Coimisiún na Scrúduithe Stáit
State Examinations Commission

Junior Cycle Final Examination 2025

Graphics

Common Level

Tuesday 10 June Morning 9:30 - 11:30

280 marks

Examination Number

Date of Birth / /

For example, 3rd February 2005 is entered as 03 02 05

Centre Stamp

Question	Mark
1	
2	
3	
4	
5	
Paper Total	
Student Project	
Grand Total	
Grade	

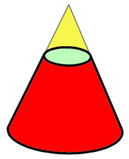
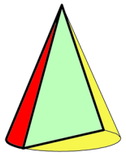
General Instructions:

- Answer all questions
- All constructions must be clearly shown
- All measurements are in millimetres
- The graphics presented are not necessarily drawn to scale
- Complete your answers in the spaces provided in this booklet
- When using a T-square, you may mount the back cover of this booklet to your drawing board or desk, using tape
- There is space for extra work at the end of the booklet
  Label any such extra work clearly with the question number and part
- This booklet must be handed up at the end of the examination.

1. **(a)** The table below shows five terms associated with the cone.

Complete the table by matching each term with the correct letter.

The first term is completed for you.

A		**GENERATOR**	**E**
B		**PARABOLA**	
C		**ELLIPSE**	
D		**CIRCLE**	
E		**TRIANGLE**	

(b) Using a ✓ indicate whether each of these statements is **true** or **false**.

		True	False
(i)	The elevation of a right cone appears as a circle.	☐	☐
(ii)	The plan of a right cone appears as an ellipse.	☐	☐
(iii)	The axis of a right cone is perpendicular to its base.	☐	☐

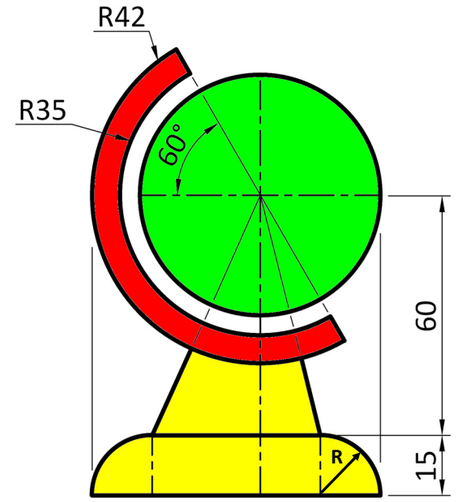
(c) The image on the right shows a design for a globe.

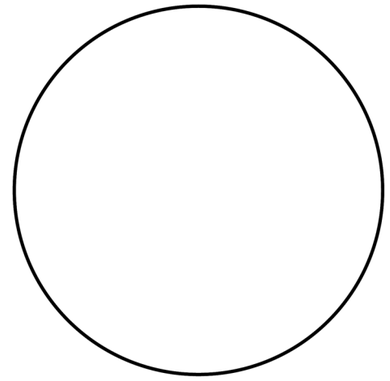
Complete the globe design below by:

(i) Locating the centre of the circle.

(ii) Completing the drawing as shown in the image on the right.

Show all constructions clearly.





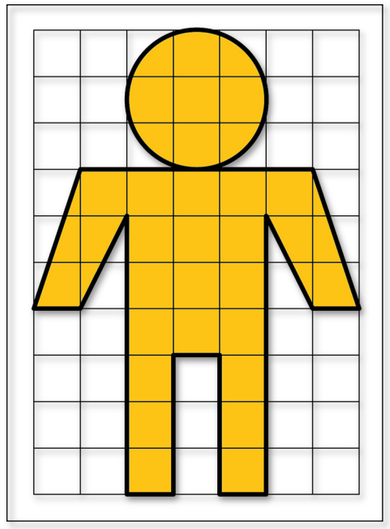
2.

(a) The outline of a Google Street View symbol is shown.

Write down the approximate area of the symbol in square units.

1 square = 1 square unit.

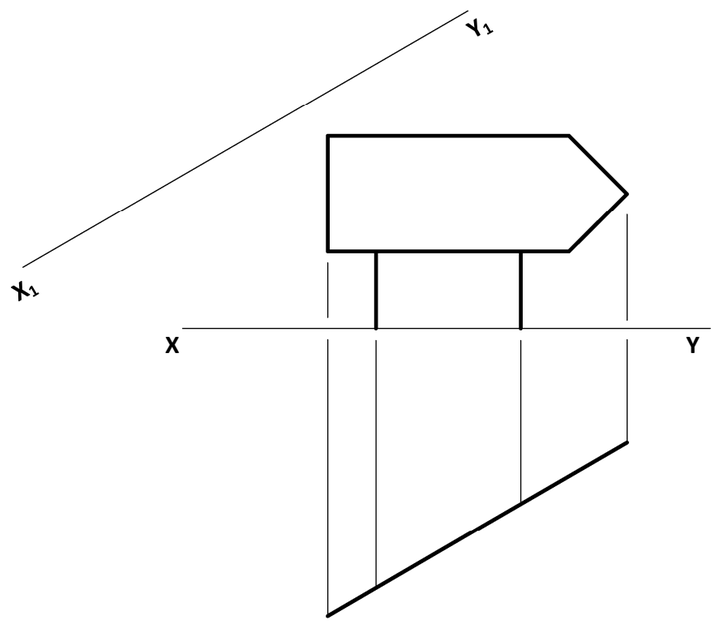
Area of the symbol = ☐ **square units**.



(b) The image on the right shows a sign for a campsite.

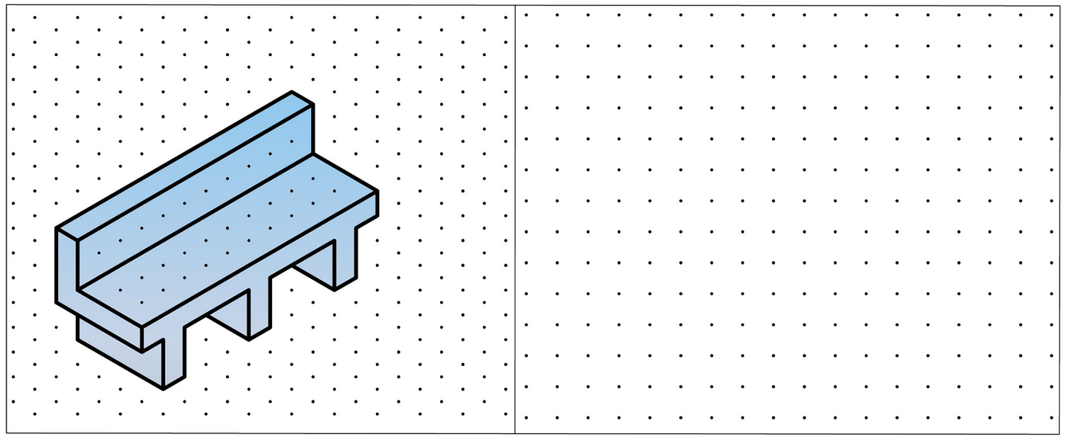
Shown below is an outline elevation and plan of a similar sign.

Project an auxiliary elevation on the line X_1-Y_1 to show the true shape of the campsite sign.



(c) The pictorial view of a park bench is shown below on an isometric grid.

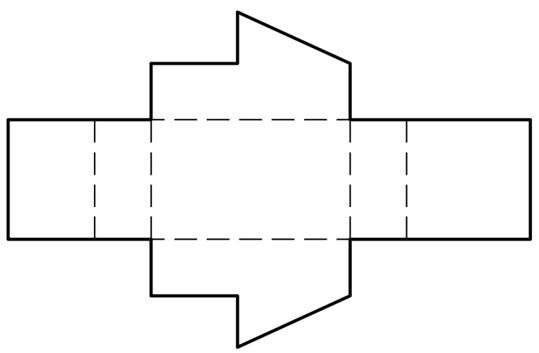
In the square grid provided make a **freehand sketch** of the elevation **and** plan of the bench.

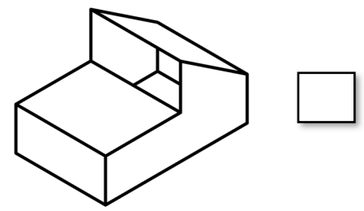


(d) Shown below is the development of a travel kennel for a pet.

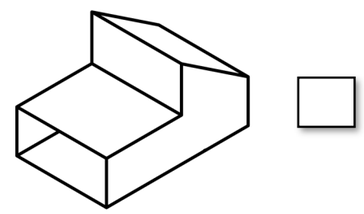
Three images of different kennels before development are shown on the right.

From the images on the right, use a ✓ to indicate the correct match for the development shown below.

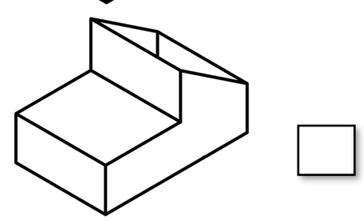




☐



☐

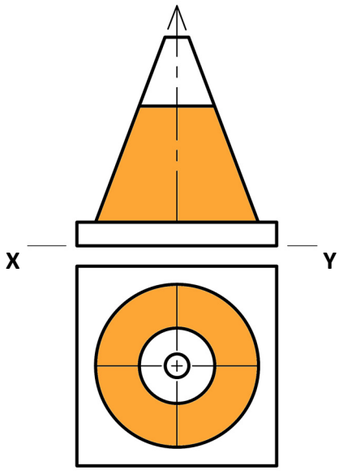


☐

3. **(a)** The elevation and plan of a traffic cone are shown below.

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

Colour **or** shade the sketch.

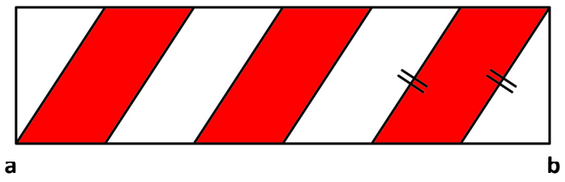


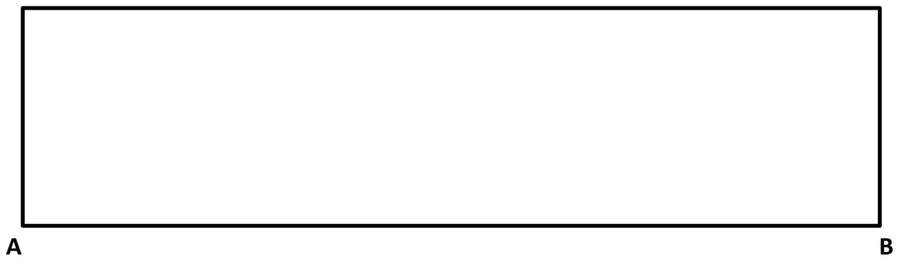
(b) Shown on the right is a road sign.

The outline of a similar sign is shown below.

Divide **AB** into six equal parts, and complete the drawing of the road sign below.

Colour **or** shade the completed drawing.



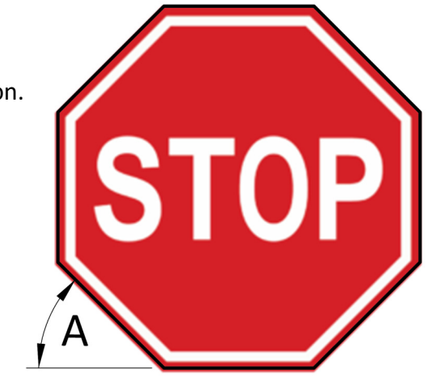


(c) Shown on the right is a stop sign.

The outline of the stop sign is based on a regular polygon.

(i) Name the polygon.

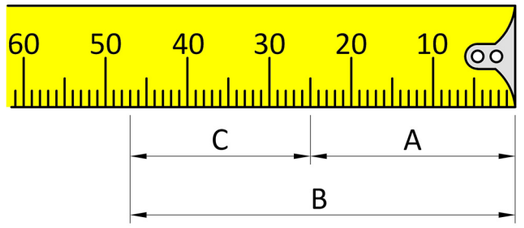
(ii) Write down the measure of angle **A**.



(d) The image on the right shows a measuring tape.

Shown below are three measurements **A**, **B**, and **C** marked on the tape.

In the spaces provided write down the measurements of **A**, **B**, and **C**.



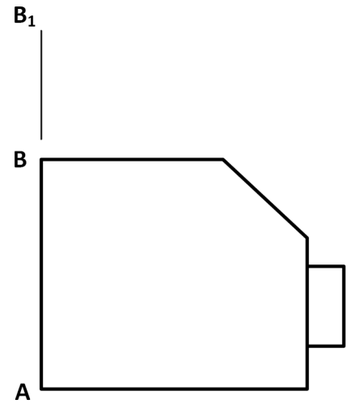
A =

B =

C =

(e) Shown below is the outline elevation of a similar measuring tape.

Draw a new tape similar to the given tape with height **AB** increased to $\mathbf{AB_1}$.



(f) The image below shows the design of a road roller.

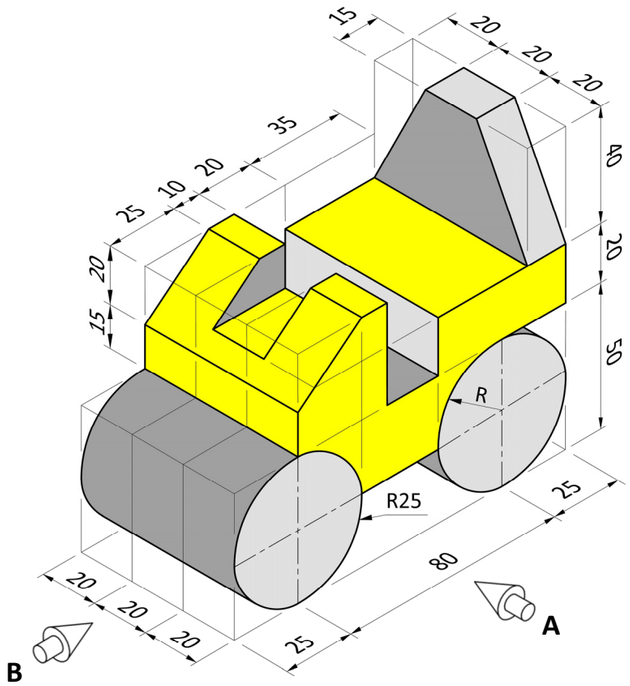
Draw:

(i) An elevation in the direction of arrow **A**.

(ii) A plan projected from the elevation.

(iii) An end view in the direction of arrow **B**.

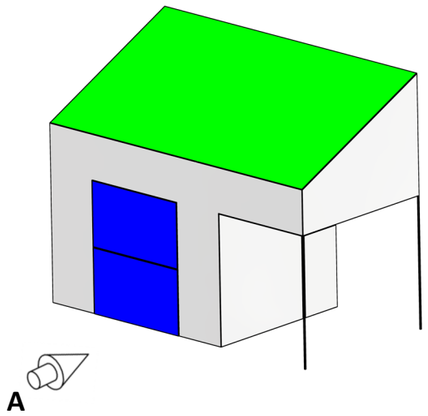
(iv) In elevation, colour **or** shade the surface which is **not** a true shape.



4. A company sells a range of educational toys for children.

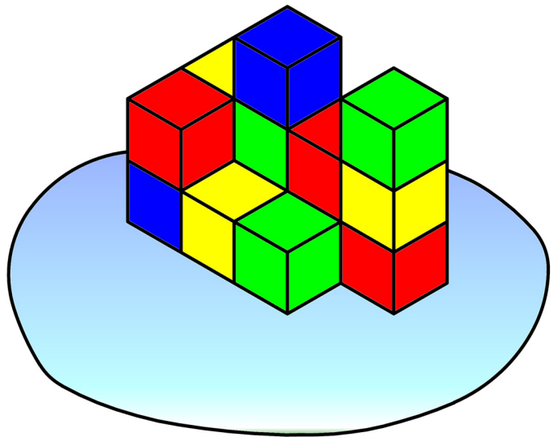
(a) Shown below is a toy garage.

In the space provided, draw a well proportioned **freehand** sketch of the **elevation** of the garage looking in the direction of arrow **A**.



(b) Shown below is a stack of building blocks for a child.

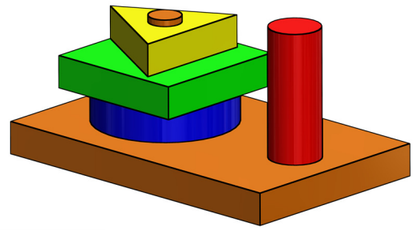
In the space provided, write down the number of blocks in the stack.

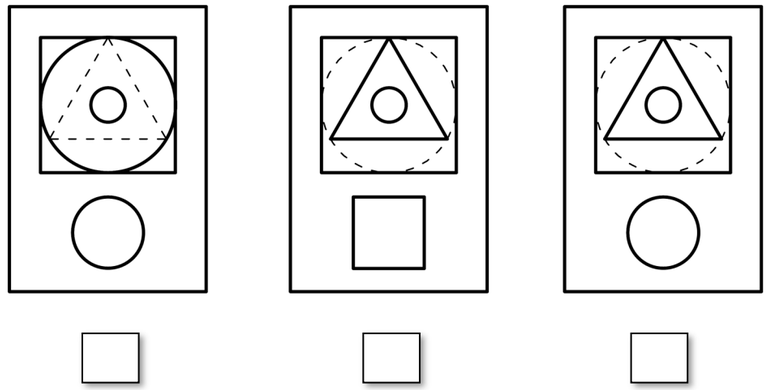


Number of blocks:

(c) A 3D image of a stacking puzzle is shown across.
Shown below are plan views of similar puzzles.

Use a ✓ to indicate which **one** of the plans below matches the 3D image given.





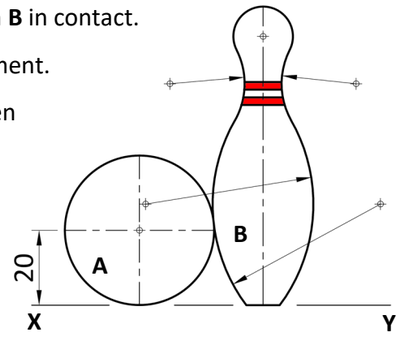
(d) Shown on the right is the elevation of a bowling ball **A** and a pin **B** in contact.

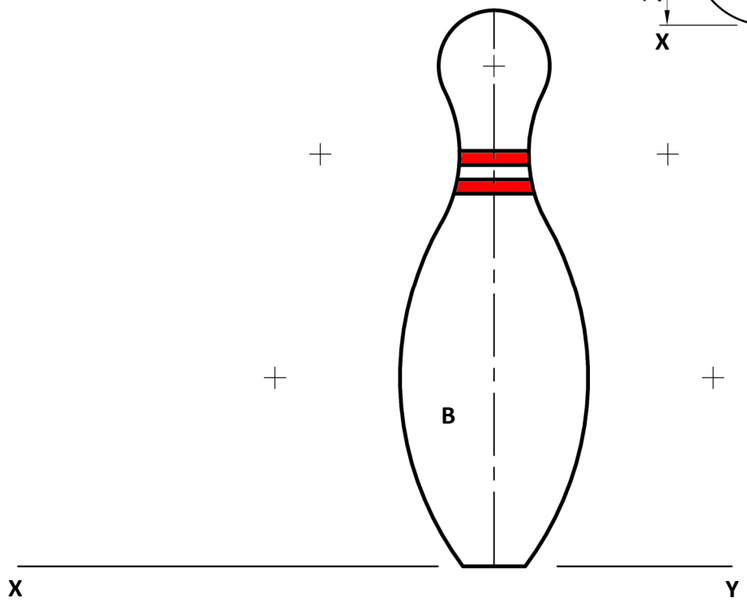
Shown below is the incomplete elevation of the bowling equipment.

(i) On the drawing below, locate all points of contact between the curves of the bowling pin.

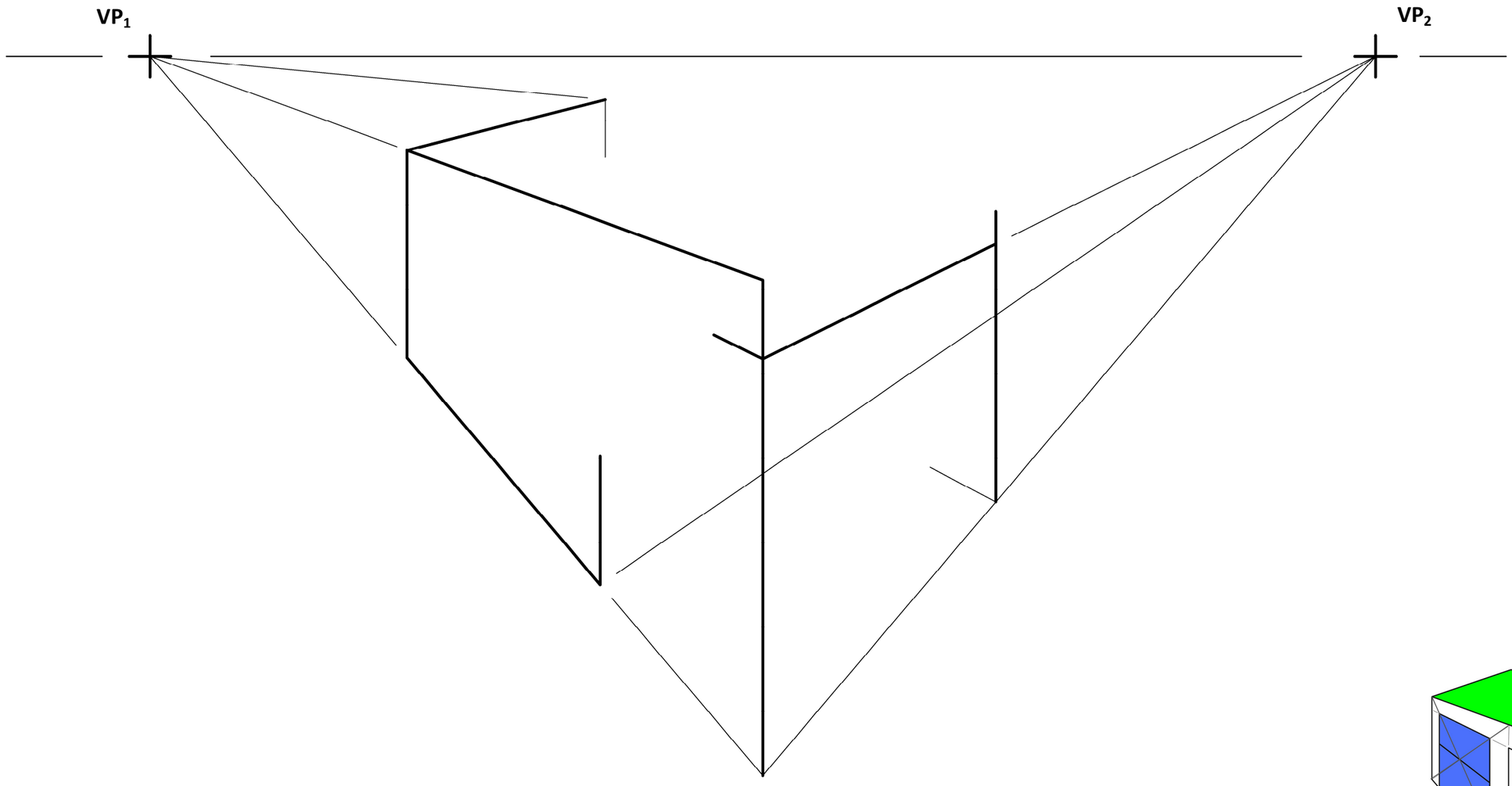
(ii) Complete the drawing below by finding the centre of the ball **A** and drawing it in contact with pin **B** as shown.

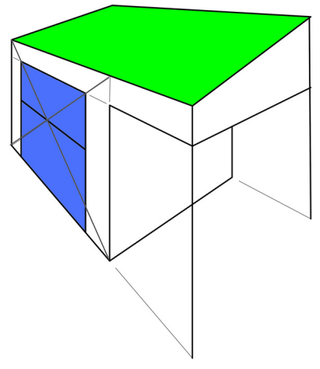
Show all constructions clearly.





(e) Shown below is an incomplete perspective drawing of the toy garage.
A 3D graphic is also shown. Complete the perspective drawing of the toy garage.

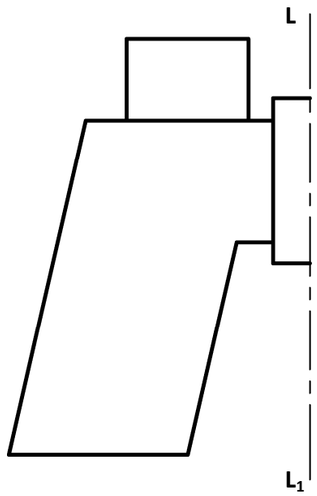




5.

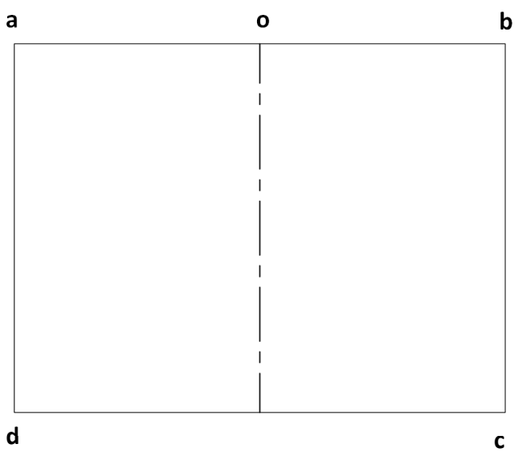
(a) Shown below is an incomplete logo for a birdwatching location at a campsite.

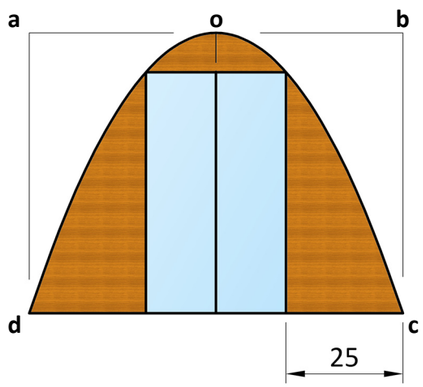
Complete the logo by constructing an axial symmetry in the line **L-L$_1$**.



(b) The images across show a glamping pod.
The design includes a parabola **doc** with vertex at **o**.

Draw the parabola **doc** in the rectangle **abcd** below and complete the elevation of the pod to include the door.

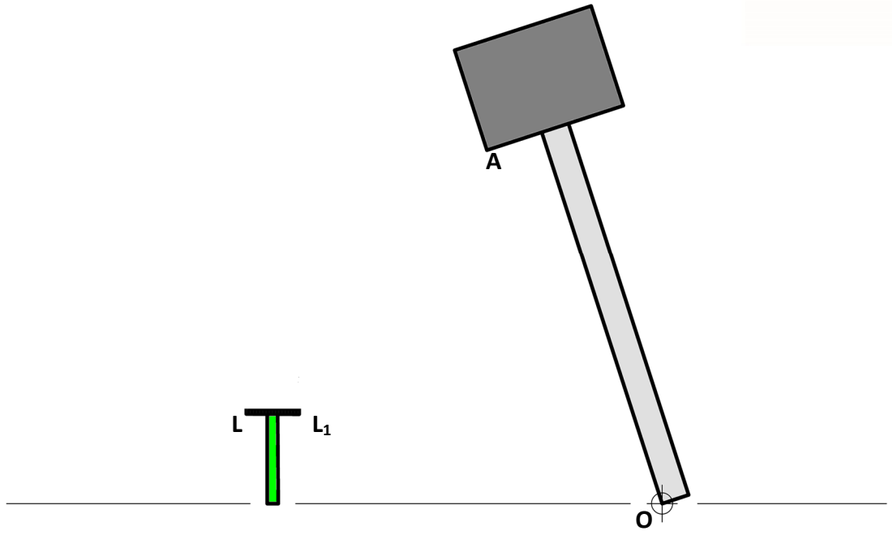




(c) The image across shows a mallet for driving tent pegs into the ground.

Shown below is the outline of a similar mallet and a tent peg.

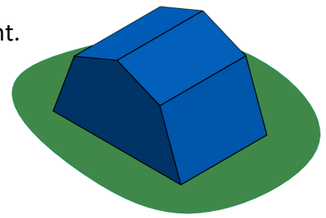
Redraw the mallet below, rotated anti-clockwise about point **O** until point **A** reaches the line **LL$_1$**.

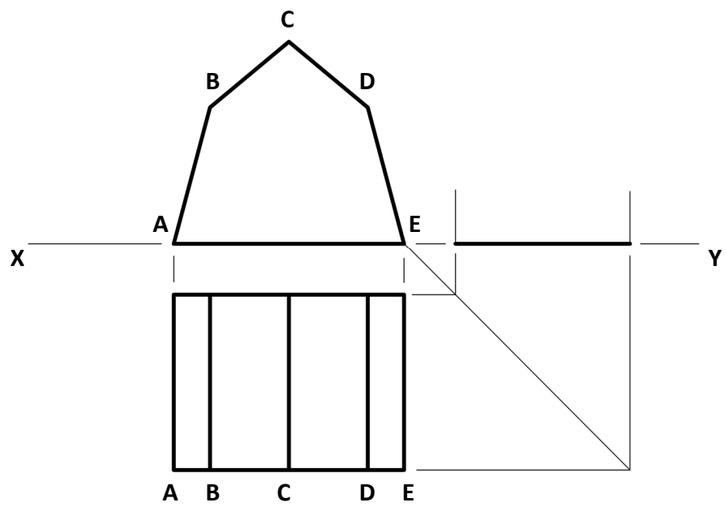


(d) The image across shows a tent.
Shown below is the plan, elevation, and incomplete end view of a similar tent.

(i) Complete the end view of the tent.

(ii) Complete the indexing of the end view from the given elevation and plan.





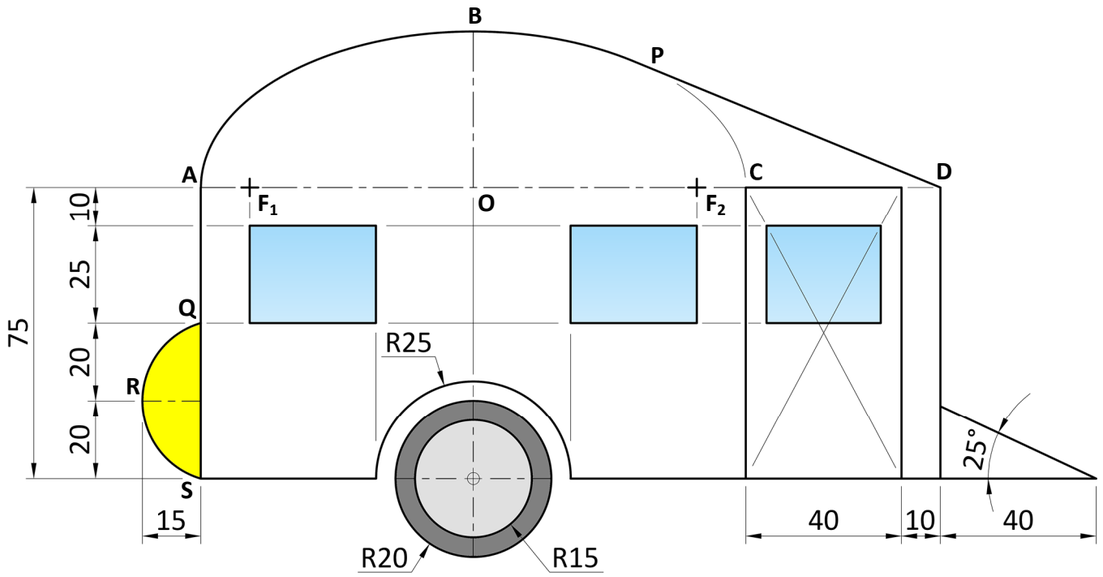
(e) Shown on the right is a dimensioned drawing of the logo for a campsite.

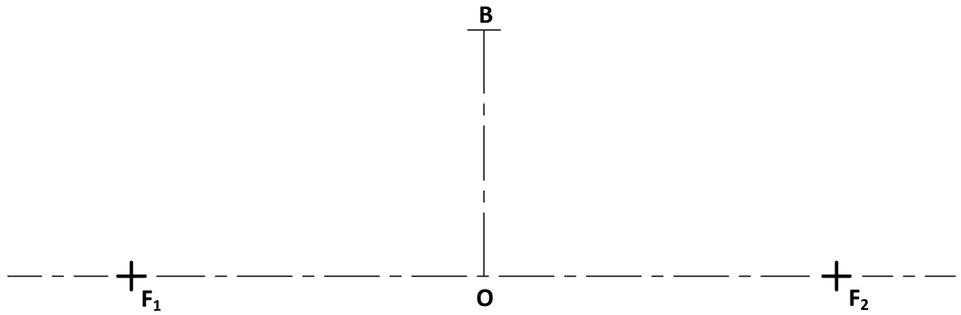
The curve **ABC** is a semi ellipse. **OB** is half the minor axis, and $\mathbf{F_1}$ and $\mathbf{F_2}$ are the focal points of the ellipse. **DP** is a tangent to the ellipse from point **D**. **QRS** is an arc.

(i) The length of half the minor axis **OB**, the focal points $\mathbf{F_1}$ and $\mathbf{F_2}$ and the position of the major axis are given below. Find the length of the major axis and draw the semi ellipse.

(ii) Locate the centre of the arc **QRS** and draw the arc.

(iii) Using the dimensions given, complete the drawing of the logo.





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Junior Cycle Final Examination – Common Level

Graphics

Tuesday 10 June
Morning 9:30 - 11:30