



Pre-Junior Certificate Examination, 2014

*Technical Graphics
Higher Level*

*Section A
(120 marks)*

Time : 3 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:

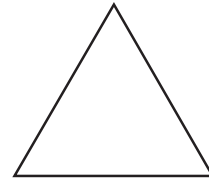
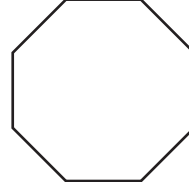
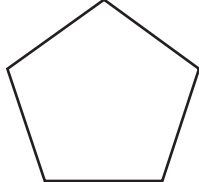
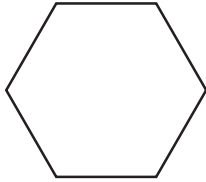
School Stamp

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

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

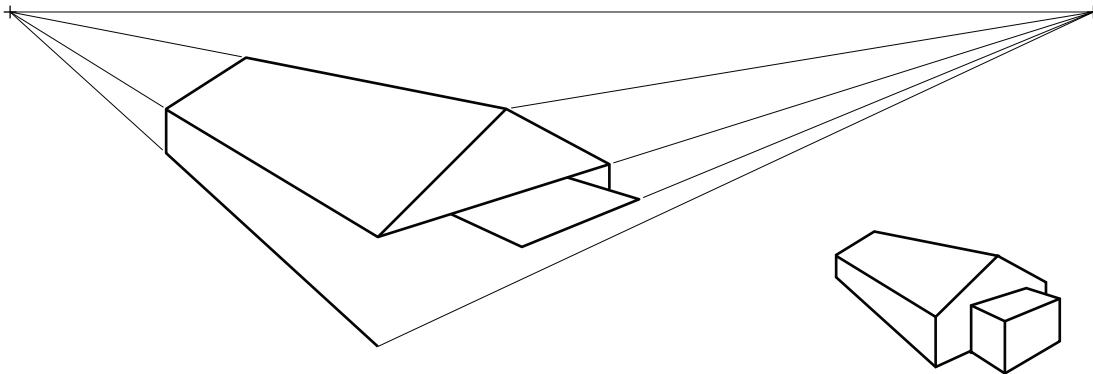
1. Fill in the label for each diagram by selecting from the given list.

- Polygon
- Hexagon
- Pentagon
- Octagon

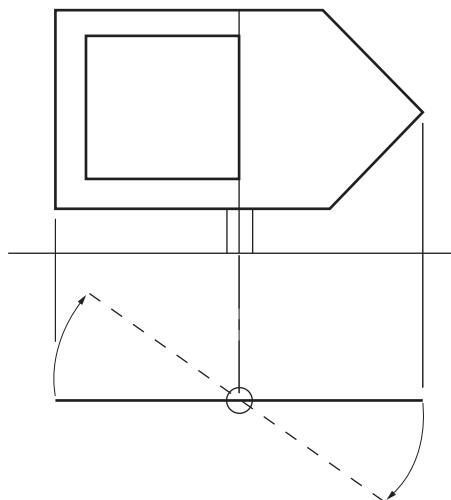


1. _____ 2. _____ 3. _____ 4. _____

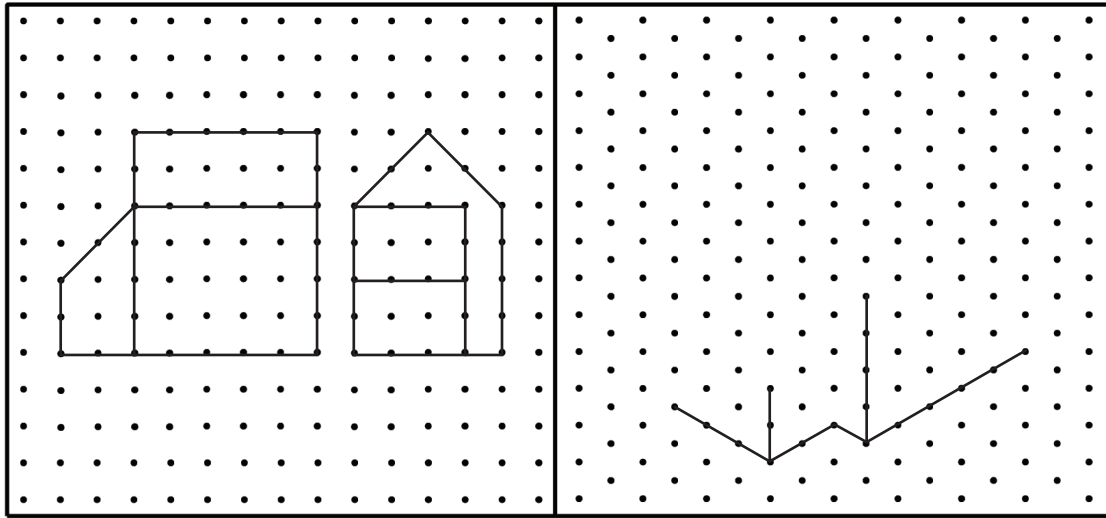
2. The figure shows the incomplete perspective drawing of a building. A 3D graphic of the building is also shown. Complete the perspective drawing.



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



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



5. **Fig. 1** shows the design of a sign for a fishing club which is based on an ellipse. The line **AO** 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 tangent **AO**. Show all construction clearly.

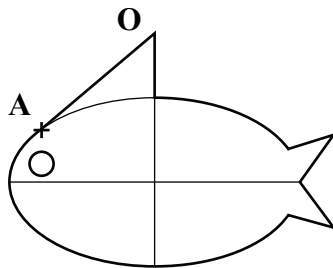


Fig. 1

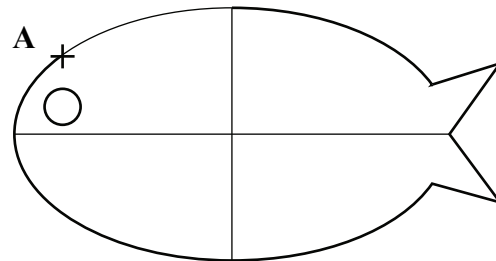
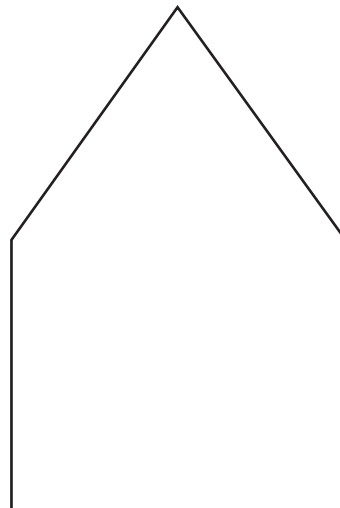


Fig. 2

6. The graphic shows a double door which forms the entrance to a church. **Fig. 1** shows the outline of the door. Draw a rectangle equal in area to the given outline without changing the width.



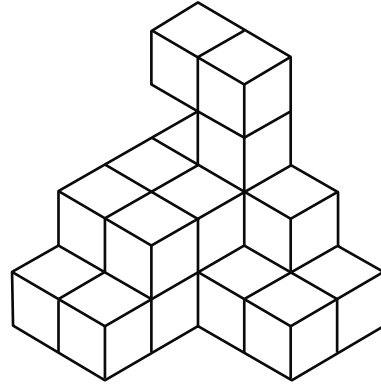
Fig. 1



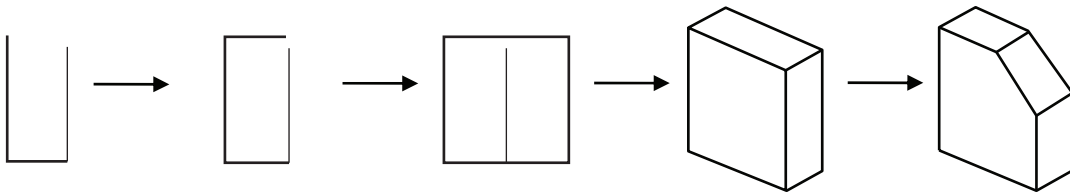
7. The figure shows a puzzle made from identical cubes.

Write down the number of cubes in this puzzle.

There are _____ cubes in this puzzle.



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

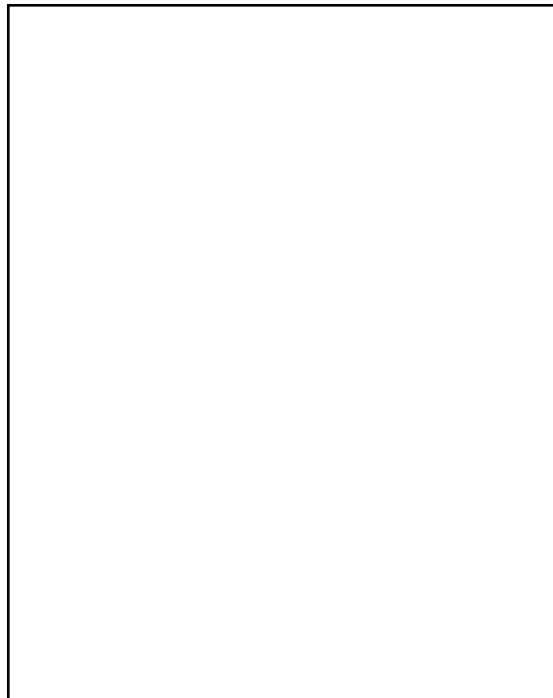
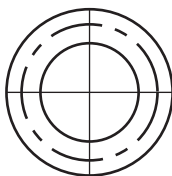
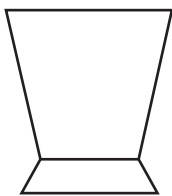


Any **three** CAD commands: _____

9. The elevation and plan of a vase are shown.

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

Colour **or** shade the sketch.

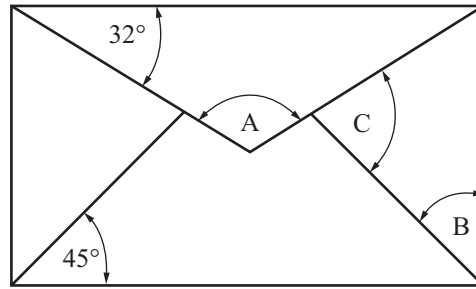


- 10.** The figure shows the outline of the back of an envelope.
Write down the measures of the angles **A**, **B** and **C**.

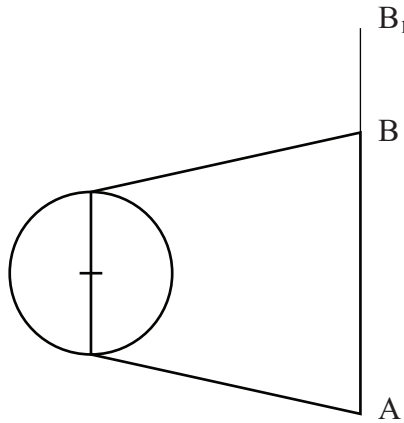
A = _____

B = _____

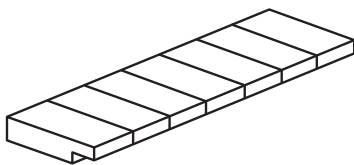
C = _____



- 11.** The figure shows the outline of an area known as the key on a basketball court.
Draw a new outline similar to the given outline with length **AB** increased to **AB₁**.



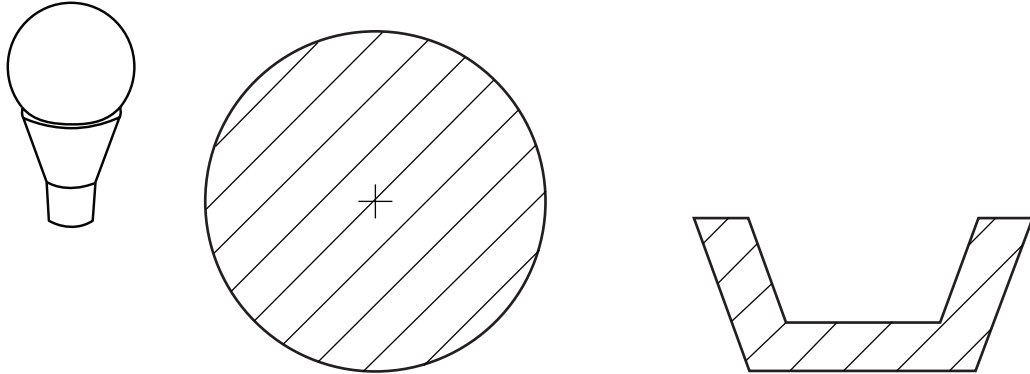
- 12.** The keys on a child's keyboard are shown in the 3D graphic.
Complete the plan of the keys showing clearly how to determine the width of each key.
Show all construction clearly.



13. The 3D graphic of a golf ball sitting on a tee in the ground is shown. Also shown is the sectional elevation of the top portion of the tee and golf ball.

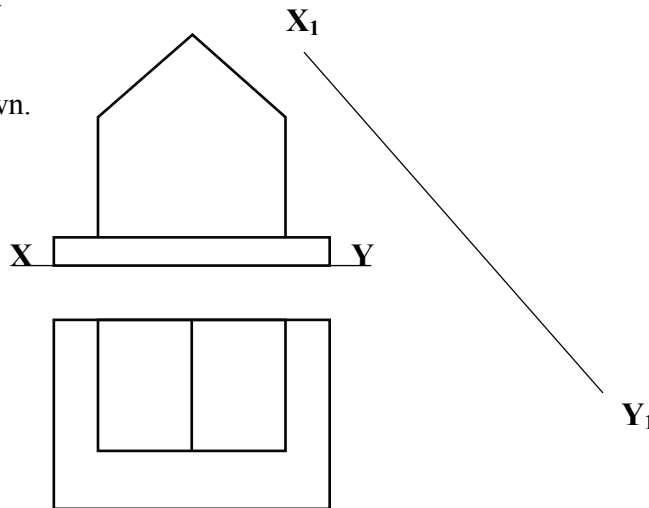
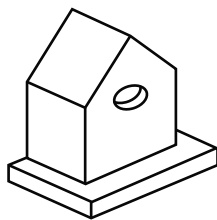
Draw the golf ball sitting in position on the tee.

Show all construction lines.



14. The figure shows the elevation and plan of a bird house. A 3D graphic of the bird house is also shown.

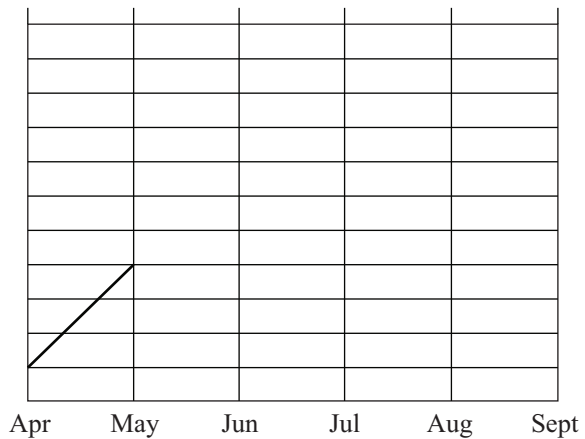
Project an auxiliary elevation of the bird house on the line X_1-Y_1 shown.



15. The average temperatures over a six month period in Dublin were recorded as follows:

- April - 12 degrees
- May - 15 degrees
- June - 17 degrees
- July - 21 degrees
- August - 22 degrees
- September - 16 degrees

Complete the chart to represent this information graphically.



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