



Junior Certificate Examination 2004

Technical Graphics
Ordinary Level
Section A (120 Marks)

Monday 21 June
Afternoon, 2:00 to 4:30

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.

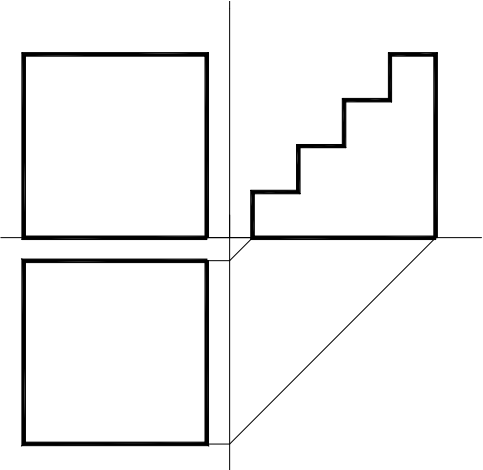
Examination Number:

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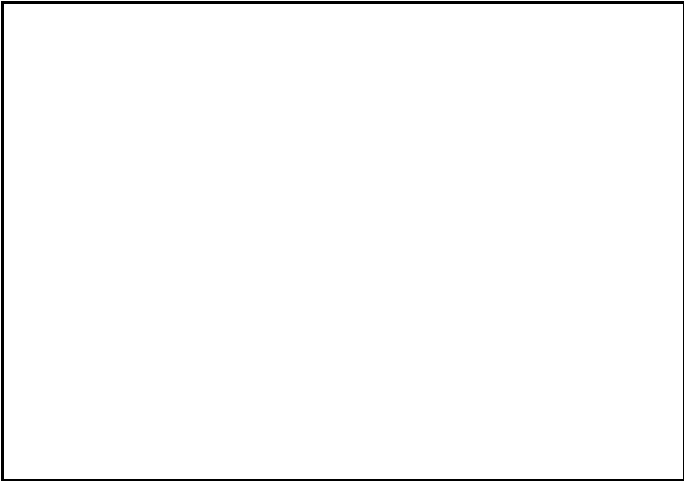
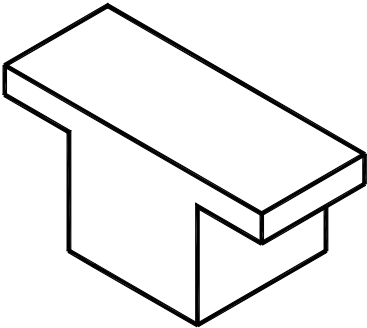
Question	Mark
Section A	
1	
2	
3	
4	
5	
6	
Total	
Grade	

SECTION A: ANSWER ANY TEN QUESTIONS

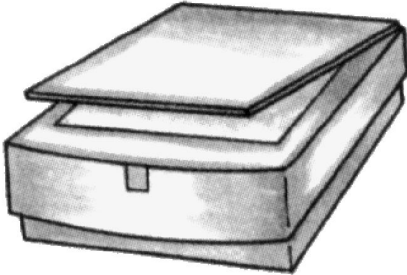
1 Shown is the incomplete elevation, incomplete plan and end view of a set of **steps**. **Insert** the lines omitted in the elevation and in the plan.



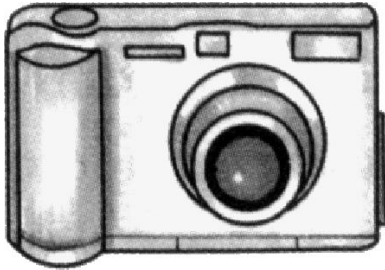
2 Make a freehand pictorial sketch of the picnic table in the space provided. Apply shading to the sketch.



3 Identify the computer related components shown at **A** and **B**



A

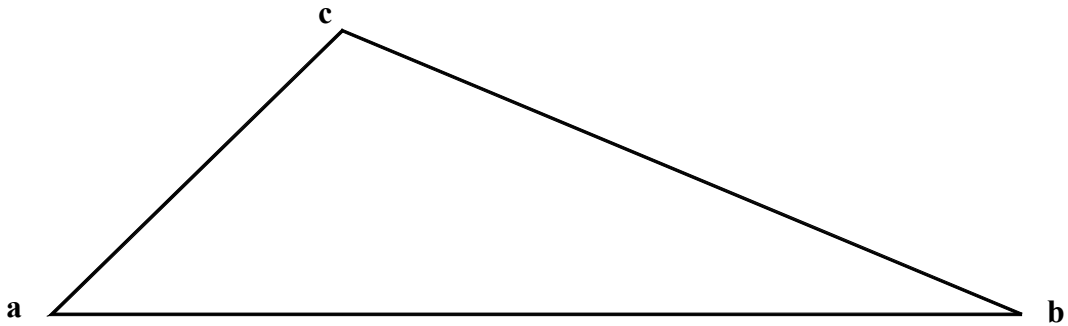


B

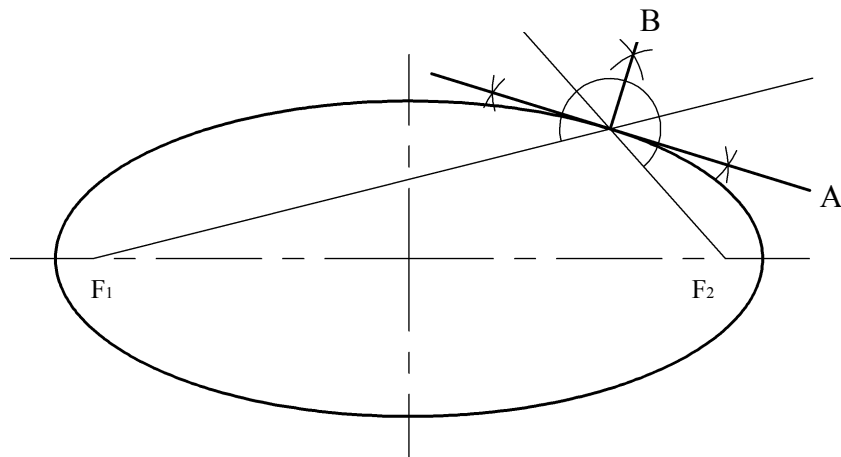
A _____

B _____

- 4 Convert the triangle **abc** to a **rectangle** of equal area.



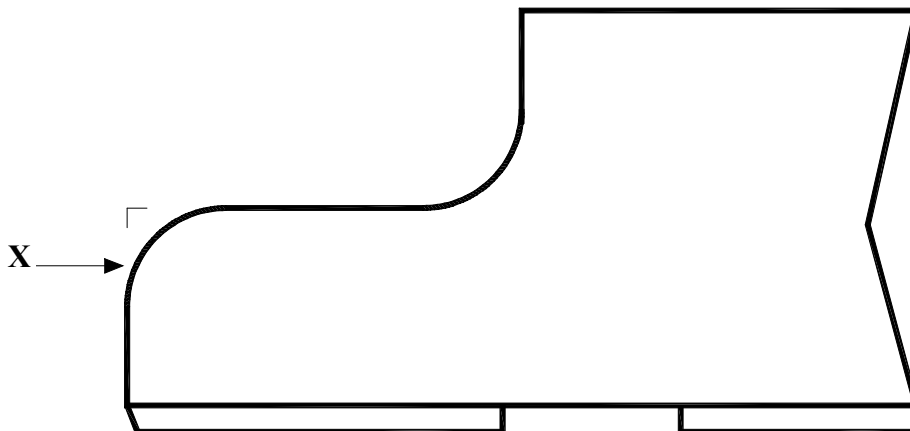
- 5 Shown is an ellipse. Name the lines labelled A and B.



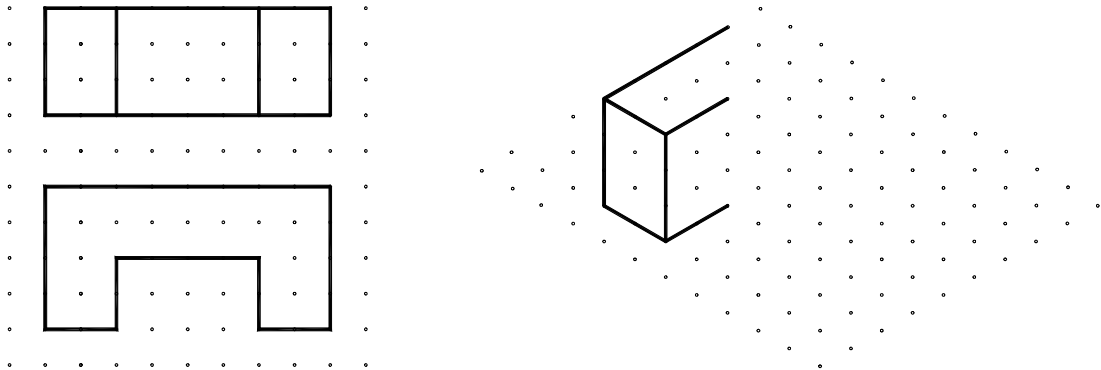
A _____

B _____

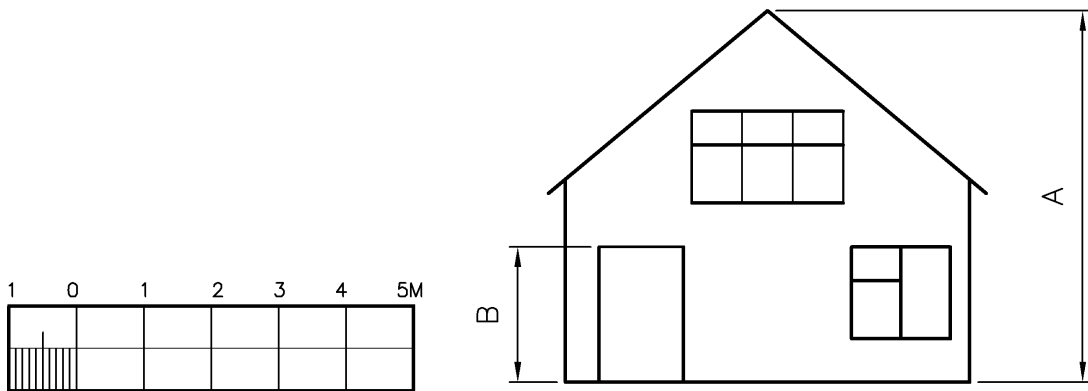
- 6 The figure shows the outline of a boot.
Show clearly how to locate the centre of the arc **X**, which has a radius of 15 mm.



7 The elevation and plan of a **paving block** are shown.
Complete the isometric view of the paving block on the grid provided.



8 Using the scale provided, measure and record the dimensions A and B.



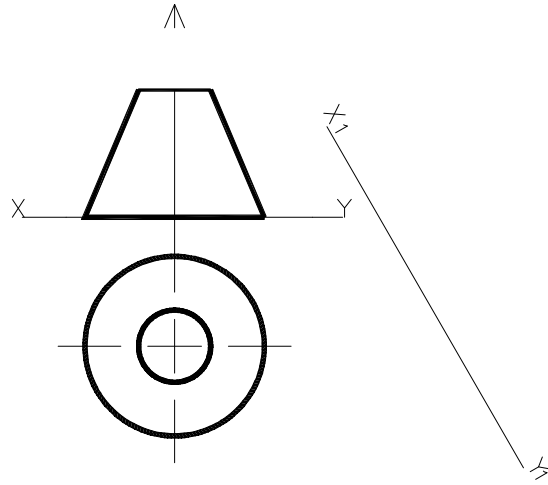
A Metres. B Metres.

9 Determine the number of hexagonal paving slabs which are required to pave the path as shown.

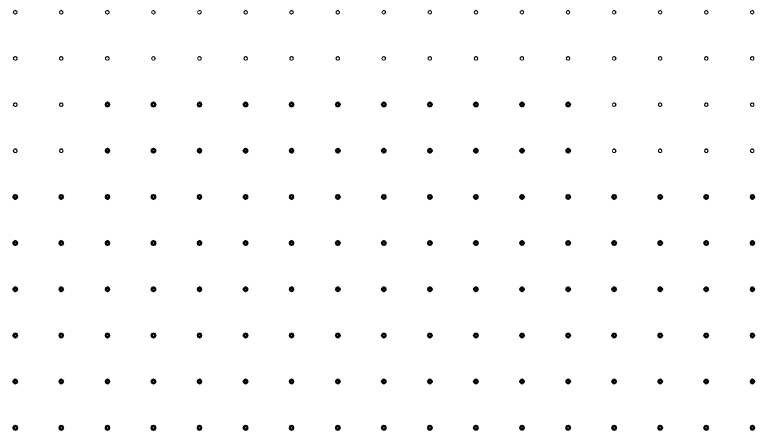
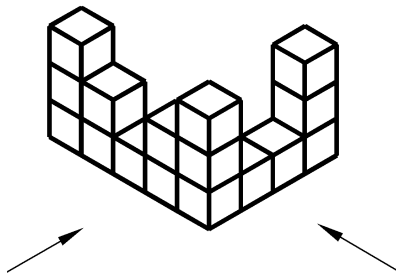


Answer:- _____

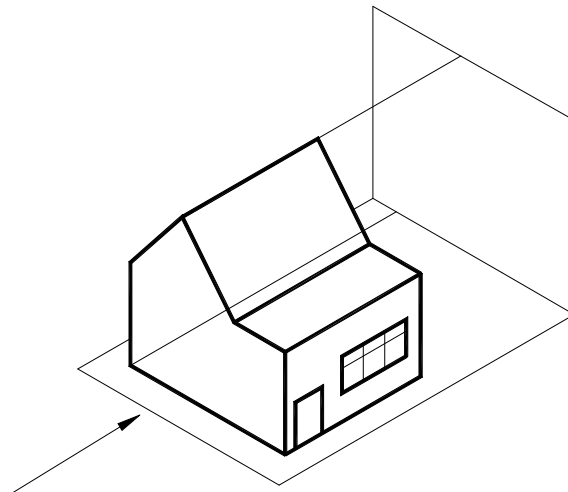
- 10** The elevation and plan of a lamp shade are shown.
Project an **auxiliary elevation** on the given $X_1 - Y_1$ line.



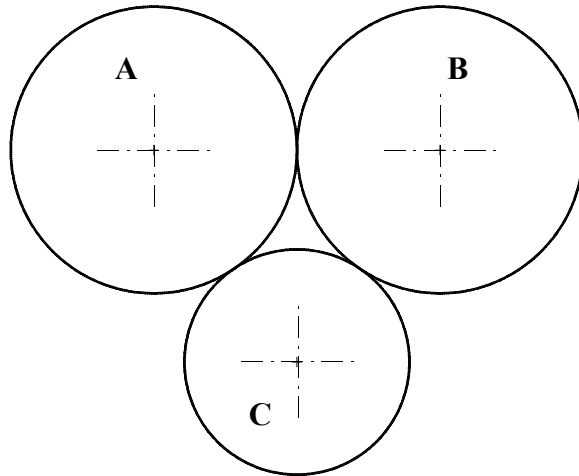
- 11** Using the grid provided, **sketch** the orthographic views indicated by the arrows.



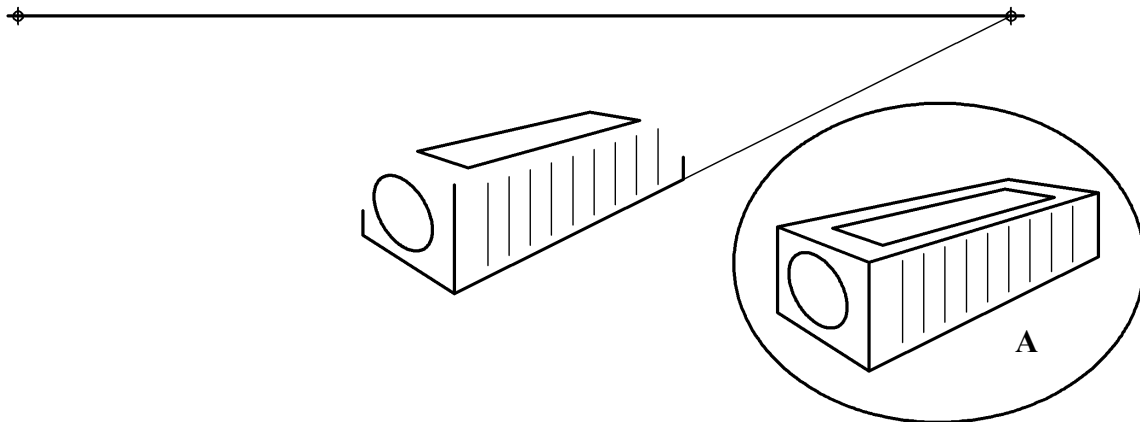
- 12** Sketch the **shadow** cast by the factory, when the light source is from the direction of the arrow.



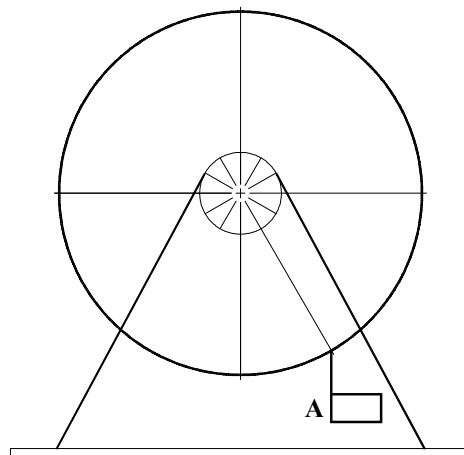
- 13** The diagram shows three coins in contact.
Locate the points of contact between the three coins, **A**, **B** and **C**.



- 14** The figure shows the incomplete two point perspective of a pencil sharpener.
 Complete the perspective similar to the view shown at **A**.



- 15** The figure shows a fairground Ferris wheel. The wheel rotates 60° **anticlockwise**.
 Draw the chair **A**, in the new position.



This booklet must be handed up at the end of the examination

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Junior Certificate Examination 2004

Technical Graphics
Ordinary Level
Section B (280 Marks)

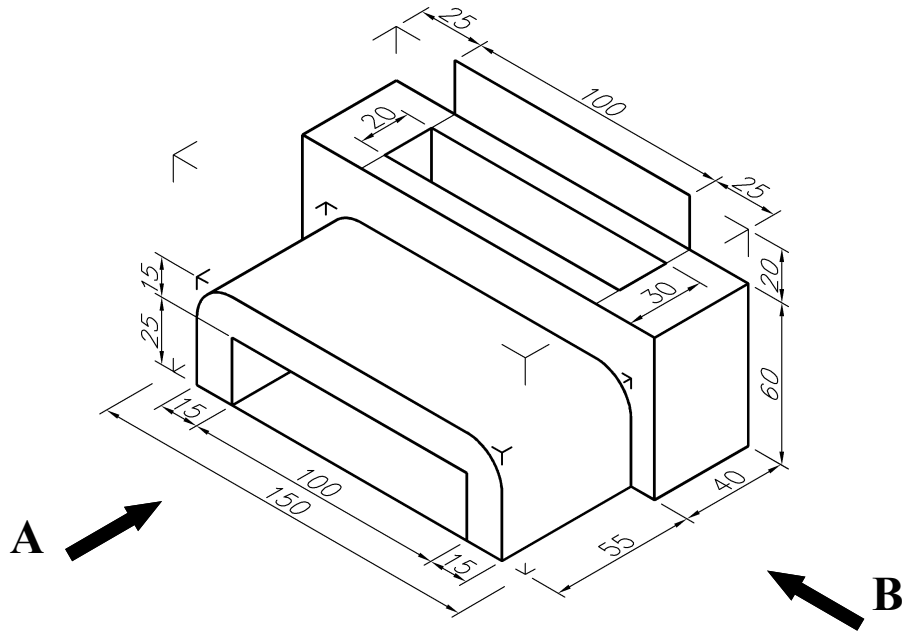
Monday 21 June
Afternoon, 2:00 to 4:30

Instructions

- (a) Answer any **four** questions. All questions carry equal marks.*
- (b) The number of the question must be distinctly marked by the side of each answer.*
- (c) Work on **one side** of the answer paper only.*
- (d) Write your examination number on each sheet of paper used.*

SECTION B: ANSWER ANY FOUR QUESTIONS

1

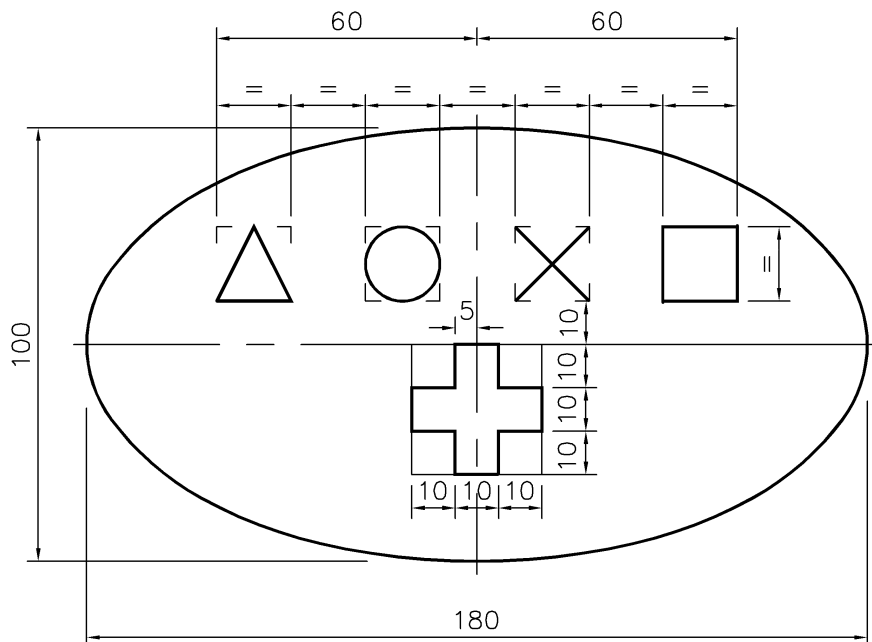


The figure shows the outline of a **printer**.

Draw the following views :

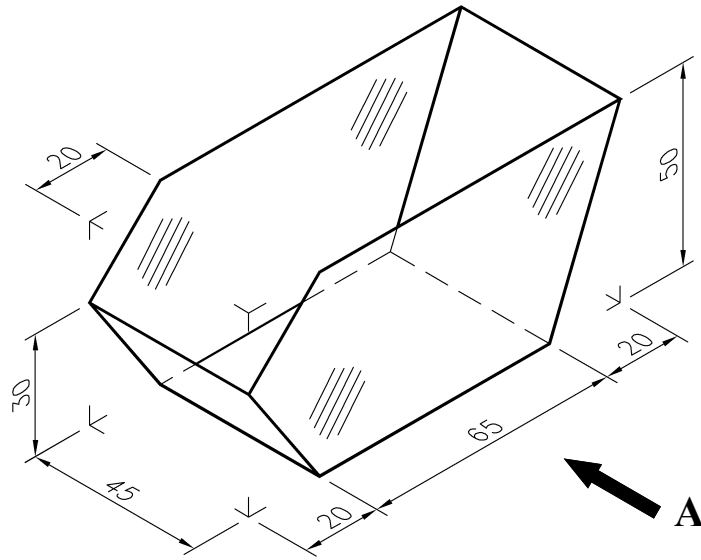
- (a) A front elevation looking in the direction of arrow **A**.
 - (b) An end elevation looking in the direction of arrow **B**.
 - (c) A plan projected from the front elevation.
- Insert any **FOUR** dimensions.

2



The figure shows the design of a **video game control pad** in the shape of an ellipse. The Major Axis is 180 mm and the Minor Axis 100 mm. Draw the given design showing clearly all construction lines.

3

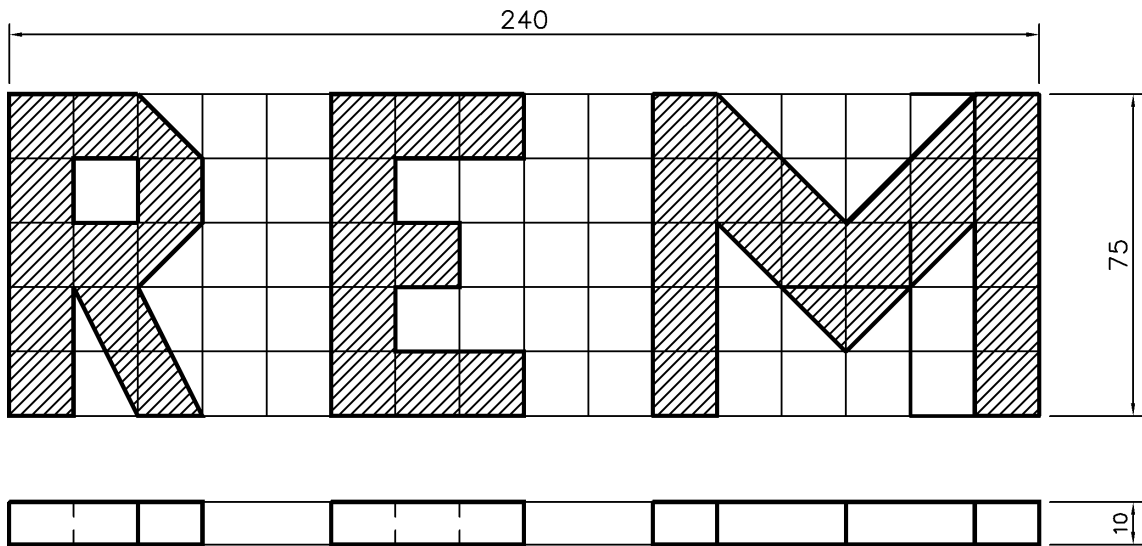


The figure shows the outline of a **sweet tray**.

Draw the following views :

- (a) A front elevation looking in the direction of arrow A.
- (b) A plan projected from the elevation.
- (c) The complete **surface development** of the sweet tray.

4



The figure shows the **LOGO** for the rock group **REM**.

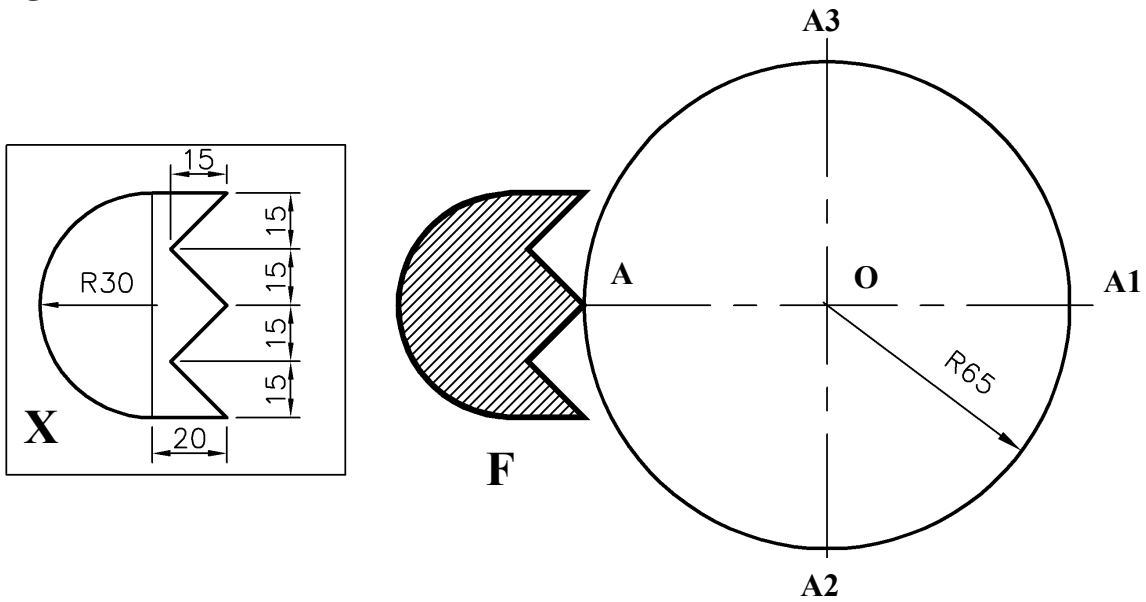
The grid is made up of 15mm squares.

Draw one of the following views :

- (a) An **isometric** view or (b) An **oblique** view of the logo.

Apply shading to the completed view.

5

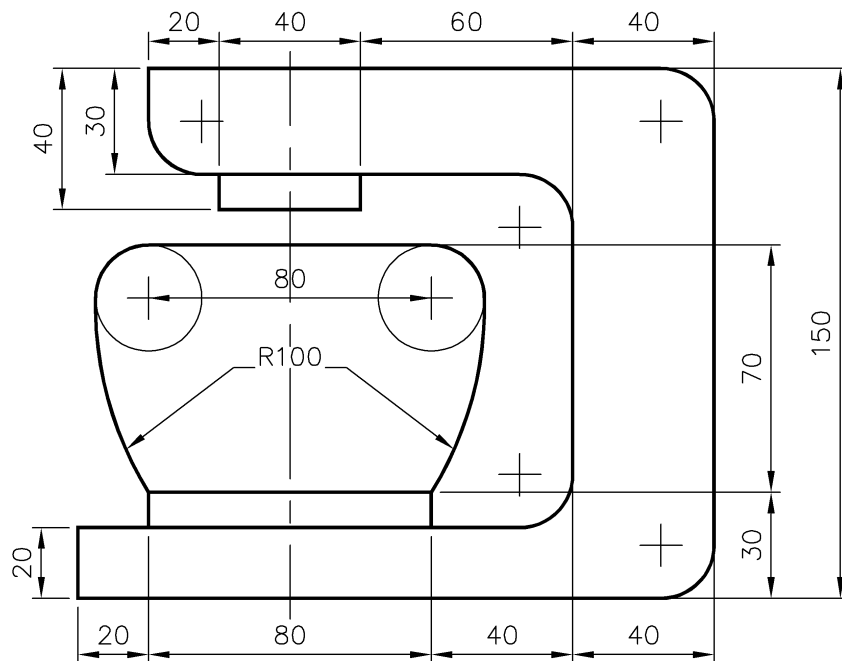


Using the dimensions at X, draw the given figure F and circle O as shown.
Index the points A1, A2, A3 and O as shown.

Find the image of the figure F under the following transformations :-

- (a) From point A to A1 by an **axial symmetry** in the line A2 — A3.
- (b) From point A1 to A2 by a **translation**.
- (c) From point A2 to A3 by a **central symmetry** in the point O.

6



A design for a **food mixer** is shown.

Reproduce the given design, showing clearly all constructions and points of contact.

All the small arcs have a radius of 15 mm.