Coimisiún na Scrúduithe Stáit
State Examinations Commission

Junior Certificate Examination 2005

Technical Graphics
Higher Level
Section A *(120 marks)*

Monday 20 June
Morning 9:30 - 12:30

Centre Number

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

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.
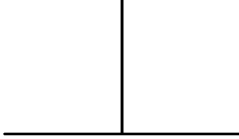
Examination Number
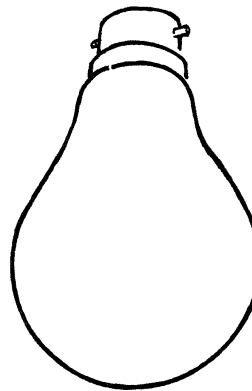
1.

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

Table
Perpendicular   Acute   Quadrant   Tangent

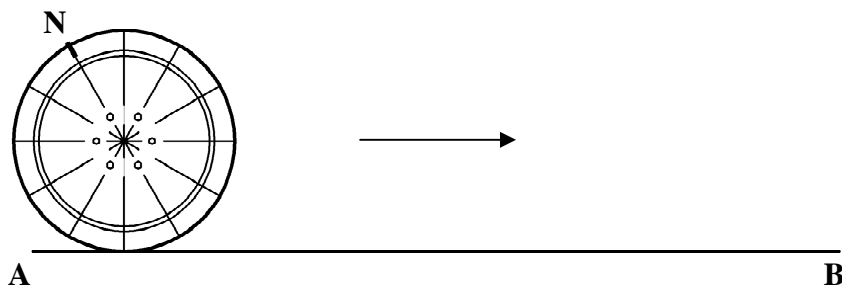1. _____   2. _____   3. _____   4. _____

2.

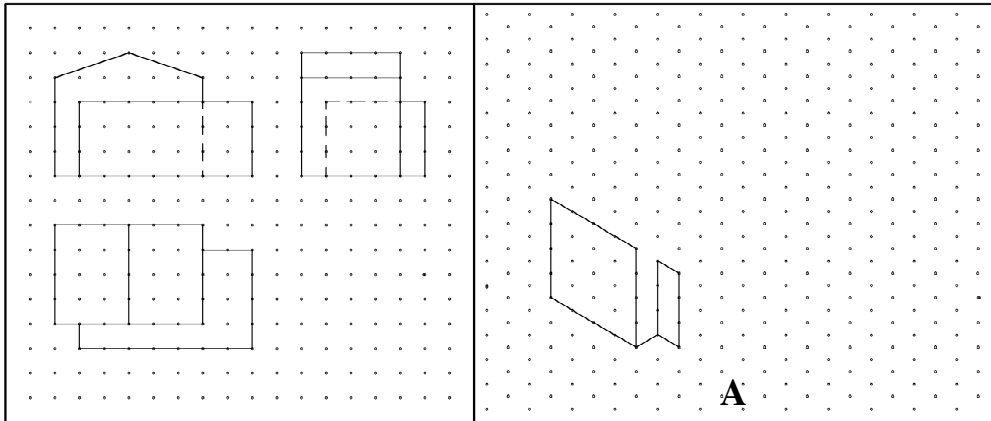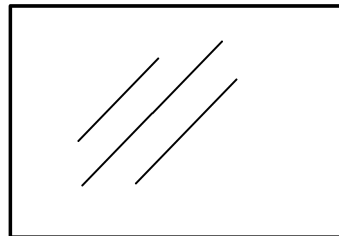Apply shading to the sketch of
the light bulb shown.

3.

The given wheel is pierced by the nail N as shown. The wheel rolls along the line AB
in the direction indicated by the arrow. Determine where the nail N meets the line AB.

N

A   B

4. The square grid shows the elevation, plan and end view of a house.
Complete the pictorial sketch A of the house.

A

5. A rectangular window is to be replaced with a square one of the same area.
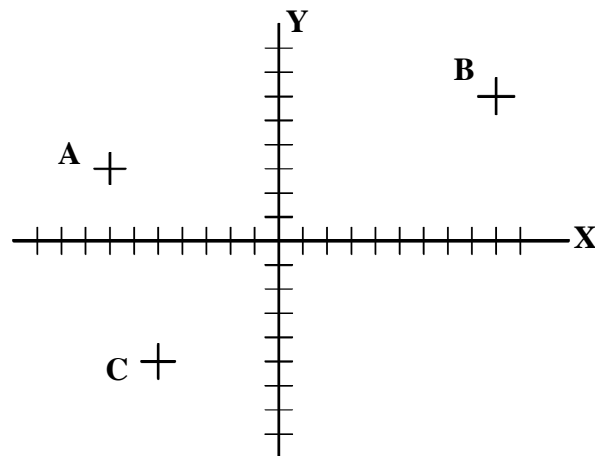Show the construction necessary to determine the size of the square window.

6. The X and Y axes shown are marked at intervals of 5 units.
State the coordinates of the points marked A, B and C.

Y

B +
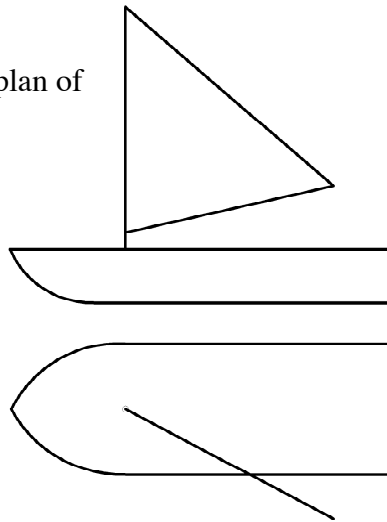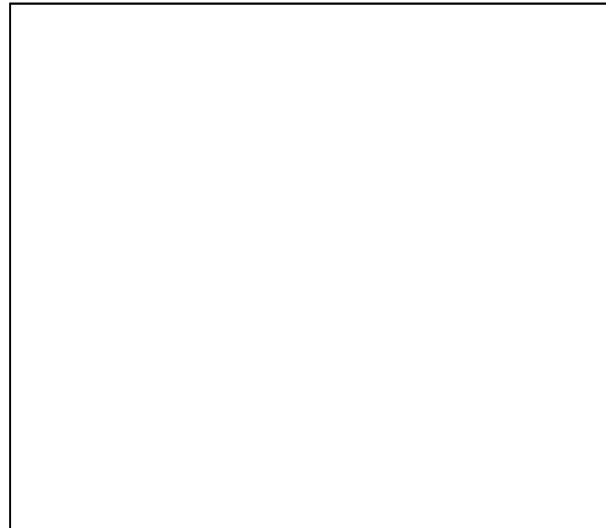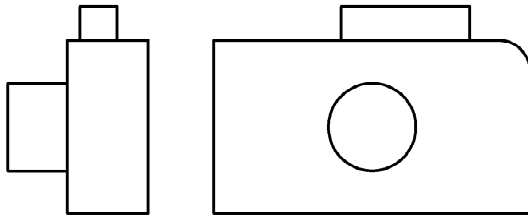
A _____

A +

B _____

X

C _____

C +

7.

The figure shows the elevation and plan of a boat with a triangular sail.
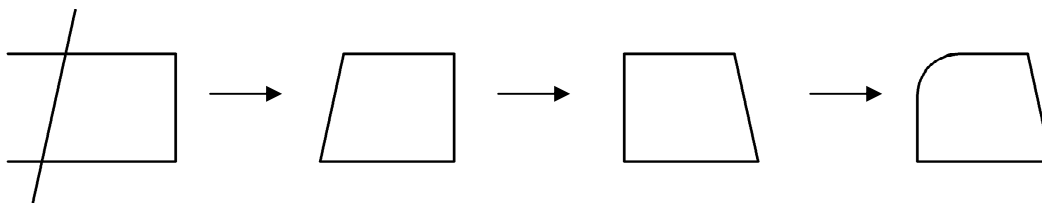
Determine the true shape of the sail.

8. The elevation and end view of a pocket camera are shown.

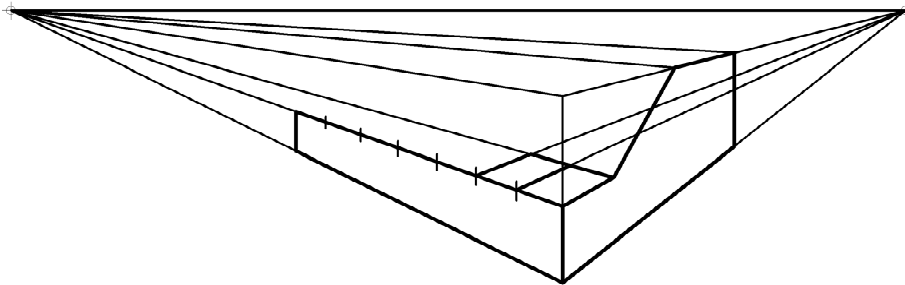Draw a **freehand** pictorial sketch of the camera in the space provided.

9. List the CAD commands used to edit the figure as shown in the sequence below.
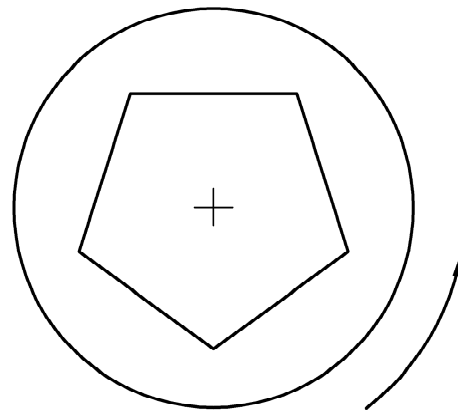
Commands used: _____ _____ _____

10. The figure shows the incomplete perspective drawing of an electric piano.
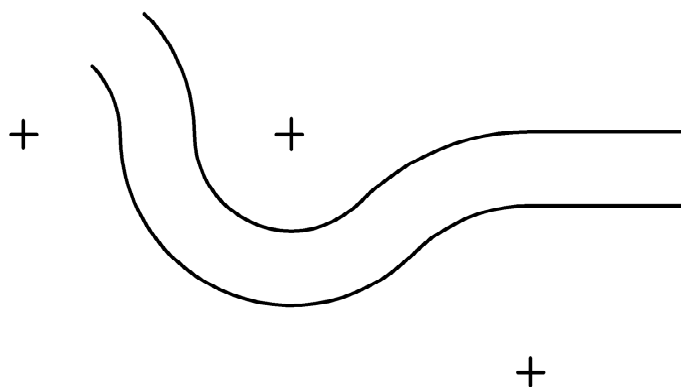Complete the drawing using the given vanishing points.

11.

The plan of the lid of a coffee jar is shown.

Draw the lid when it has been unscrewed
through 45° in an anti - clockwise direction
as shown by the arrow.

12. The figure shows portion of a racing circuit consisting of arcs and straight lines.
The centres of the curves are shown.
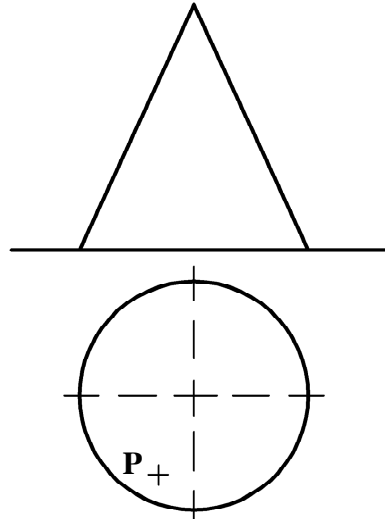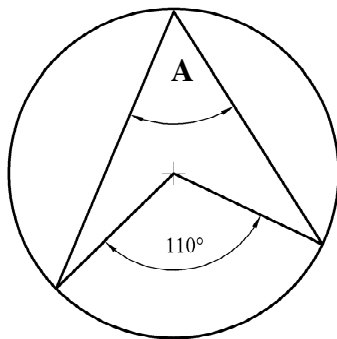Locate all the points of contact.

13.

The elevation and plan of a cone are shown.

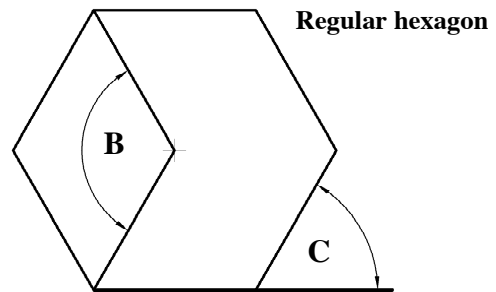The plan of a point P on the surface of the cone is also shown.

Locate the elevation of point P.

P +

14. State the measure of the angles marked A, B and C.

A

110°

B

Regular hexagon

C

A = _____   B = _____   C = _____

15.

A survey of weekly mobile phone usage shows the following results for four students A, B, C and D.

A — 180 minutes
B — 45 minutes
C — 90 minutes
D — 45 minutes

Divide the given circle to represent this information graphically.

Shade **OR** colour the completed diagram.