Pre-Junior Certificate Examination, 2015

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.*

Name:

School:

Teacher:

School Stamp

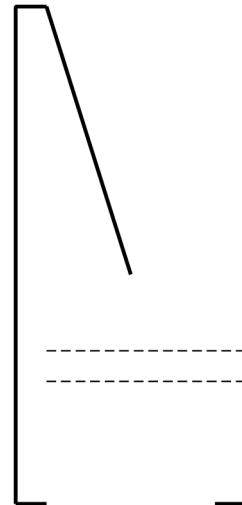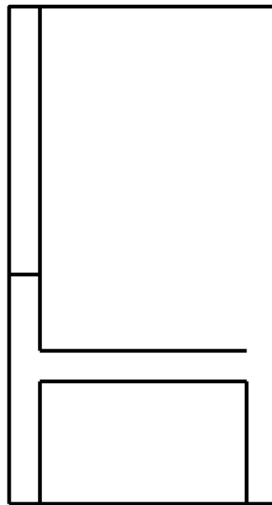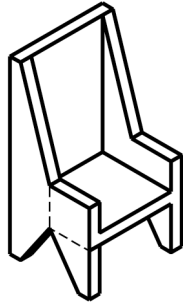| Question	Mark
Section A	
1	
2	
3	
4	
5	
6	
TOTAL	
GRADE	

SECTION A. Answer **any ten** questions. All questions carry equal marks.
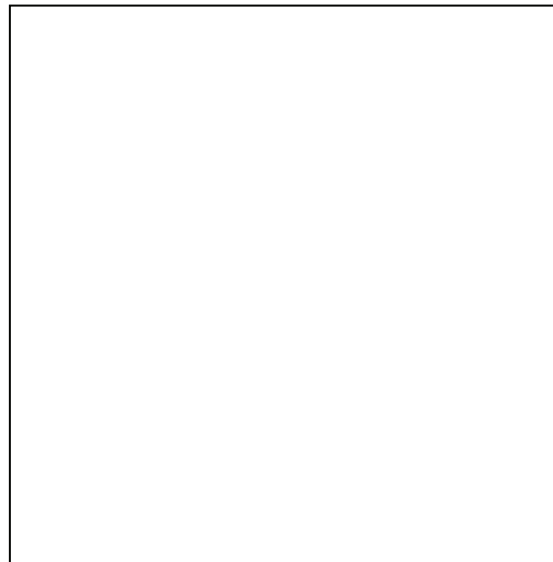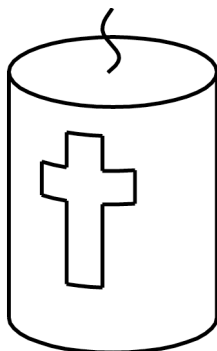
1. Shown is the **incomplete** elevation and **incomplete** end view of a concrete garden seat.

Also shown is a 3D graphic of the seat.

Insert the missing lines in both the elevation and the end view.

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

3. List **one** advantage and **one** disadvantage of a tablet device, as shown.

Advantage:
_____
_____

Disadvantage:
_____
_____

4. **Fig. 1** shows the design for a bell inscribed in a square **ABCD**.

Draw the enlarged design of the bell in the given square **ABCD** in **Fig. 2**.
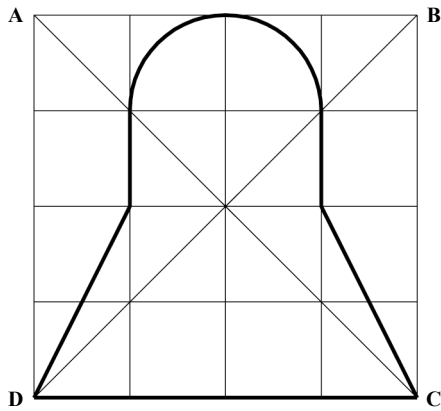
A   B

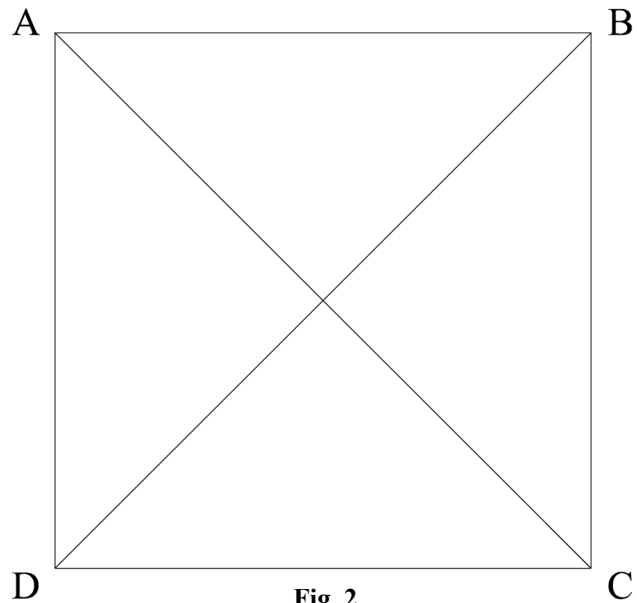Fig. 1

A   B

D   C

Fig. 2

5. **Fig. 1** shows the design for a mirror which is based on an ellipse.
The line **AB** is a tangent to the ellipse at **A**. Locate the focal points of the ellipse in **Fig. 2** and complete the sign by drawing the tangents **AB** and **BC**.
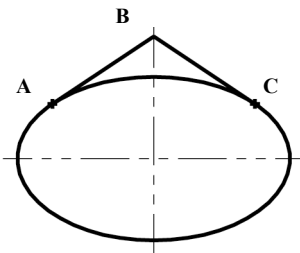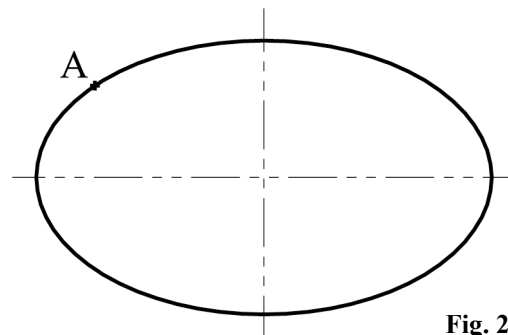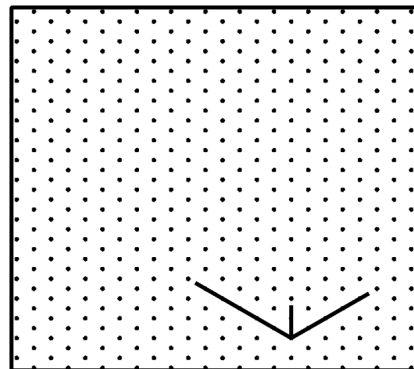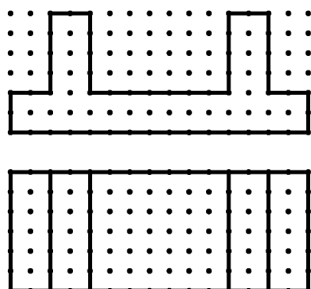
B

A   C

Fig. 1

A

Fig. 2

6. The elevation and plan of a bookstand for holding children's books are shown.

Make a well proportioned **freehand sketch** of the bookstand in the space provided.
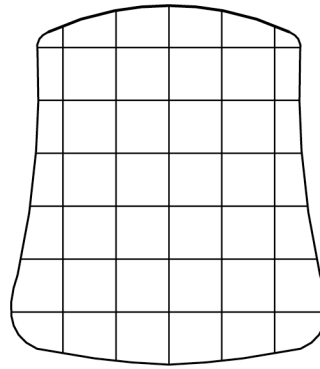
Colour **or** shade the completed sketch.

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7. The outline of a portion of an electric guitar is shown.

Also shown is a 3D graphic of a similar guitar.

Write down the area of the front surface of the guitar in square units.
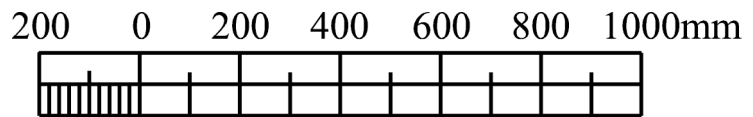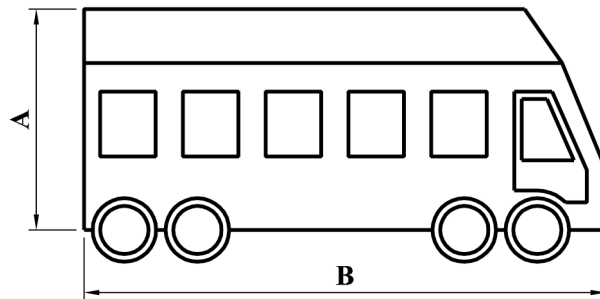
1 square = 1 square unit.
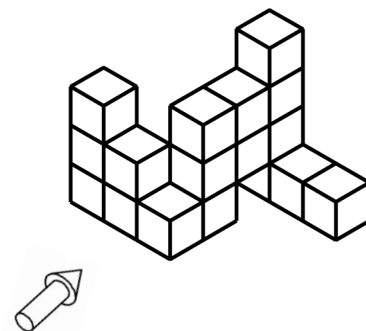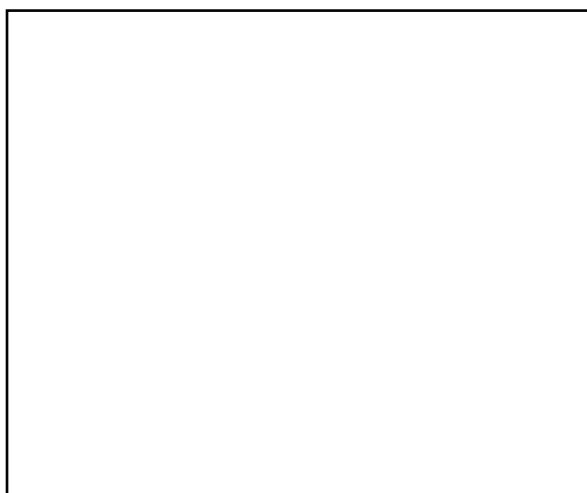
Area of guitar outline: _____ **square units**.

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

A: _____

B: _____

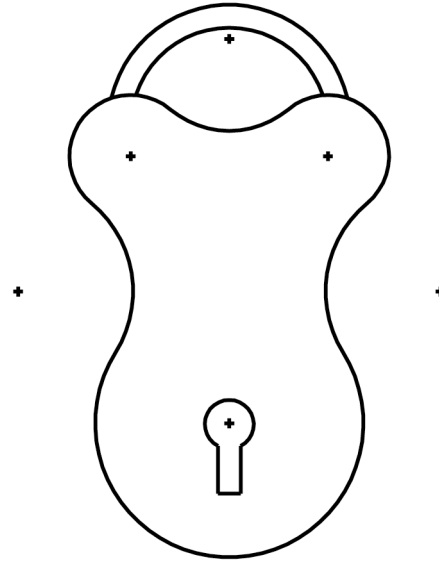200   0   200   400   600   800   1000mm

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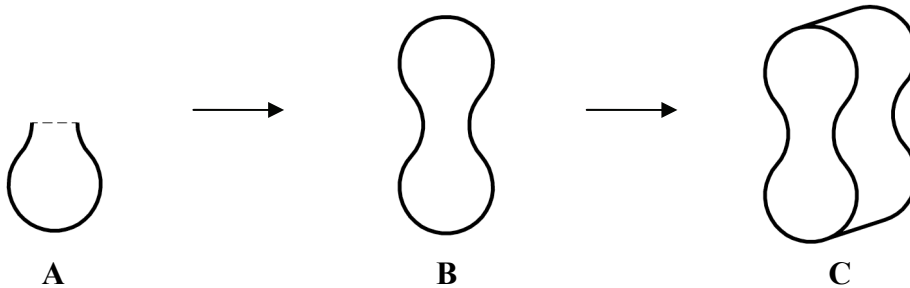
10. The figure shows the outline of a padlock.

The centres of the arcs are shown.

Show clearly all points of contact between the arcs.

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. The figure shows the letter E.

Draw the **shadow** cast by the letter E shown in **Fig. 1** when the light source is parallel to the direction of the arrow.
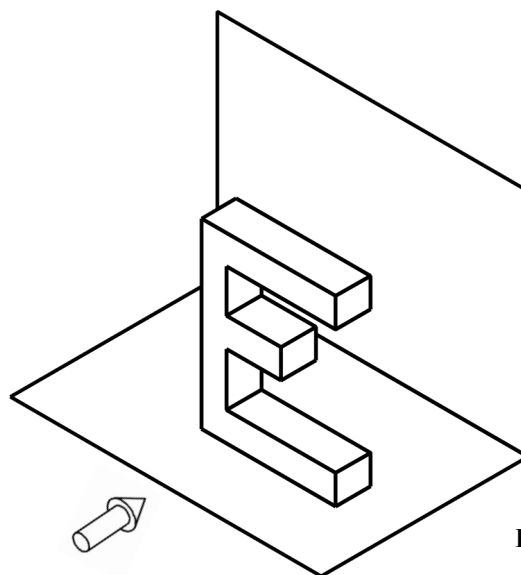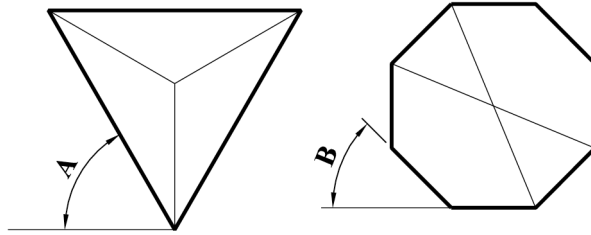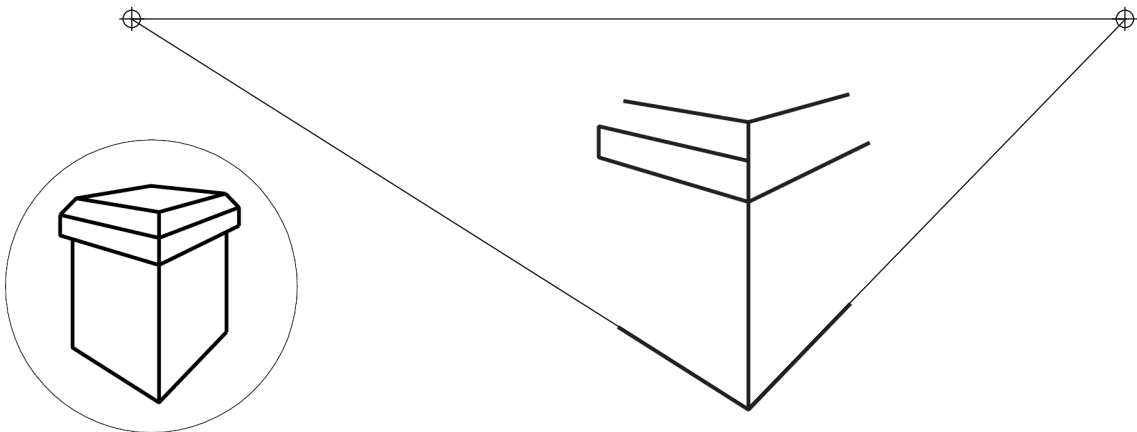
Fig. 1

13. The outlines of two road-signs are shown.
Write down the value of the angles **A** and **B**.

A

B
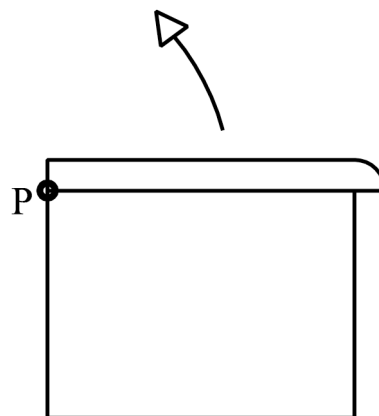
A = _____   B = _____

14. The figure shows an **incomplete** two point perspective drawing of a pier for a set of gates. A small 3D graphic of the pier is also shown.
Complete the perspective drawing of the pier.

15. The diagram shows the end elevation of a storage container with a rotating lid.

Rotate the lid in the direction of the arrow through 45º about the point **P** and complete the drawing of the lid in the rotated position.

P

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