



*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.

<b>School Stamp</b>

Question	Mark
Section A	
1	
2	
3	
4	
5	
6	
<b>TOTAL</b>	
<b>GRADE</b>	

<b>Name:</b>	
<b>School:</b>	
<b>Teacher:</b>	

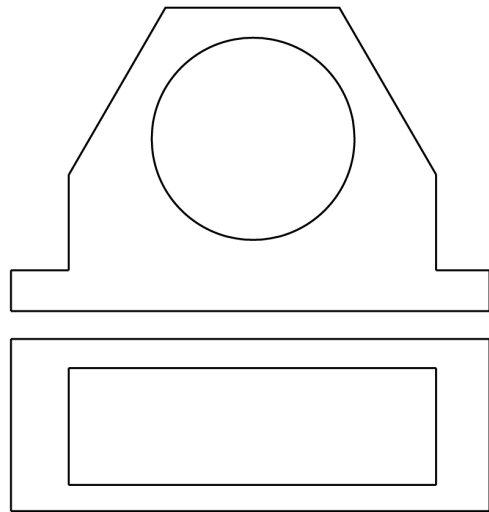
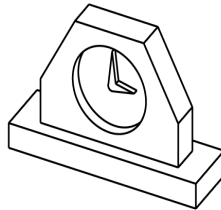
**SECTION A.** Answer **any ten** questions. All questions carry equal marks.

**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:**

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**Disadvantage:**

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- 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.

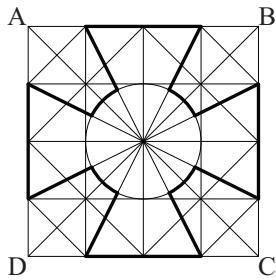


Fig.1

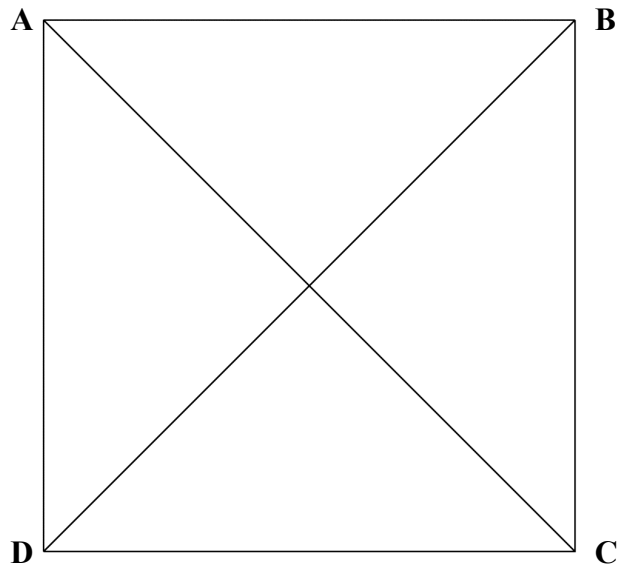


Fig.2

- 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.

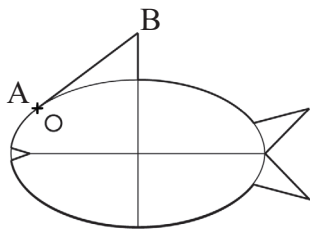


Fig.1

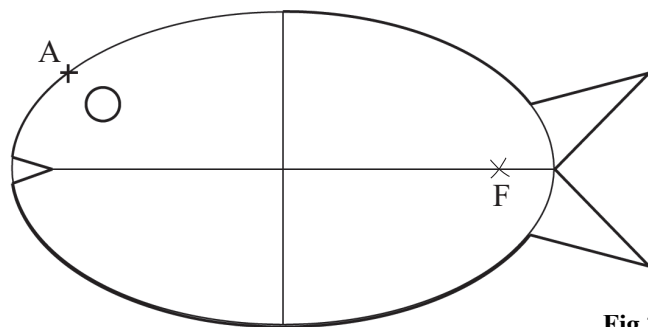
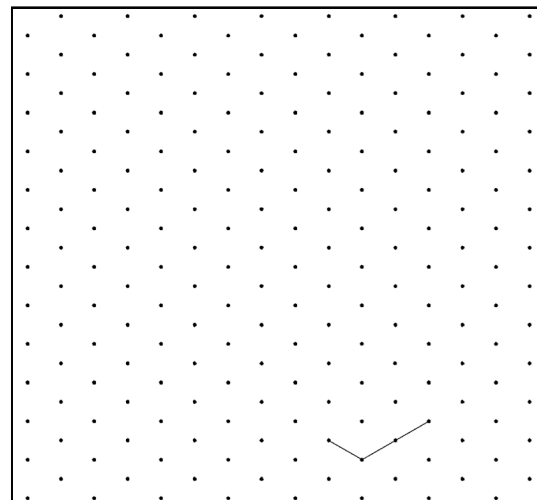
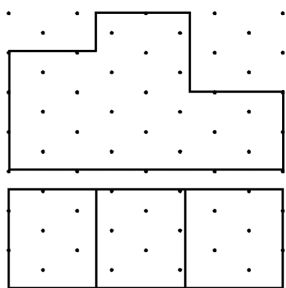


Fig.2

- 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.



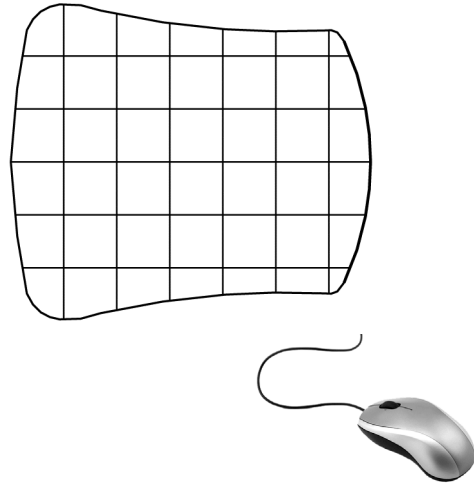
7 The outline of the base of a computer mouse is shown.

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

Write down the area of the base in square centimetres -  $\text{cm}^2$ .

1 square =  $1 \text{ cm}^2$

Area of the base: \_\_\_\_\_  $\text{cm}^2$ .



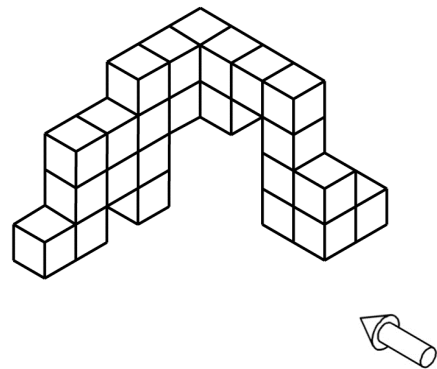
8 Using the scale provided, measure and write down the dimensions A and B of the bench shown.

A: \_\_\_\_\_

B: \_\_\_\_\_



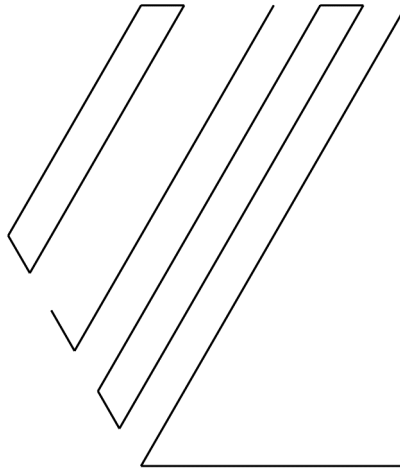
9 The figure shows a set of blocks. Draw, in the space provided, an elevation of the blocks in the direction of the arrow.



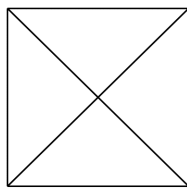
**10** The diagram shows the outline of the logo for Black and Decker tools. The outline of the logo is a regular hexagon.

Also shown is a graphic of the logo.

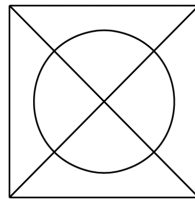
Complete the logo.



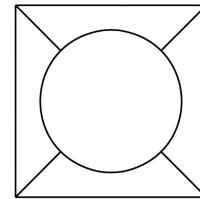
**11** List the CAD commands used to produce the figures A to B and B to C.



A



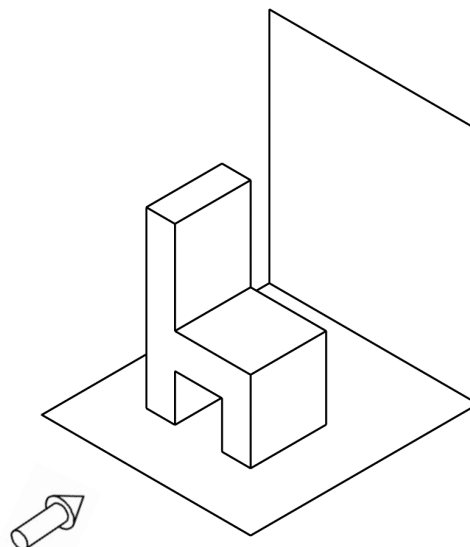
B



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

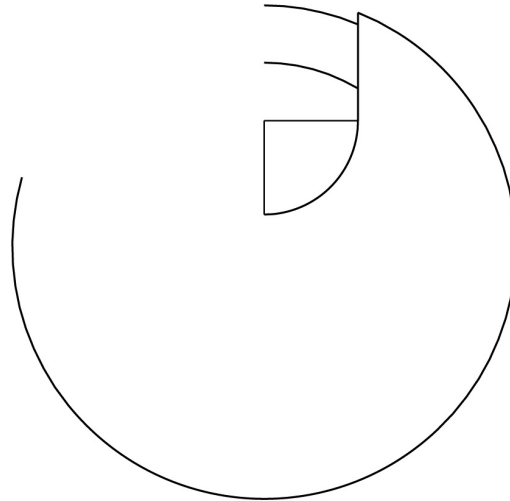
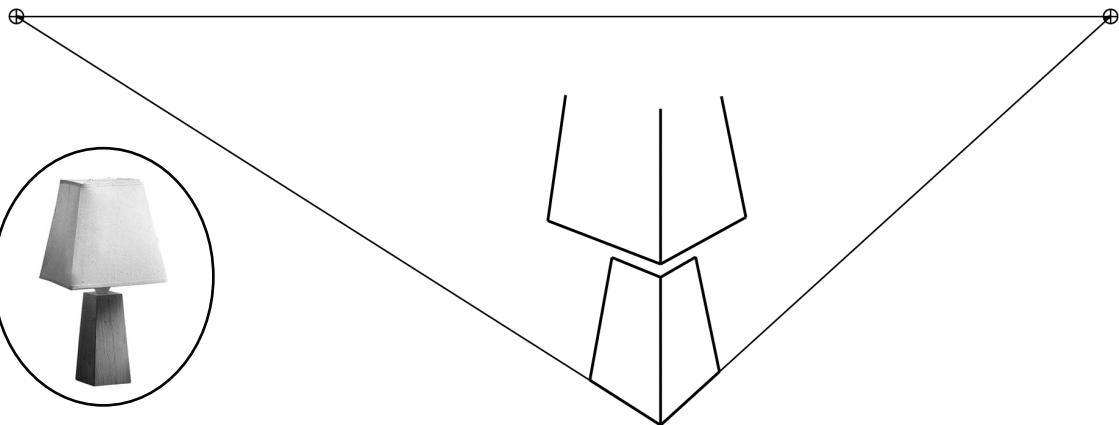


Fig.2

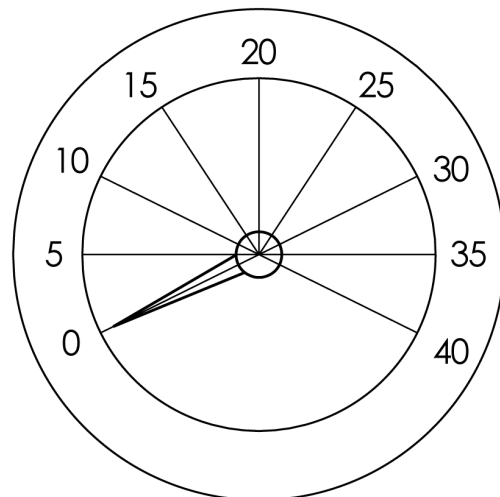
**14** The figure shows an incomplete perspective drawing of a lamp. A small 3D graphic of the lamp is also shown. Complete the perspective drawing.



**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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