2010

Technical Graphics
Ordinary Level
Section A
(120 marks)

Monday, 21 June
Morning 9:30 - 12:00

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:

Centre Number

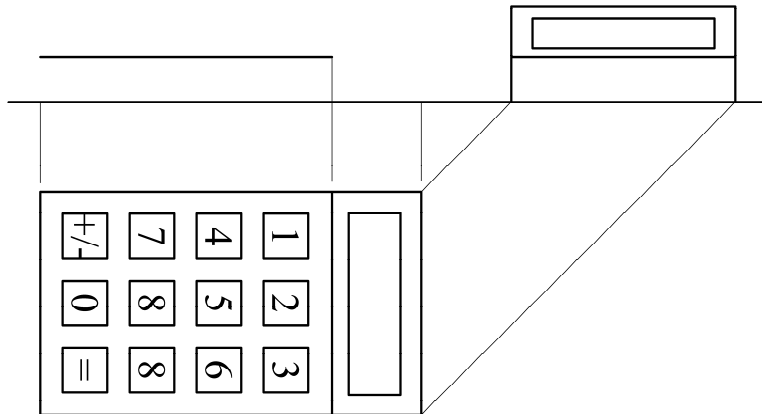
Centre Number

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 an **incomplete elevation**, the plan and end view of a calculator. Also shown is a 3D graphic of the calculator.

Insert the missing lines in the elevation.



2 In the space provided, make a **freehand sketch** of the sports bottle shown. Colour **or** shade the completed sketch.

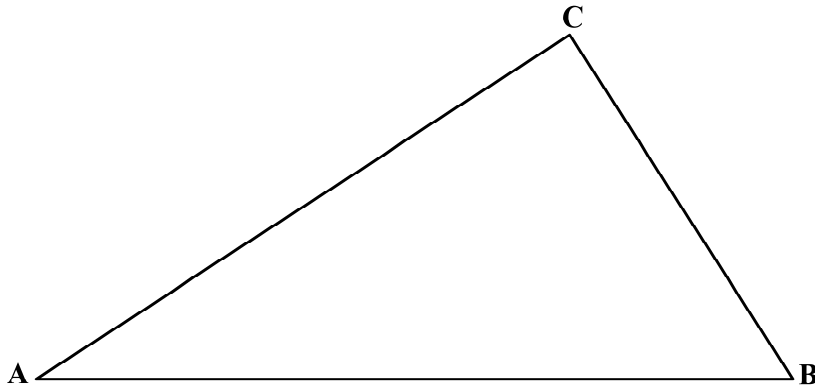


3 **Name** the computer device shown and state its use.



Name: _____ **Use:** _____

- 4 Draw a line from C which will divide the area of the triangle ABC into two equal parts.



- 5 Fig. 1 shows the design of a clock based on an ellipse and a circle. In Fig. 2, F and F1 are the focal points of the ellipse. The lines LM and LN are tangents to the ellipse.

Locate point N and complete Fig. 2 by drawing the tangents LM and LN.

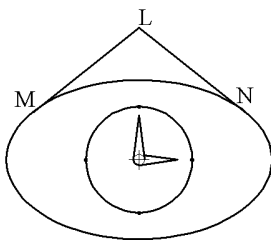


Fig. 1

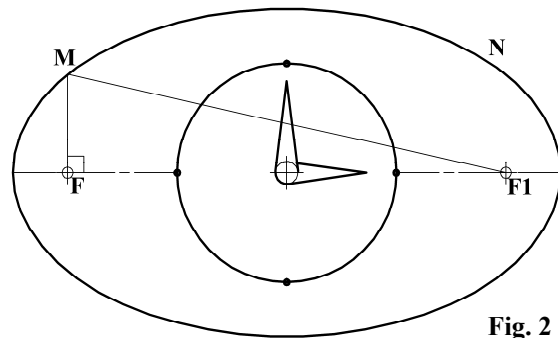
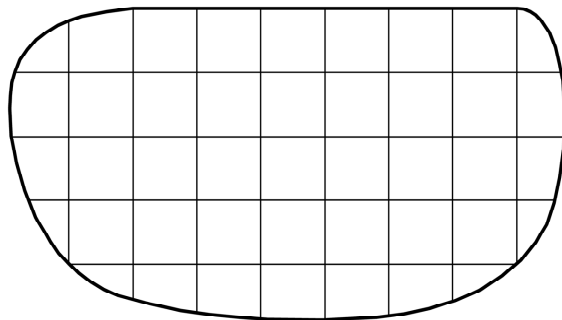


Fig. 2

- 6 The outline of a lens from a pair of reading glasses is shown on the grid below. Also shown is a 3D graphic of the reading glasses. Write down the area of the lens in square units.

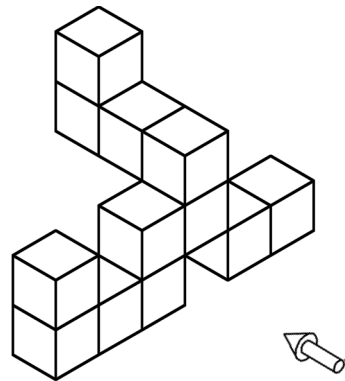
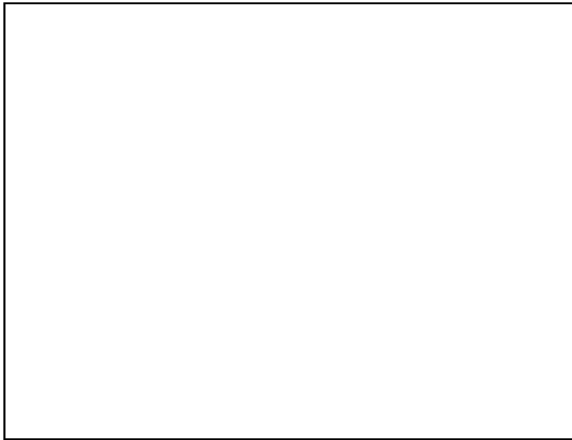
1 square = 1 square unit



Area of lens: _____ square units

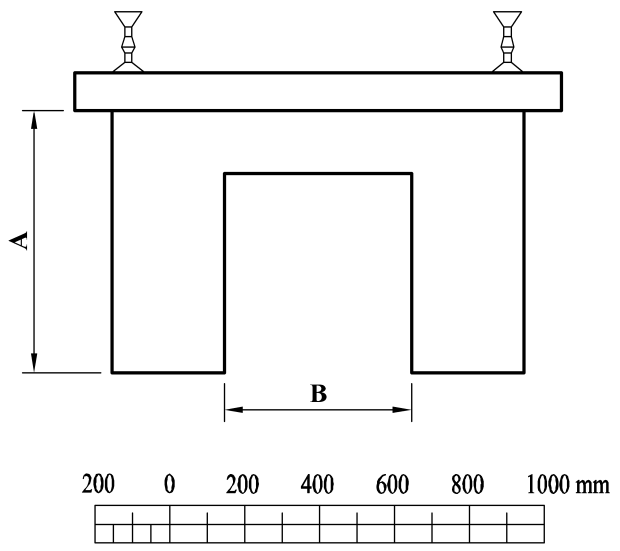


7 The figure shows a set of blocks.
 Draw, in the space provided, an elevation of the blocks in the direction of the arrow.

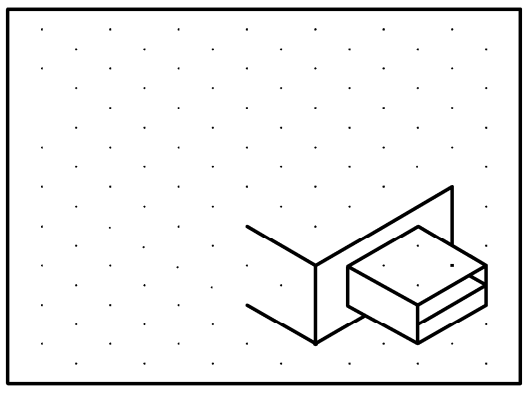
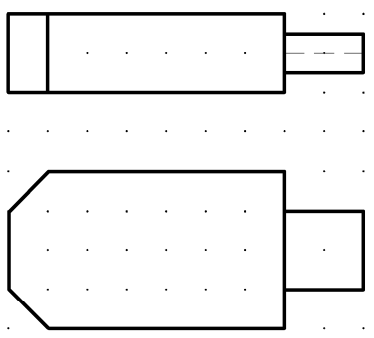


8 Using the scale provided,
measure and **write down**
 the dimensions **A** and **B**
 of the fireplace shown.

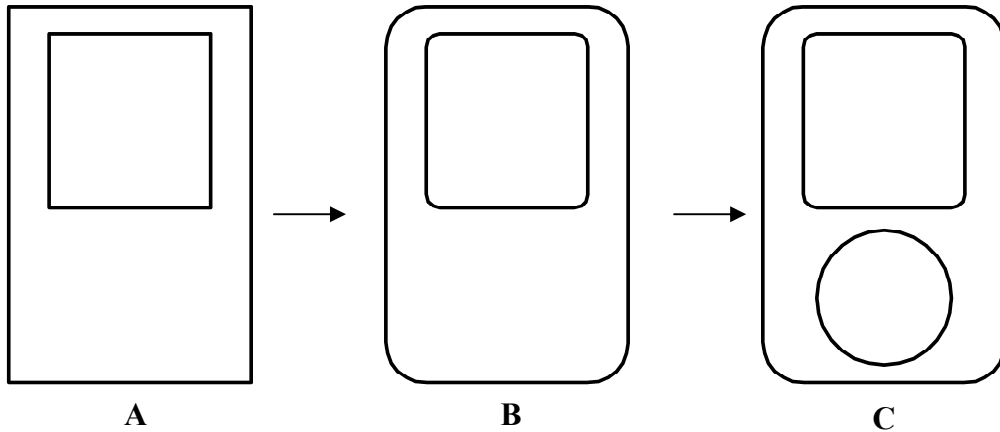
A: _____
 B: _____



9 Shown is the elevation, plan and incomplete isometric view of an USB drive.
 Complete the given sketch of the USB drive on the grid provided.
 Colour **or** shade the completed sketch.

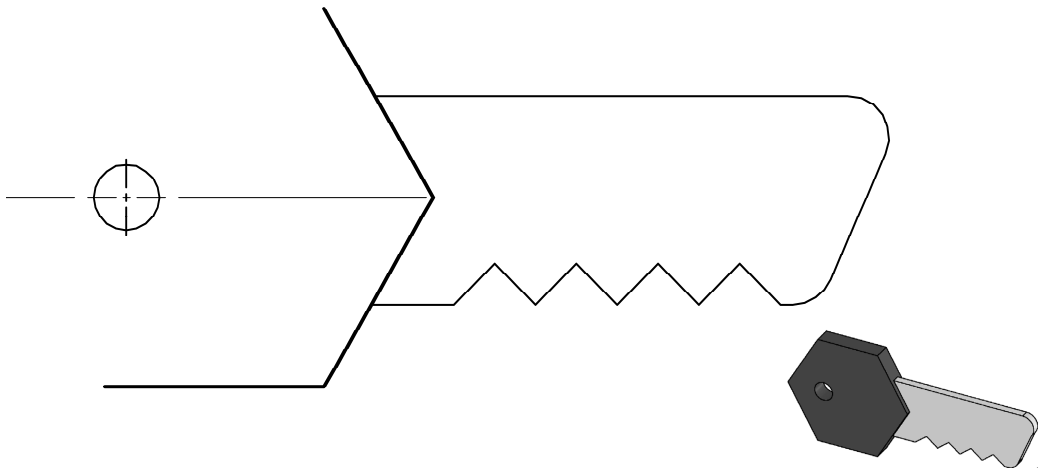


10 List the CAD commands used to produce the figures A to B and B to C.

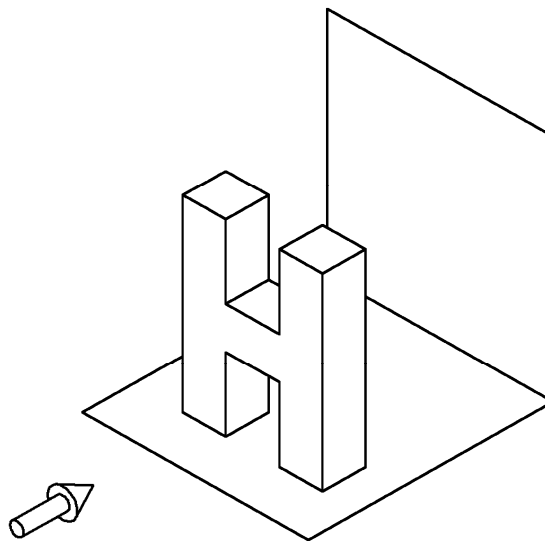


CAD Commands: A → B _____ B → C _____

11 The diagram shows the outline of a key. Also shown is a 3D graphic of the key. The handgrip is based on a regular hexagon. Complete the regular hexagon.



12 Project the **shadow** cast by the letter **H** when the direction of light is parallel to the arrow.



13 Fig. 1 shows a logo for a card shop.
 Fig. 2 shows the incomplete logo.
 Complete the logo in Fig. 2 showing clearly how to locate the centre of the circle.

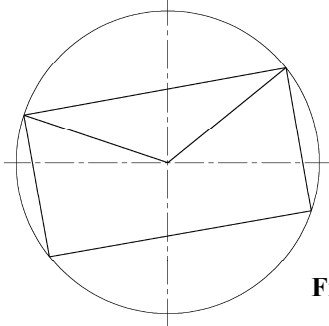


Fig. 1

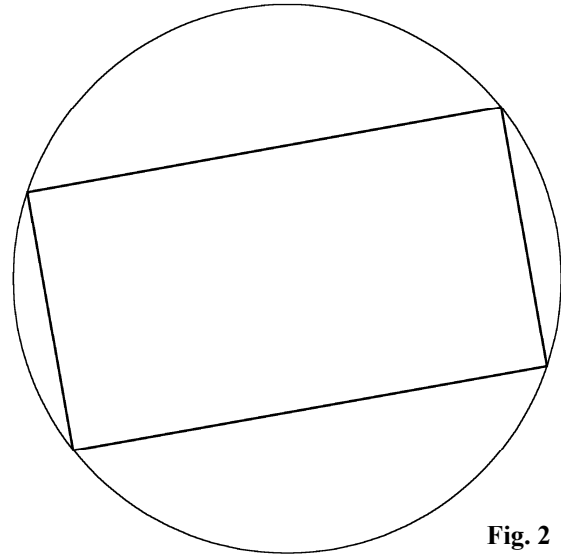
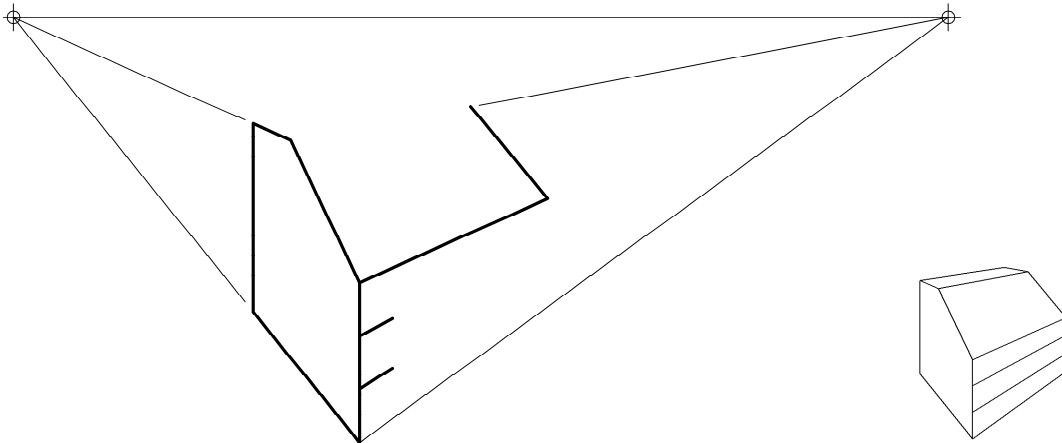


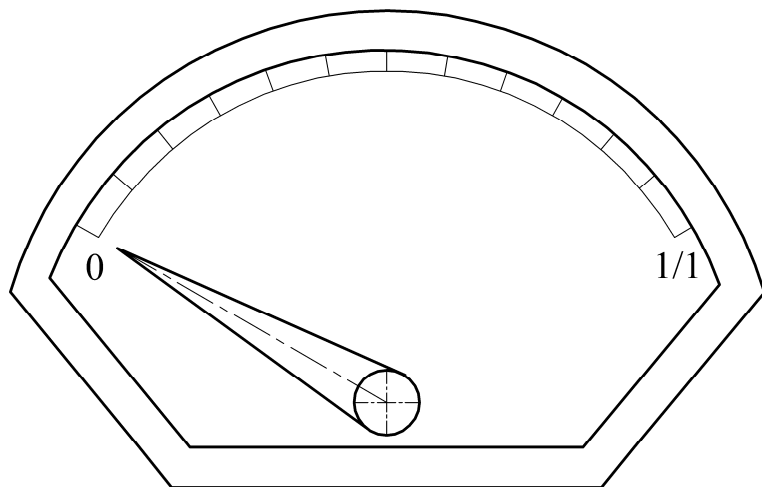
Fig. 2

14 The figure shows an **incomplete** perspective drawing of a writing unit.
 A small 3D graphic of the unit is also shown. **Complete** the perspective drawing.



15 The diagram shows the fuel gauge of a car.

Rotate the needle about its centre to show when the fuel tank is half full.



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