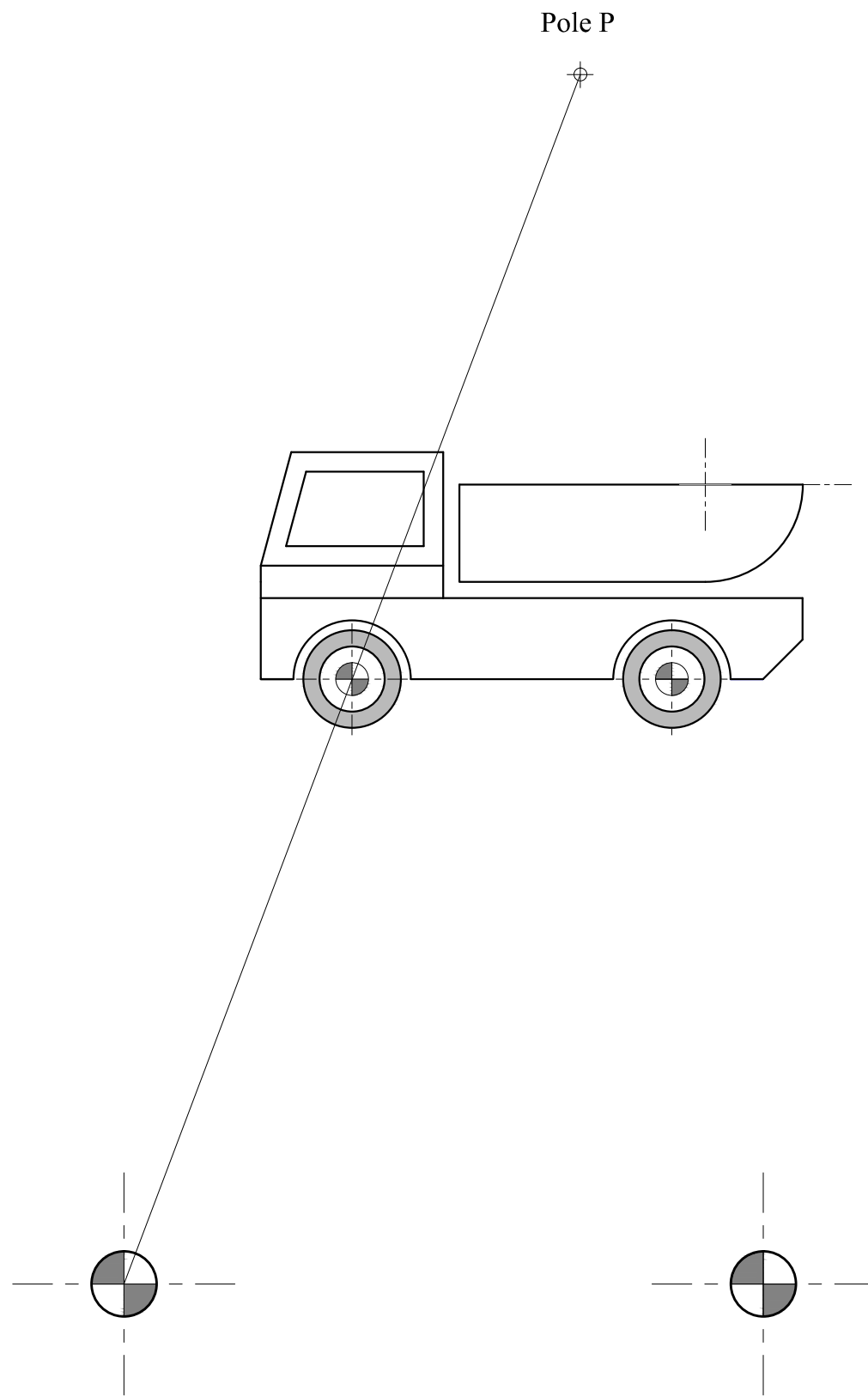


Question 1. A pictogram of a truck is given below. The centre lines of the wheels of an enlarged version of the truck are also given. Complete the enlargement by using pole P as the centre of enlargement.

Note: The small circles representing the wheel hubs are given in the answer.

(16 marks)



Question 2. The following computer programme is written for the use of a sailing club logo. The grid printed below represents an 800 x 600 graphical display. Use the grid to draw the image produced by this programme.

DATA: A = 50; B = 100; C = 150; D = 200; E = 250; F = 300; G = 350; H = 400; I = 450; J = 500; K = 550; L = 600; M = 650; N = 700:

ACI 7: MOVE C,C; DRAW N,C; DRAW L,A; DRAW D,A; DRAW C,C:

ACI 3: MOVE G,D; DRAW C,D; DRAW G,I; DRAW G,D:

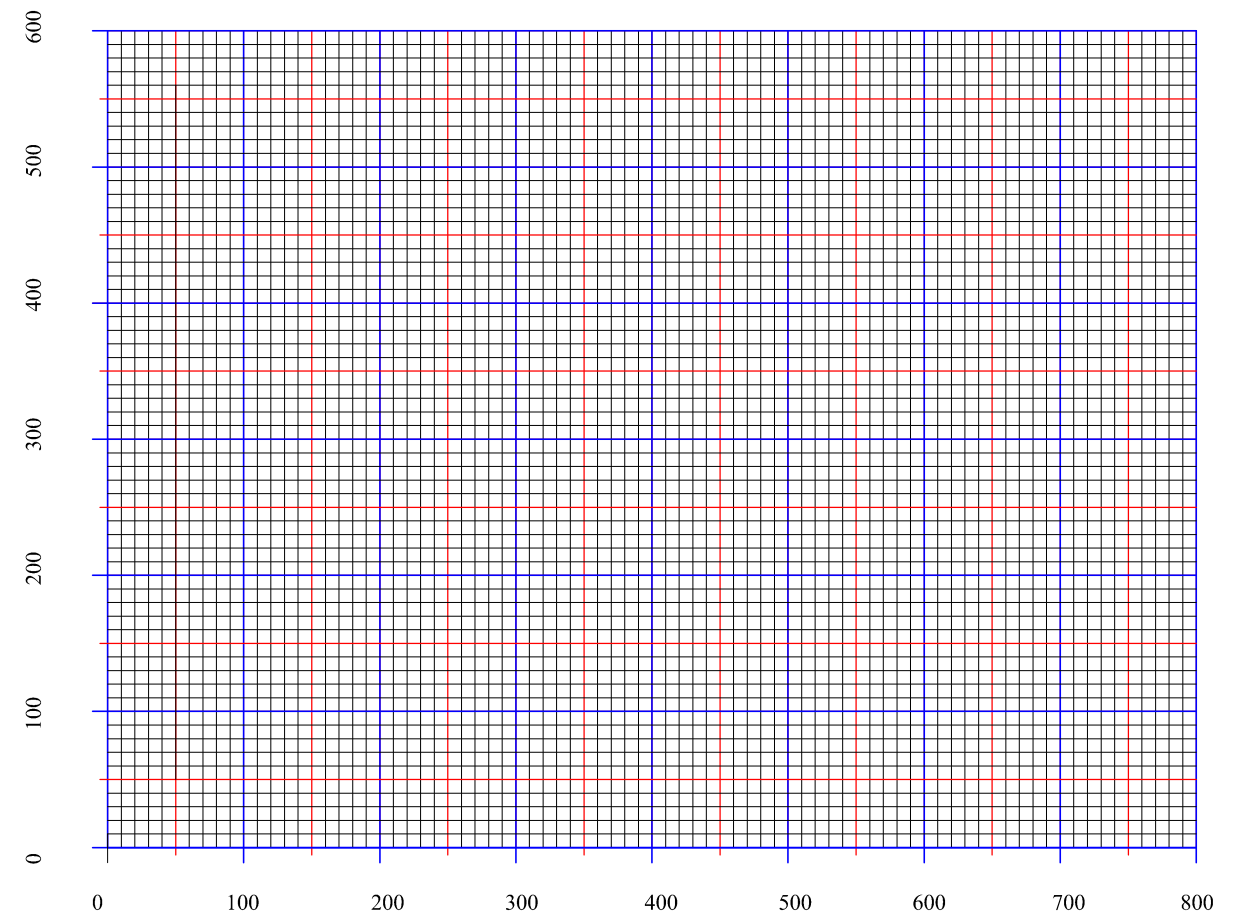
ACI 5: MOVE H,D; DRAW H,J; DRAW M,D; DRAW H,D:

ACI 1: MOVE H,J; DRAW H,K; DRAW F,J; DRAW HJ:

The computer responds to the following colour commands:

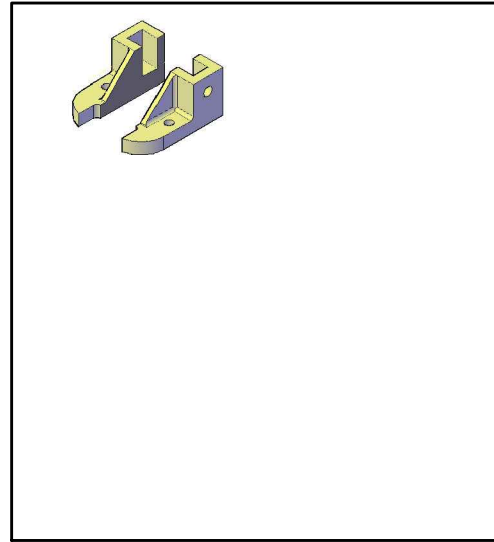
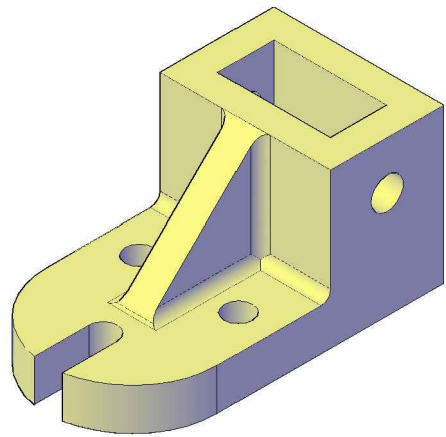
Colour	ACI Colour Index (Number)
RED	1
GREEN	3
BLUE	5
BLACK	7

(12 marks)

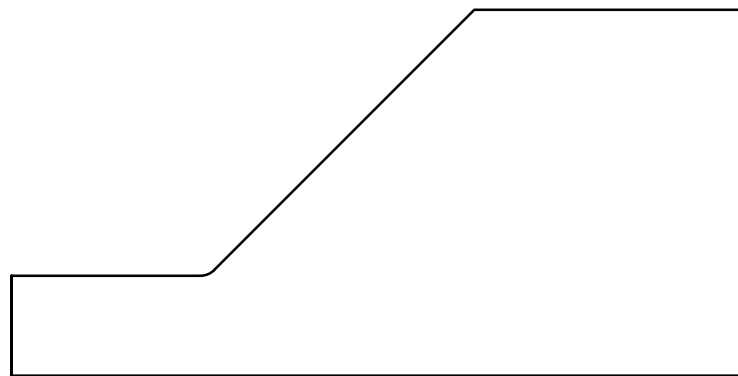


Question 3. A pictorial view, an end view, a plan view and an incomplete front view of a **cast iron bracket** are given. In the space provided:

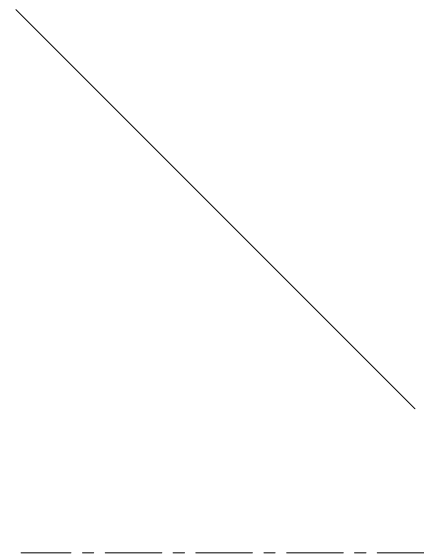
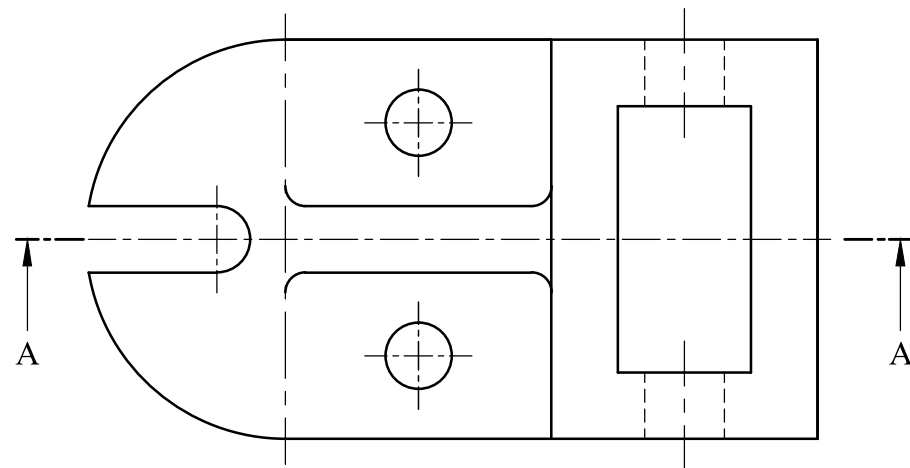
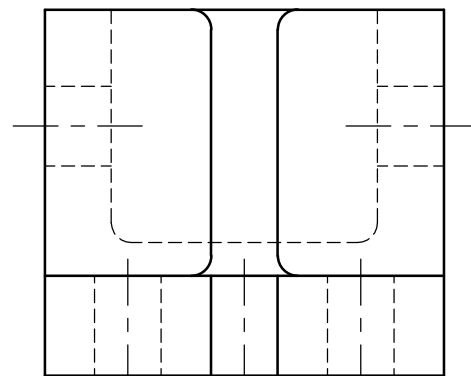
- Draw a pictorial freehand sketch of Section A - A and mark the areas to be sectioned.
- Complete sectional front A - A.
- Draw the symbol of the projection used. (16 marks)



Pictorial freehand sketch of section A-A



SECTIONAL FRONT A-A

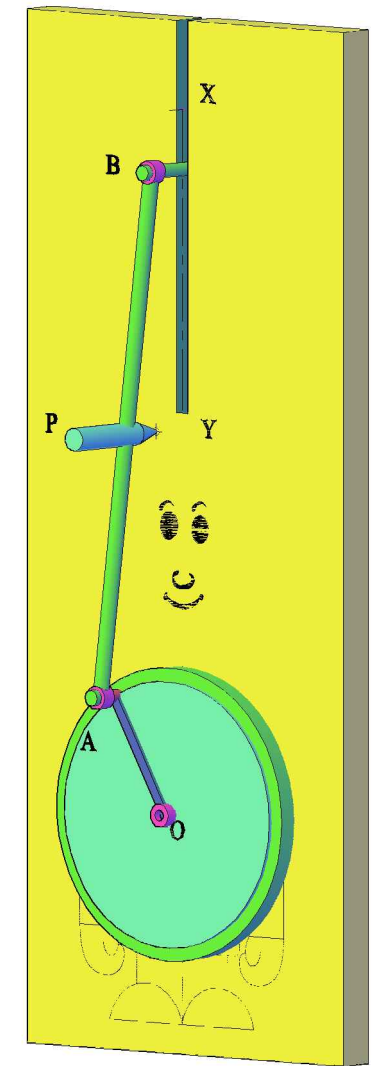
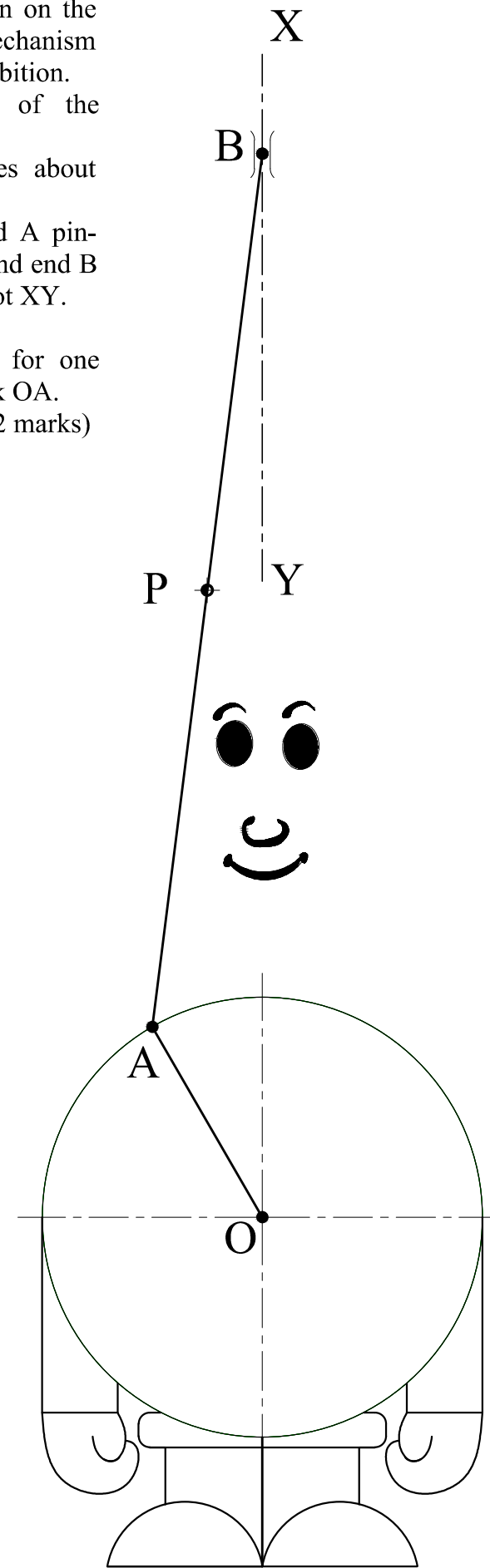


Projection Symbol

Question 4. The illustration on the right shows a linkage mechanism used in a school annual exhibition. The arrangement consists of the following parts:

- Crank OA which rotates about pivot O.
- Link AB which has end A pin-jointed with crank OA and end B allowed to slide along slot XY.
- P is a point on link AB.

Plot the locus of point P for one complete revolution of crank OA. (12 marks)



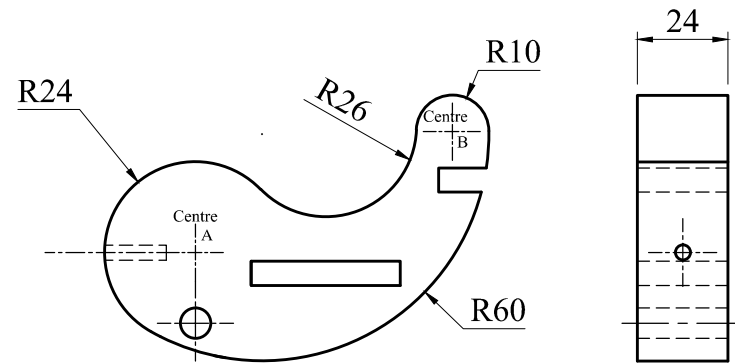
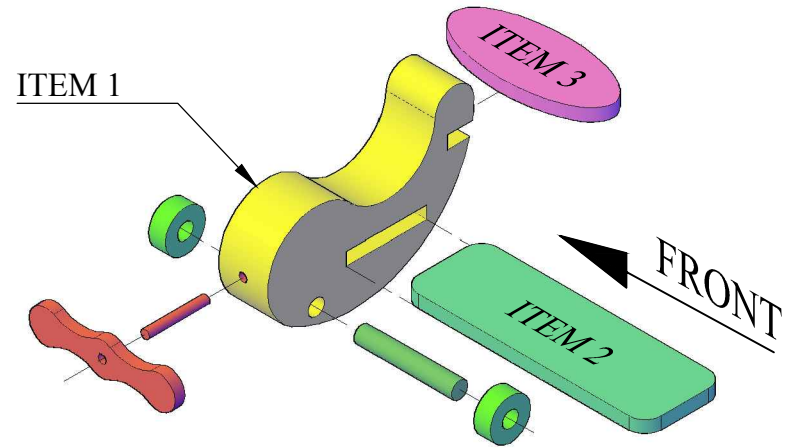
Question 5. An exploded pictorial view of a toy plane and orthographic detail drawings of the separate parts are given below.

- In the space allocated for the front elevation and on the given start lines, construct the profile of the main body of the toy plane (item 1).
- Draw the wheel to complete the front elevation.
- Construct the elliptical tail in the plan (item 3).
- Complete the plan of the assembled toy.

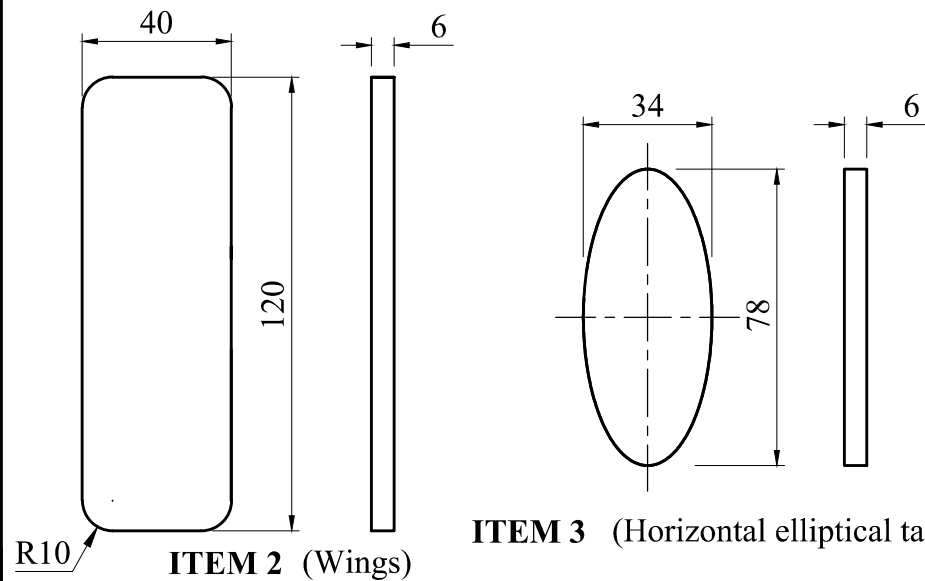
Notes:

- Do not show hidden details.
- The End Elevation of the assembly is given.

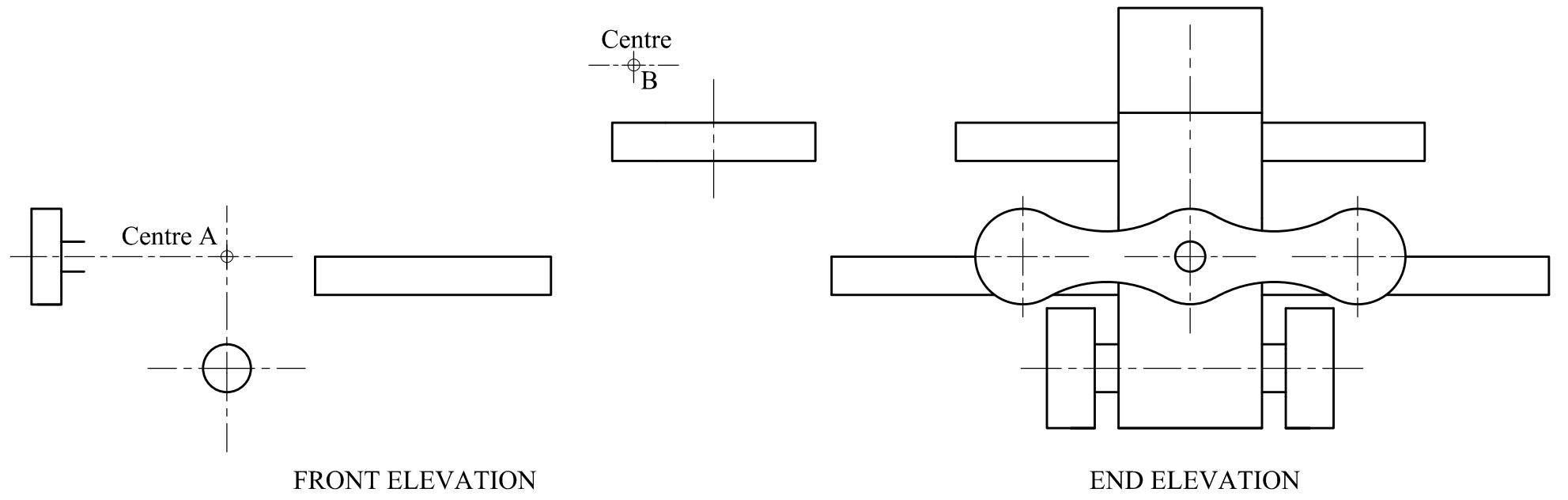
(24 marks)



ITEM 1 (Main body of toy airplane)

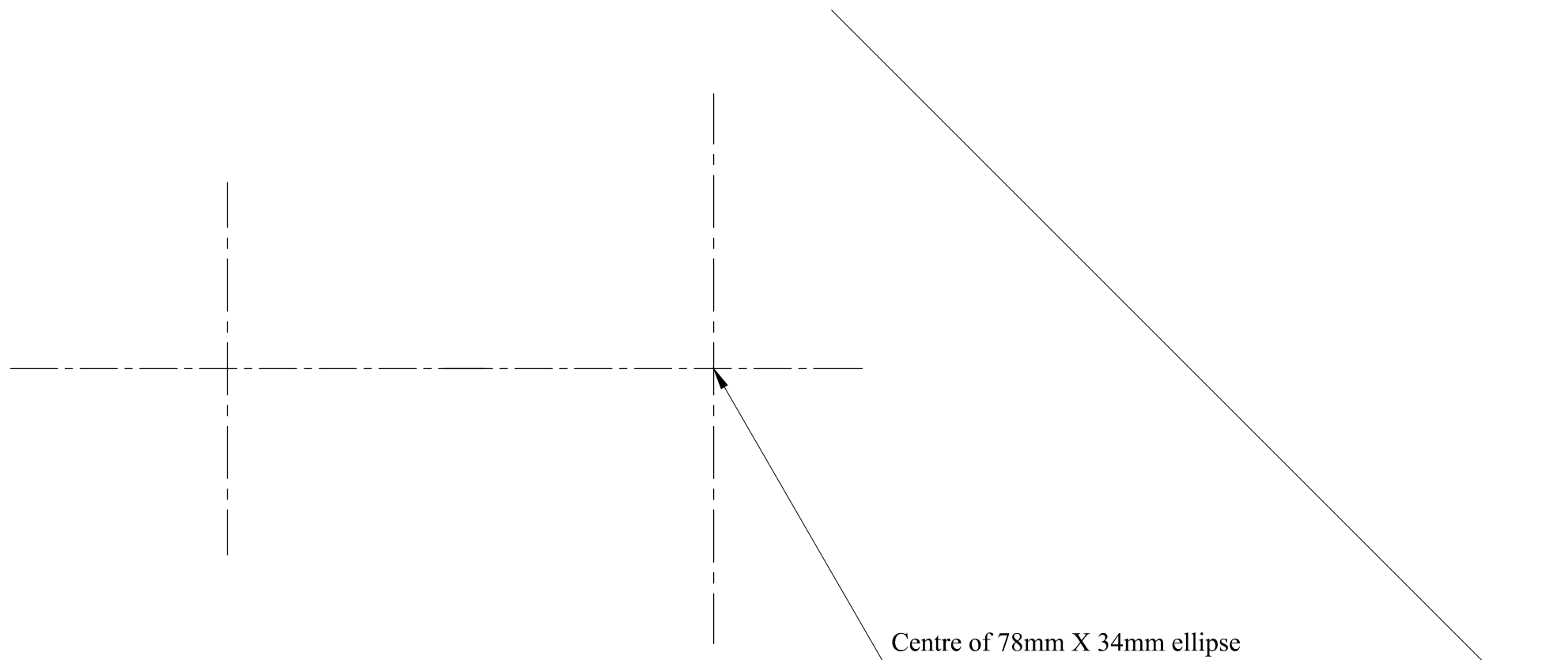


ITEM 3 (Horizontal elliptical tail)



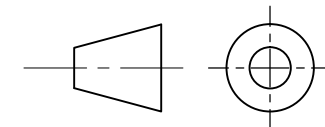
FRONT ELEVATION

END ELEVATION



Centre of 78mm X 34mm ellipse

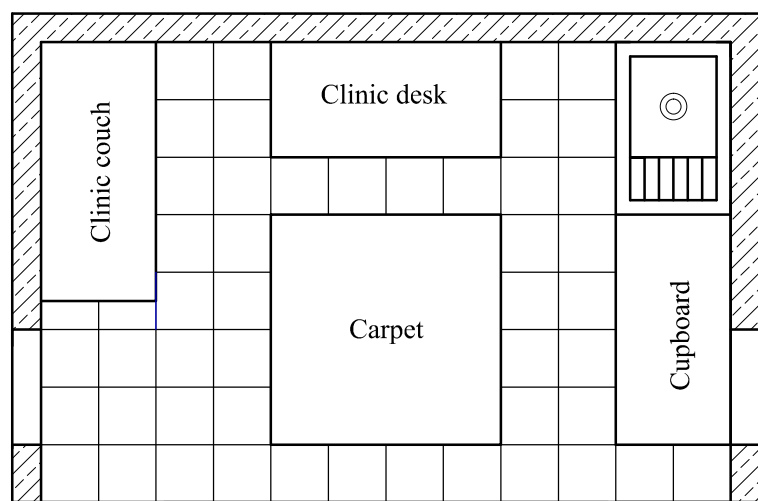
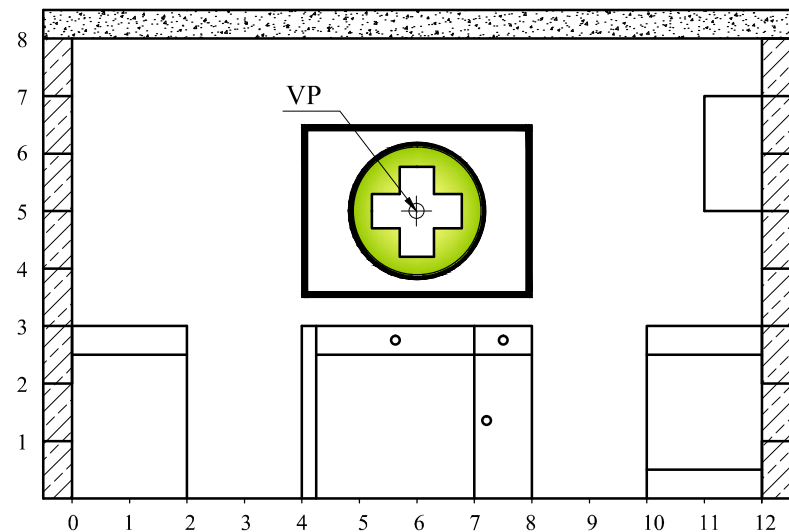
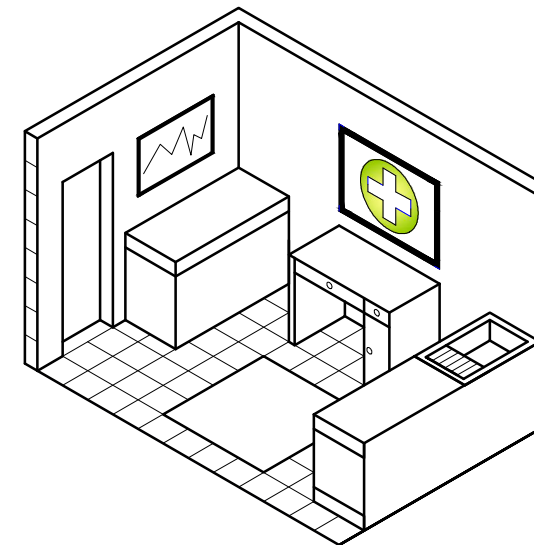
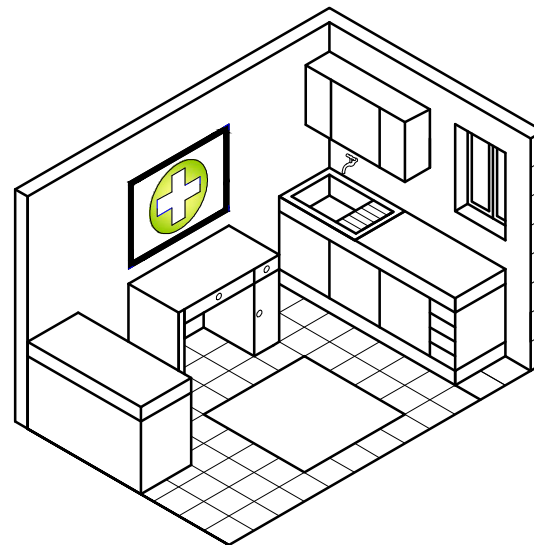
PLAN



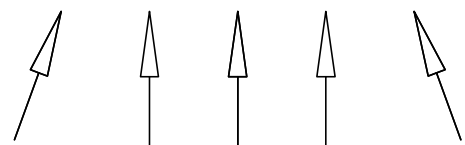
Question 6. Two isometric views of a school clinic are given on the right. As shown in the two orthographic views below, the width, depth and height of the room is 12 units x 8 units x 8 units. The start lines of a perspective view of the room and four corner tiles are also given below. The vanishing point is in the centre of the first aid cross as indicated. Complete the **estimated single-point perspective view** by following the given steps:

- Complete the construction of the floor tiles (12 tiles x 8 tiles).
- Insert the furniture and the carpet (use the tiles and courses to determine the dimensions).
- Line in with a bold outline the visible tiles, carpet and furniture.

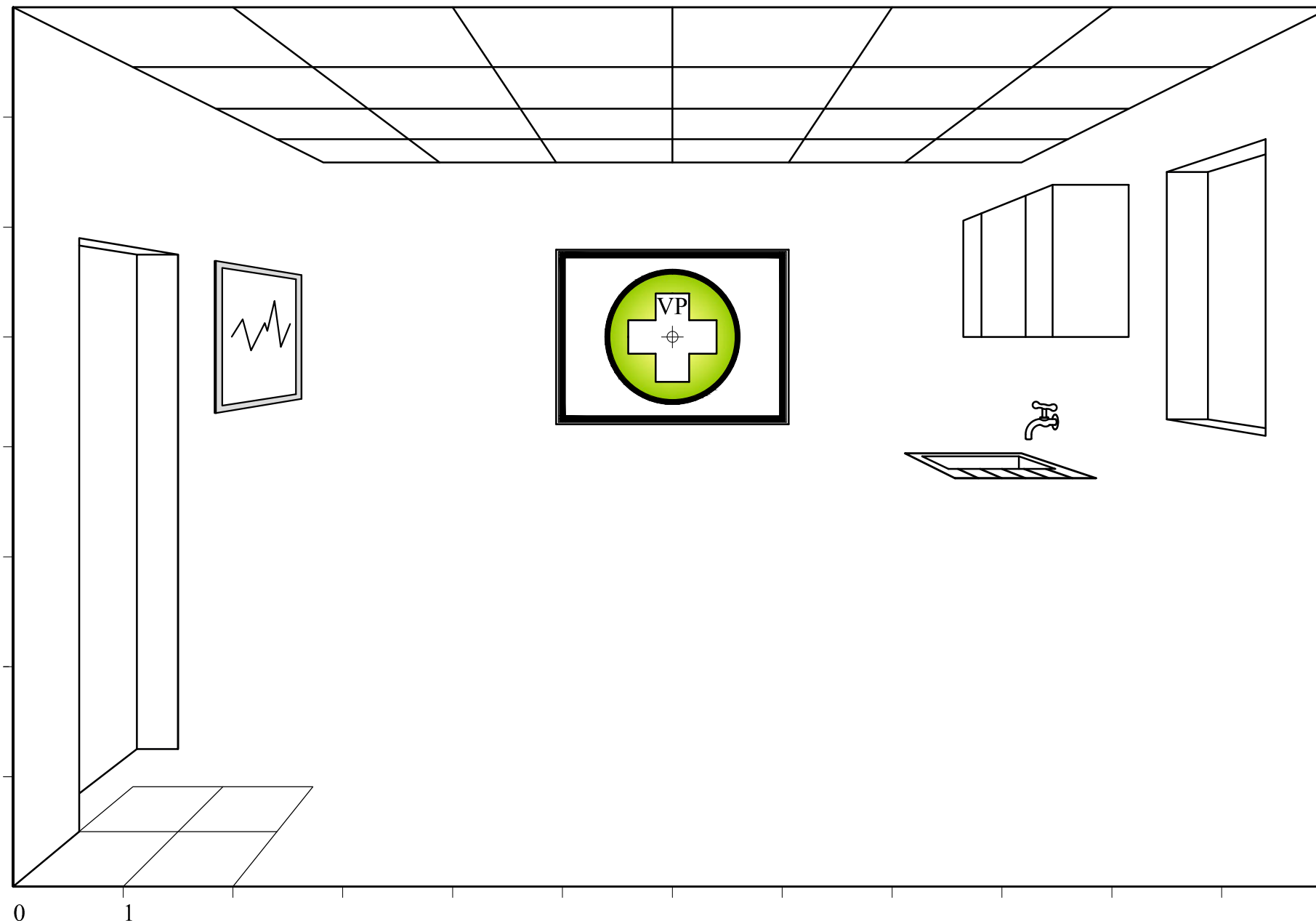
(20 marks)



PLAN



VIEWING DIRECTION



Sheet 4 of 4