



Pre-Junior Certificate Examination, 2013

Technical Graphics

Ordinary Level

Section A

(120 marks)

Time : 2½ Hours

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 name, school's name and teacher's name in the boxes provided below and on all other pages used.*

School Stamp

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

<i>Name:</i>	
<i>School:</i>	
<i>Teacher:</i>	

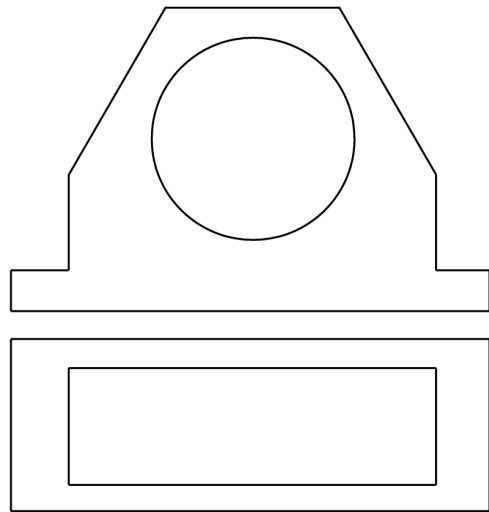
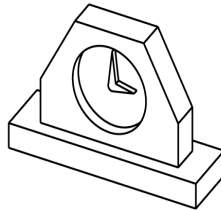
SECTION A. Answer **any ten** questions. All questions carry equal marks.

1 Shown is the **incomplete** elevation and **incomplete** plan of a mantelpiece clock.

Also shown is a 3D graphic of the clock.

Insert the missing lines in both the elevation and the plan.

Note: The clock hands and hidden detail are not required in the elevation or plan.



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



3 List **one** advantage and **one** disadvantage of a laptop computer, as shown.

Advantage:

Disadvantage:



- 4** Fig.1 shows the design for a medal inscribed in the square ABCD. The outline is based on an octagon.

Draw the enlarged design of the medal in the given square ABCD in Fig.2.

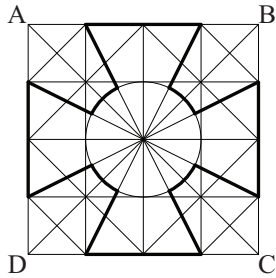


Fig.1

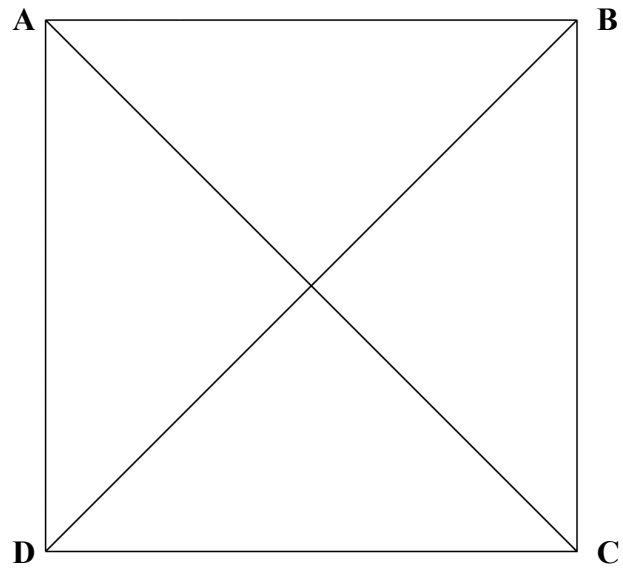


Fig.2

- 5** Fig.1 shows the design of a sign for a fish shop based on an ellipse. The line AB is a tangent to the ellipse at A. Locate the second focal point of the ellipse in Fig.2 and complete the sign by drawing the tangent AB.

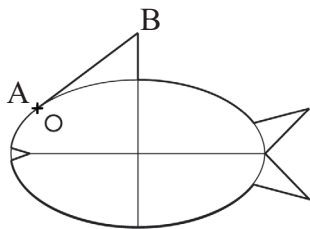


Fig.1

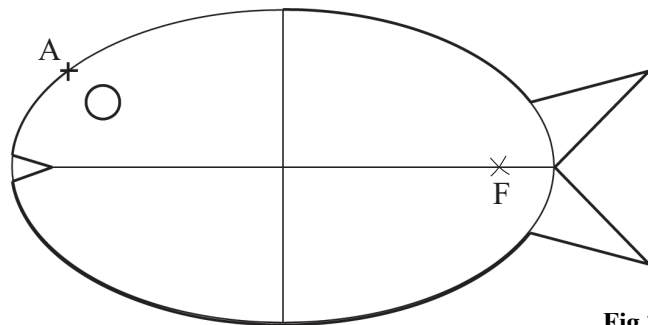
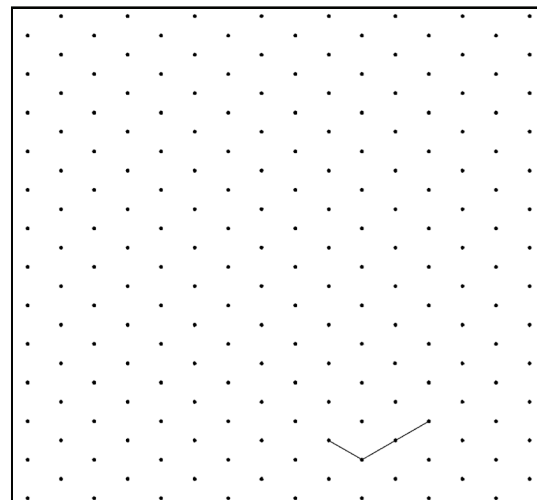
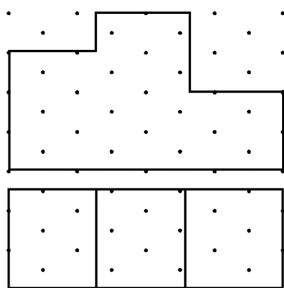


Fig.2

- 6** The elevation and plan of a podium for presenting medals is shown. Complete the given 3D sketch of the podium on the grid provided. Colour or shade the completed sketch.



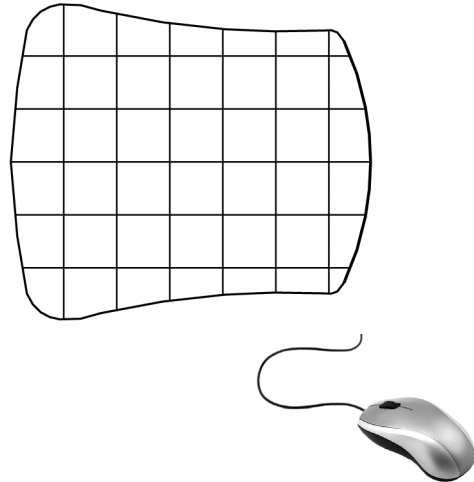
7 The outline of the base of a computer mouse is shown.

Also shown is a 3D graphic of a computer mouse.

Write down the area of the base in square centimetres - cm^2 .

1 square = 1 cm^2

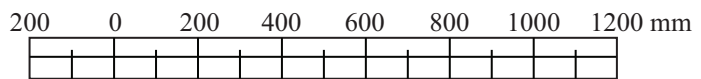
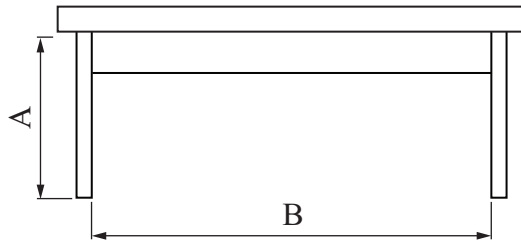
Area of the base: _____ cm^2 .



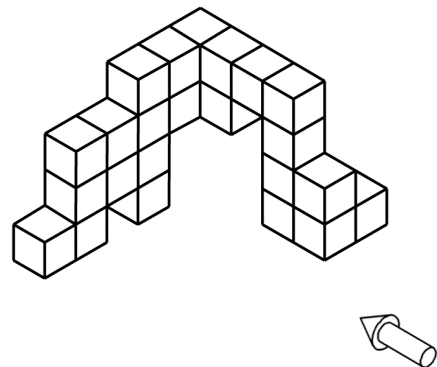
8 Using the scale provided, measure and write down the dimensions A and B of the bench shown.

A: _____

B: _____



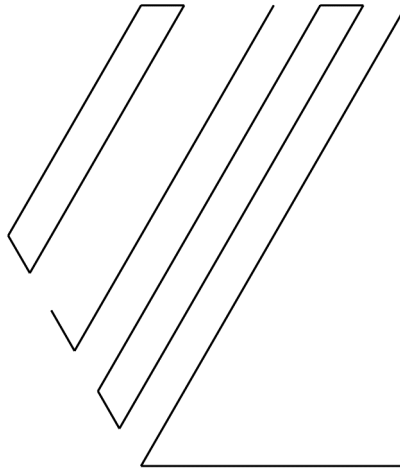
9 The figure shows a set of blocks. Draw, in the space provided, an elevation of the blocks in the direction of the arrow.



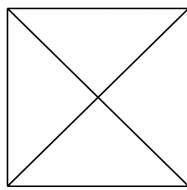
10 The diagram shows the outline of the logo for Black and Decker tools. The outline of the logo is a regular hexagon.

Also shown is a graphic of the logo.

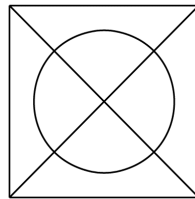
Complete the logo.



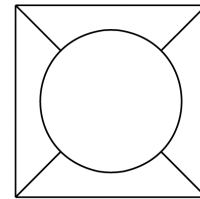
11 List the CAD commands used to produce the figures A to B and B to C.



A



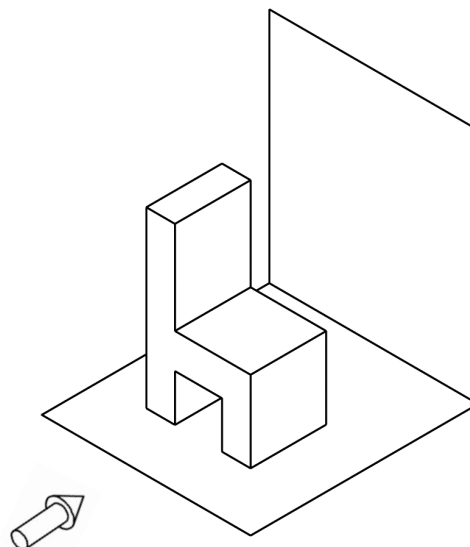
B



C

Commands: A → B _____ B → C _____

12 Draw the shadow cast by the chair shown in Fig.1 when the direction of light is parallel to the arrow.



13 Fig.1 shows the graphic of a padlock. Fig.2 shows the outline of the padlock.

Complete Fig.2, showing clearly how to locate the centre of the large circle.



Fig.1

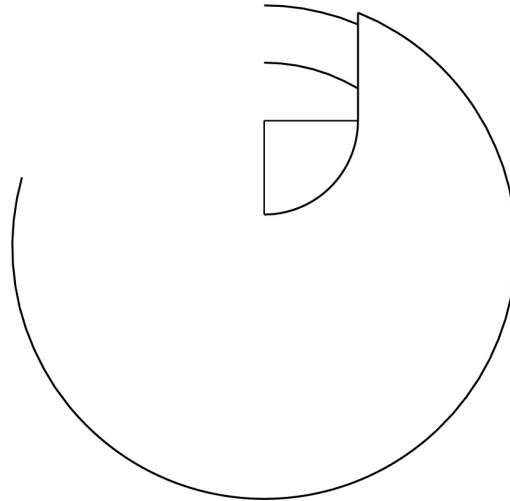
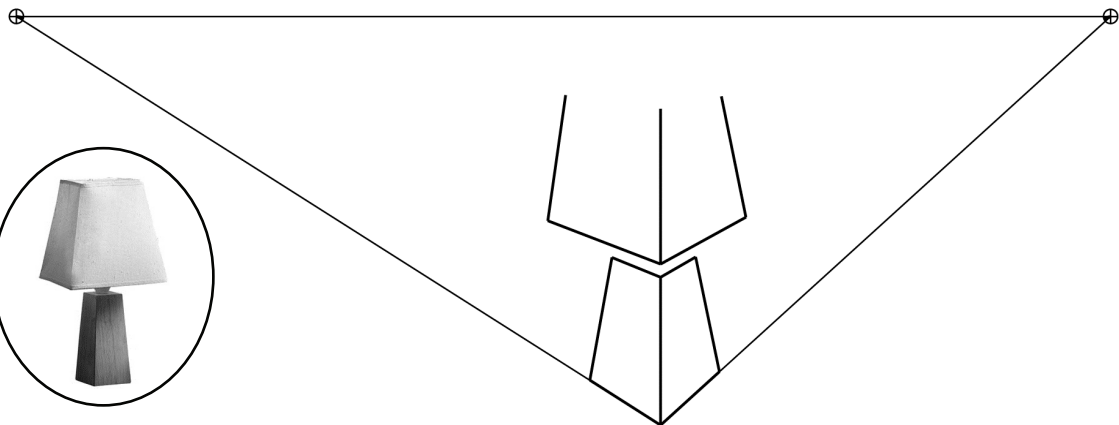


Fig.2

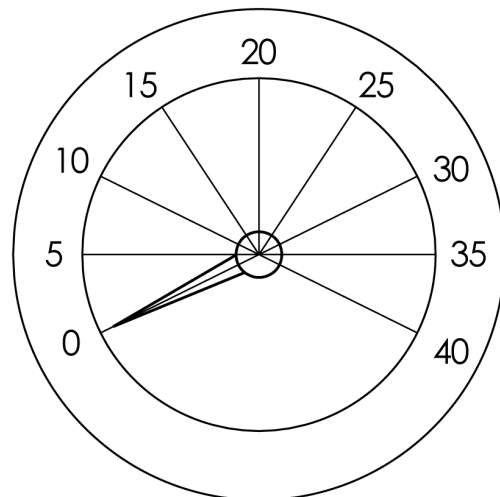
14 The figure shows an incomplete perspective drawing of a lamp. A small 3D graphic of the lamp is also shown. Complete the perspective drawing.



15 The diagram shows the outline of a bicycle speedometer.

What speed will the bicycle be travelling at if the needle rotates through 210 degrees?

Speed: _____ km/hr



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