



Coimisiún na Scrúduithe Stáit
State Examinations Commission

Junior Certificate Examination, 2014

Technical Graphics
Higher Level

Section A

(120 marks)

Monday, 16 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:

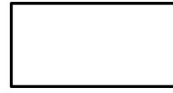
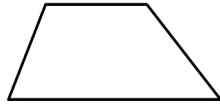
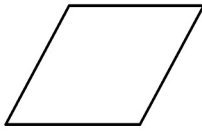
Centre Number

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.

- Trapezium
- Rhombus
- Parallelogram
- Rectangle



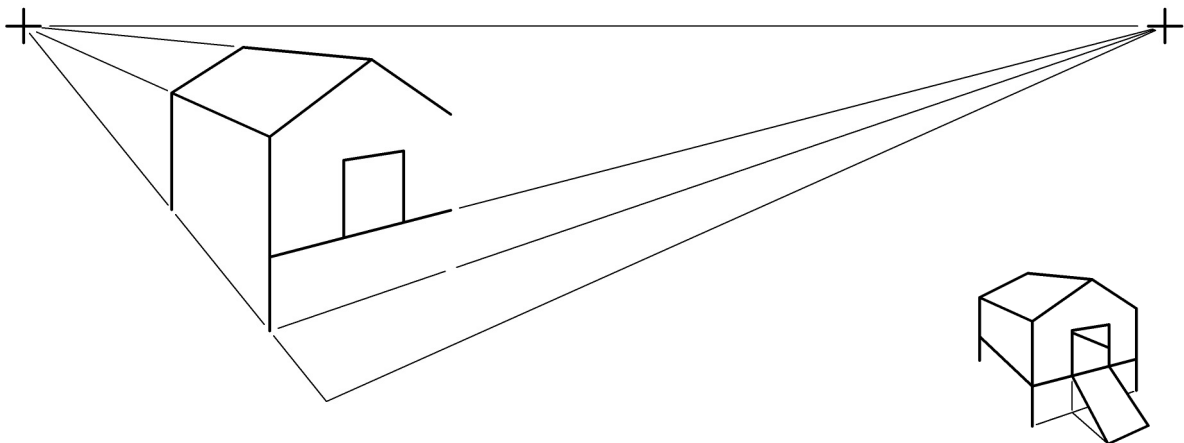
1. _____

2. _____

3. _____

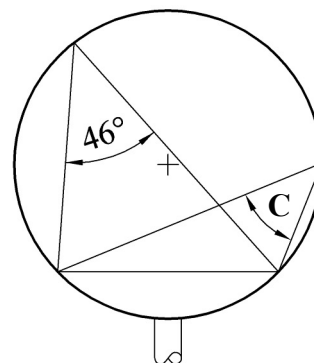
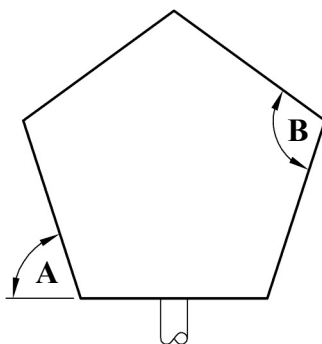
4. _____

2. The figure shows the incomplete perspective drawing of a chicken coop. A 3D graphic is also shown. Complete the perspective drawing.



3. Write down the measures of the angles marked **A**, **B** and **C**.

Regular pentagon

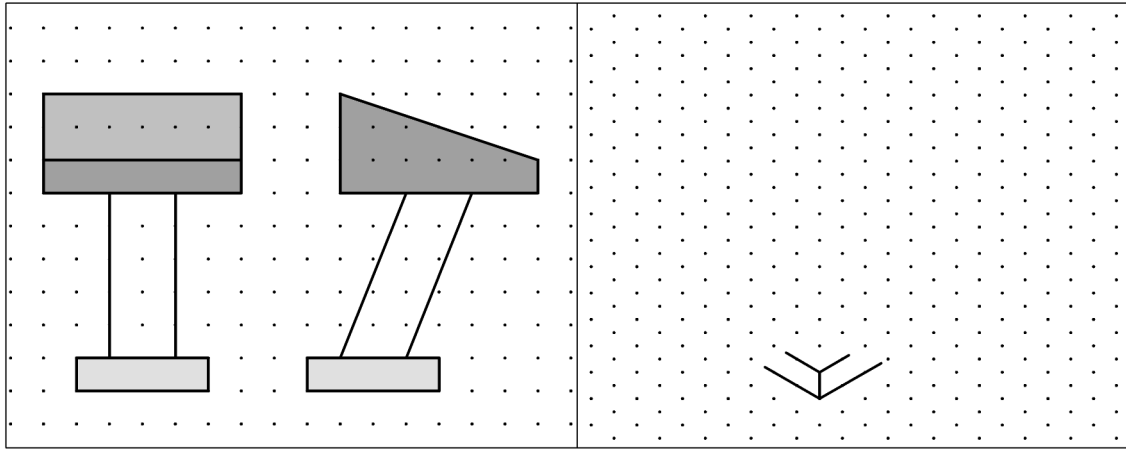


A = _____

B = _____

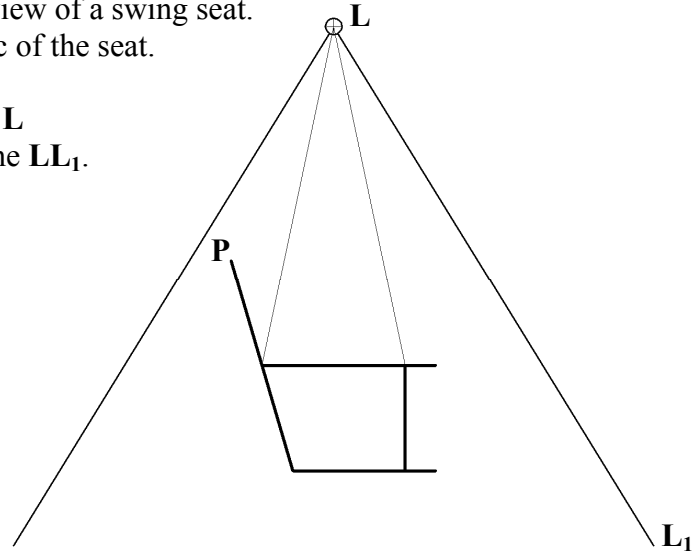
C = _____

4. The projections of a swimmer's starting block are shown on the square grid. Make a **freehand pictorial sketch** of the starting block. Colour or shade the sketch.



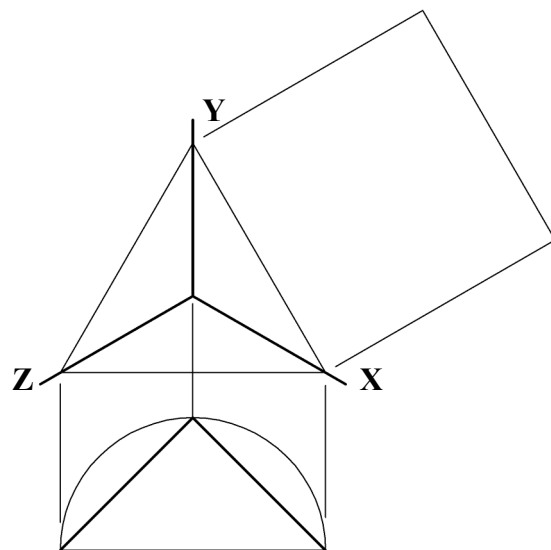
5. The figure shows the end view of a swing seat. Also shown is a 3D graphic of the seat.

Rotate the seat about point **L** until point **P** reaches the line **LL₁**.



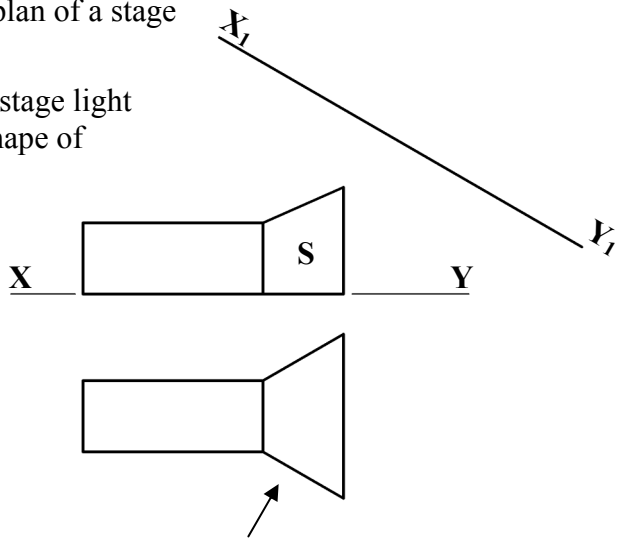
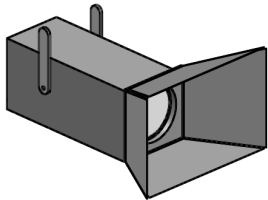
6. The figure shows the axonometric axes required to draw an isometric view. Also shown is the position of the plan.

Complete the construction to show the position of the elevation.



7. The figure shows the elevation and plan of a stage light. A 3D graphic is also shown.

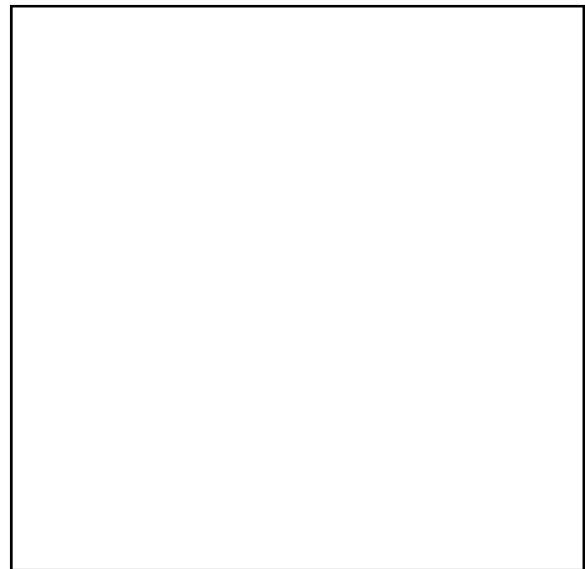
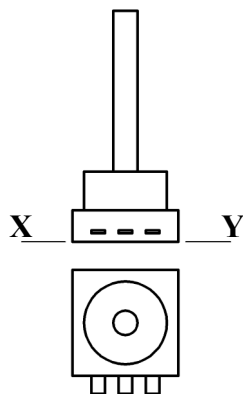
Project an auxiliary elevation of the stage light on the line X_1-Y_1 to show the true shape of the surface S.



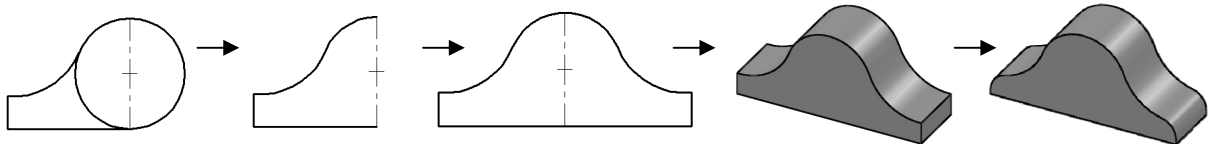
8. The elevation and plan of an electronic component are shown.

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

Colour **or** shade the sketch.

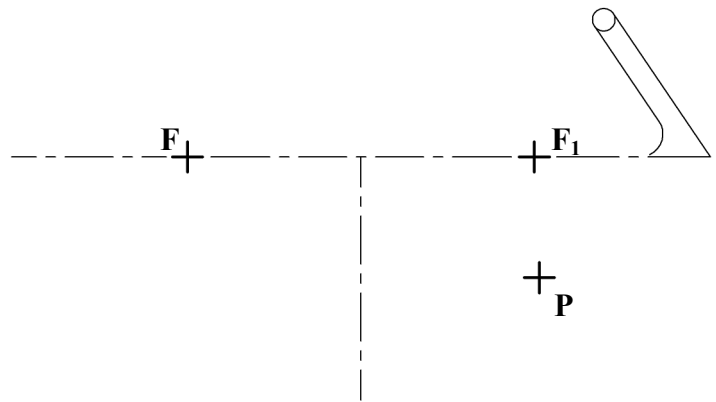
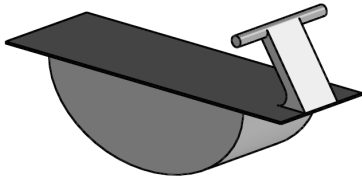


9. Write down **any three** CAD commands used to edit the clock-case as shown in the sequence below.



Any **three** CAD commands: _____

- 10.** The 3D graphic shows a child's rocker. The base of the rocker is a semi-ellipse. The figure shows the location of the axes and focal points of the semi-ellipse. **P** is a point on the curve. Determine the lengths of the major and minor axes and draw the semi-ellipse.



- 11.** **Fig. 1** shows a design for an alloy wheel. **Fig. 2** shows the outline an identical wheel. Determine the centre of the wheel in **Fig. 2**.

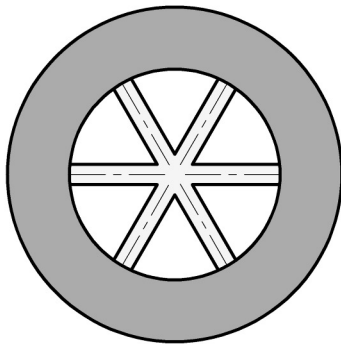


Fig. 1

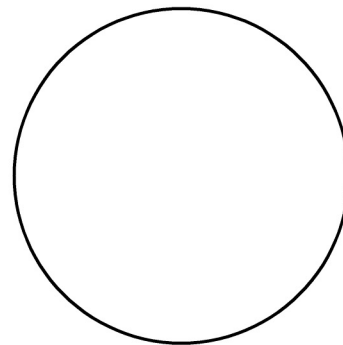
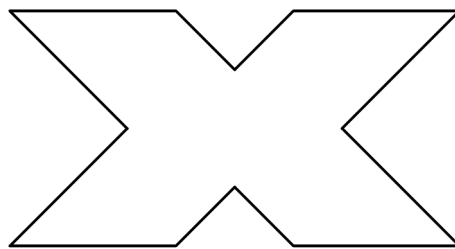
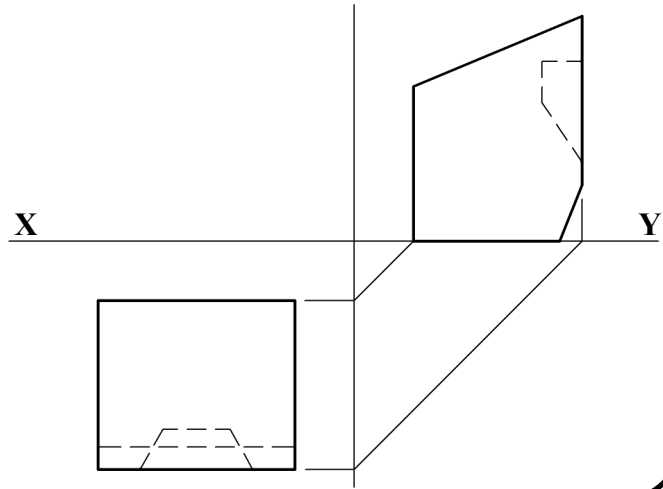
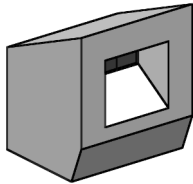


Fig. 2

- 12.** Draw **two** axes of symmetry on the figure shown.



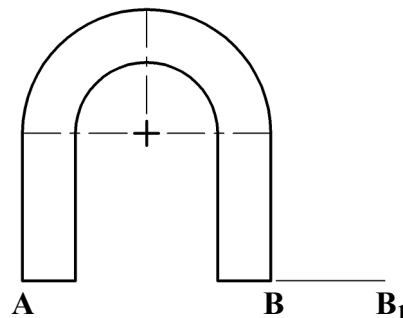
- 13.** The figure shows the plan and end view of a clothes bank. A 3D graphic of the clothes bank is also shown. Project the elevation of the clothes bank.



- 14.** The figure shows the outline of a magnet.

Draw a new magnet similar to the given magnet, with length AB increased to AB_1 .

Colour **or** shade the new magnet.



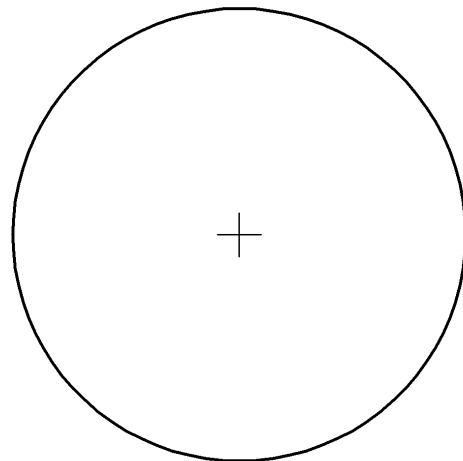
- 15.** A 3rd year student was asked to present her daily routine for a typical school day.

The result was as follows:

Sleep/Rest	-	12 hours
School	-	6 hours
Study	-	4 hours
Leisure	-	2 hours

Divide the given circle to represent this information graphically as a pie chart.

Colour **or** shade the completed pie chart.



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