



Coimisiún na Scrúduithe Stáit
State Examinations Commission

Junior Certificate Examination, 2011

Technical Graphics
Higher Level

Section A

(120 marks)

Monday, 20 June
Morning 9:30 - 12:30

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:

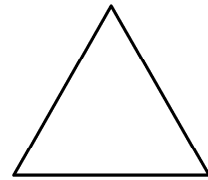
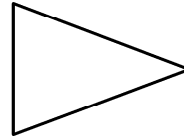
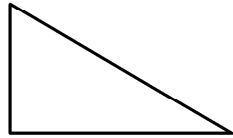
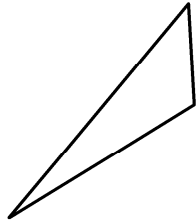
Centre Number

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

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

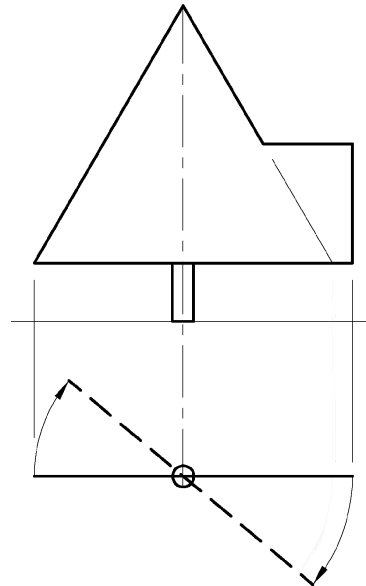
1 Fill in the label for **each** diagram by selecting from the given list.

- Isosceles
- Equilateral
- Right-angled
- Scalene

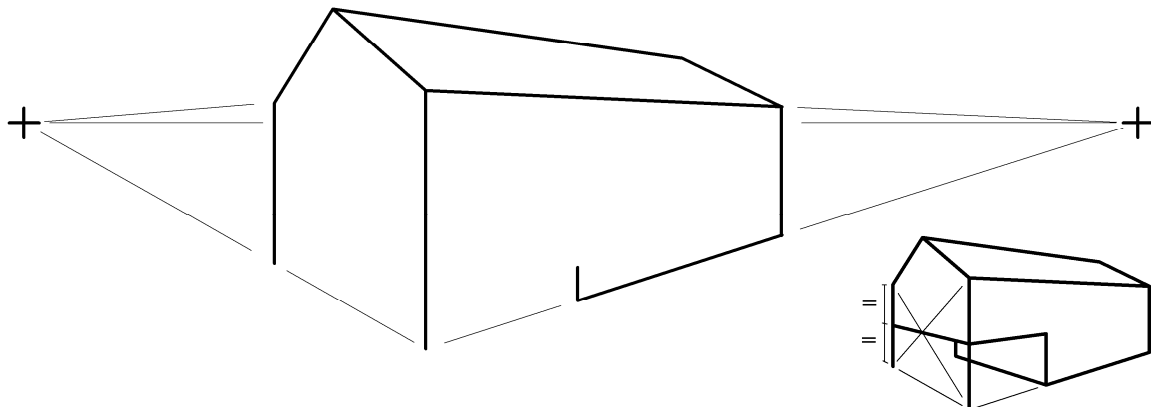


1. _____ 2. _____ 3. _____ 4. _____

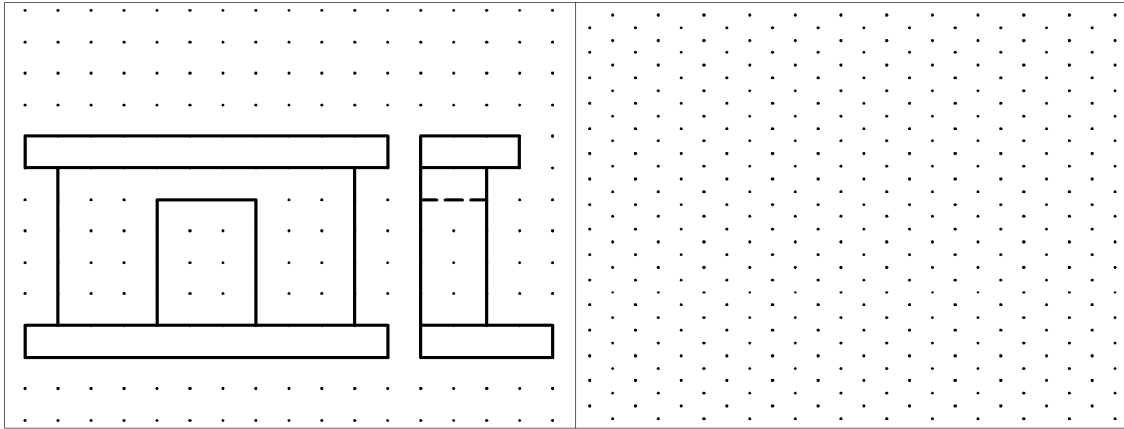
2 Complete the elevation of the given sign in its rotated position, as shown by the broken line in plan.



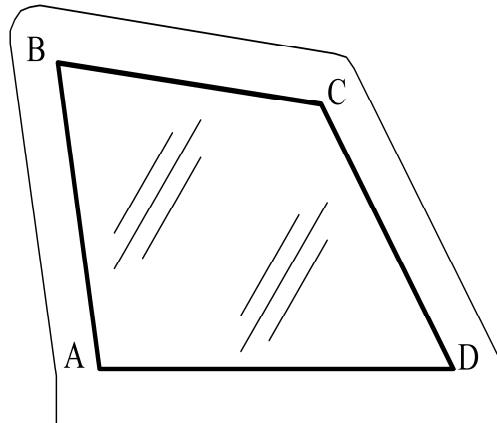
3 The figure shows the incomplete perspective drawing of a building. A small 3D graphic is also shown. Complete the perspective drawing.



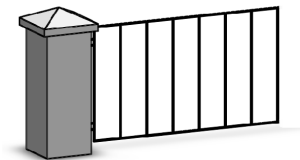
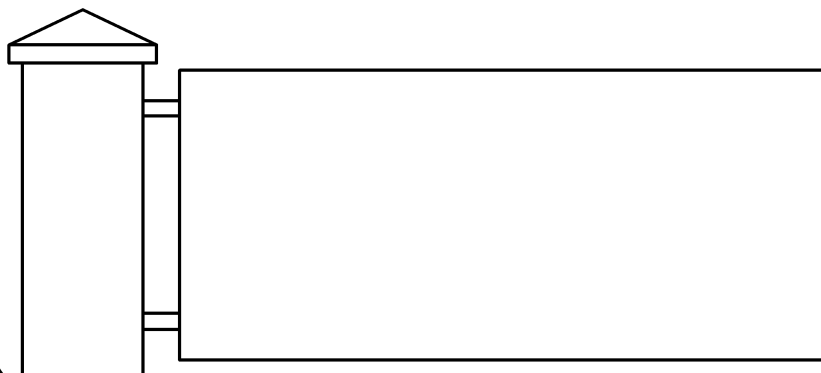
- 4 The elevation and end view of a fireplace are shown on the square grid. Make a pictorial sketch of the fireplace. Colour **or** shade the completed sketch.



- 5 The figure shows the outline of a car door and a window **ABCD**. Draw a triangular window equal in area to the quadrilateral window **ABCD** having a vertex of the triangle at **B**.

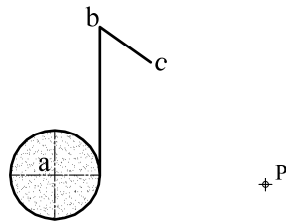


- 6 A gate with seven panels of equal width is shown in the 3D graphic. Complete the elevation of the gate showing clearly how to determine the width of the panels.



7 The figure shows a logo for a music shop. The logo is not complete.

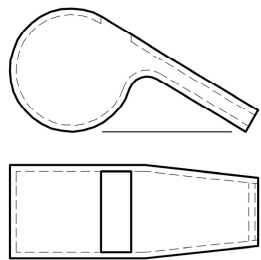
Complete the logo by constructing an image of the figure **abc** under a central symmetry in the point **P**.



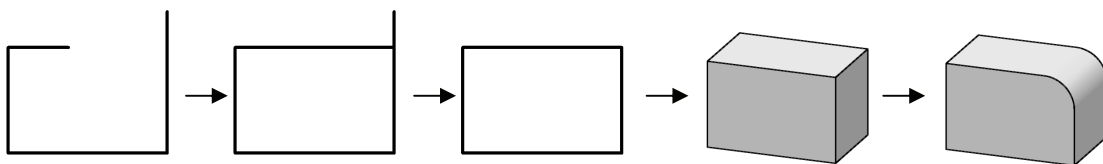
8 The elevation and plan of a whistle are shown.

In the space provided, draw a **freehand pictorial sketch** of the whistle.

Colour **or** shade the sketch.



9 Write down **any three** CAD commands used to edit the figure shown in the sequence below.

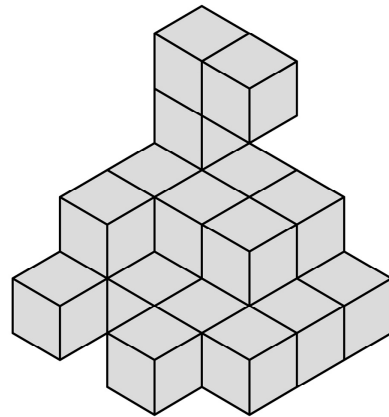


Any **three** CAD commands: _____

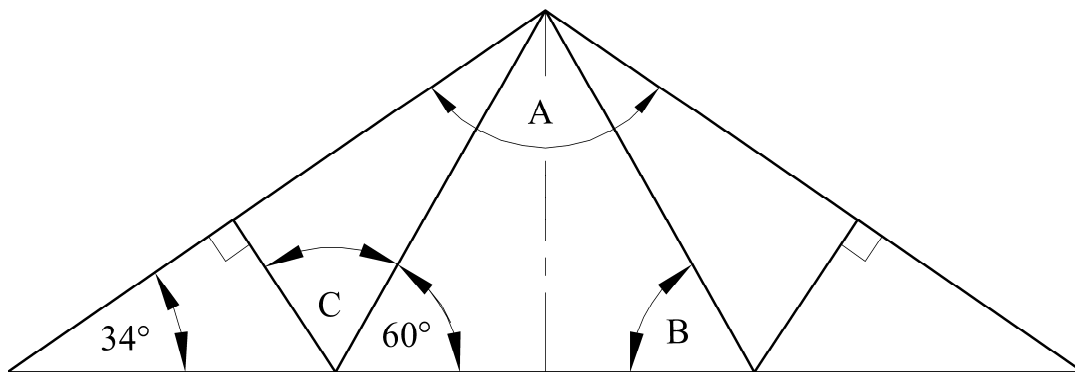
10 The figure shows a puzzle made from identical cubes.

Write down the number of cubes in this puzzle.

There are _____ cubes in this puzzle.



11 Write down the measure of the angles marked **A**, **B** and **C**.

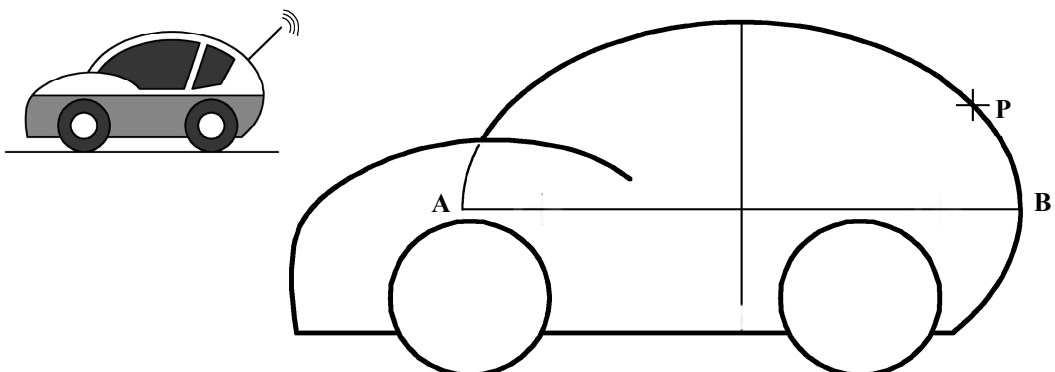


A = _____

B = _____

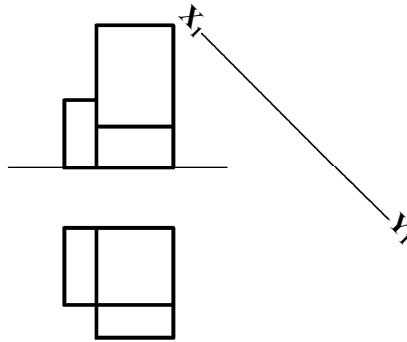
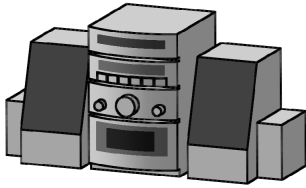
C = _____

12 The figure shows the design of a remote control car. Also shown is a small graphic of the car and aerial. **AB** is the major axis of the ellipse and the aerial is a normal to the ellipse at **P**. Determine the focal points of the ellipse and draw the aerial at **P**.

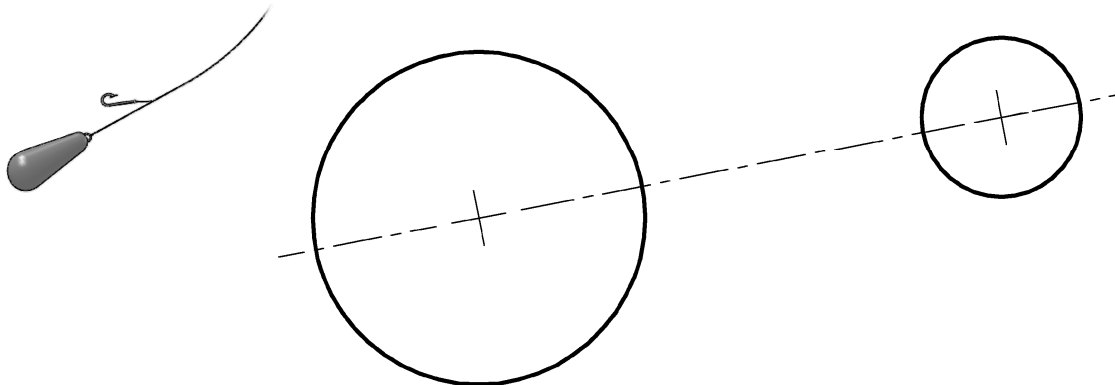


13 The figure shows the elevation and plan of a speaker for an audio system. A 3D graphic of the system is also shown.

Project an auxiliary elevation of the speaker on the X_1Y_1 line shown.



14 The figure shows the incomplete outline of a fishing weight. Also shown is a 3D graphic of the weight. Complete the drawing of the weight by drawing two tangential lines.

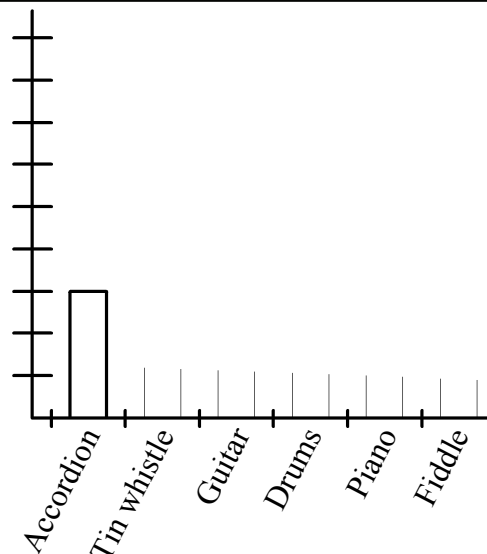


15 Thirty students were surveyed about the musical instruments they play. The following are the results of the survey:

- Accordion - 3 students
- Tin whistle - 5 students
- Guitar - 8 students
- Drums - 6 students
- Piano - 6 students
- Fiddle - 2 students.

Complete the bar chart to represent this information graphically.

Colour or shade the completed chart.



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