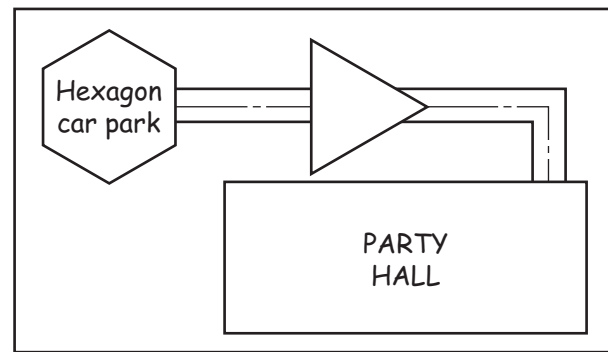


**Section A**

Answer **all** questions in this section.

**A1** A sketch of a direction map from the Hexagon car park to the PARTY HALL is shown below.



Complete the full-size plan view of the map by drawing in the space provided:

- a regular hexagon 30 side;
- an equilateral triangle 50 side;
- the remaining pathway;
- the outline of the PARTY HALL 130 × 70. [9]

**2** Complete the sign PARTY HALL by adding the three remaining letters.

All the letters must be the same height and style as those shown. [6]

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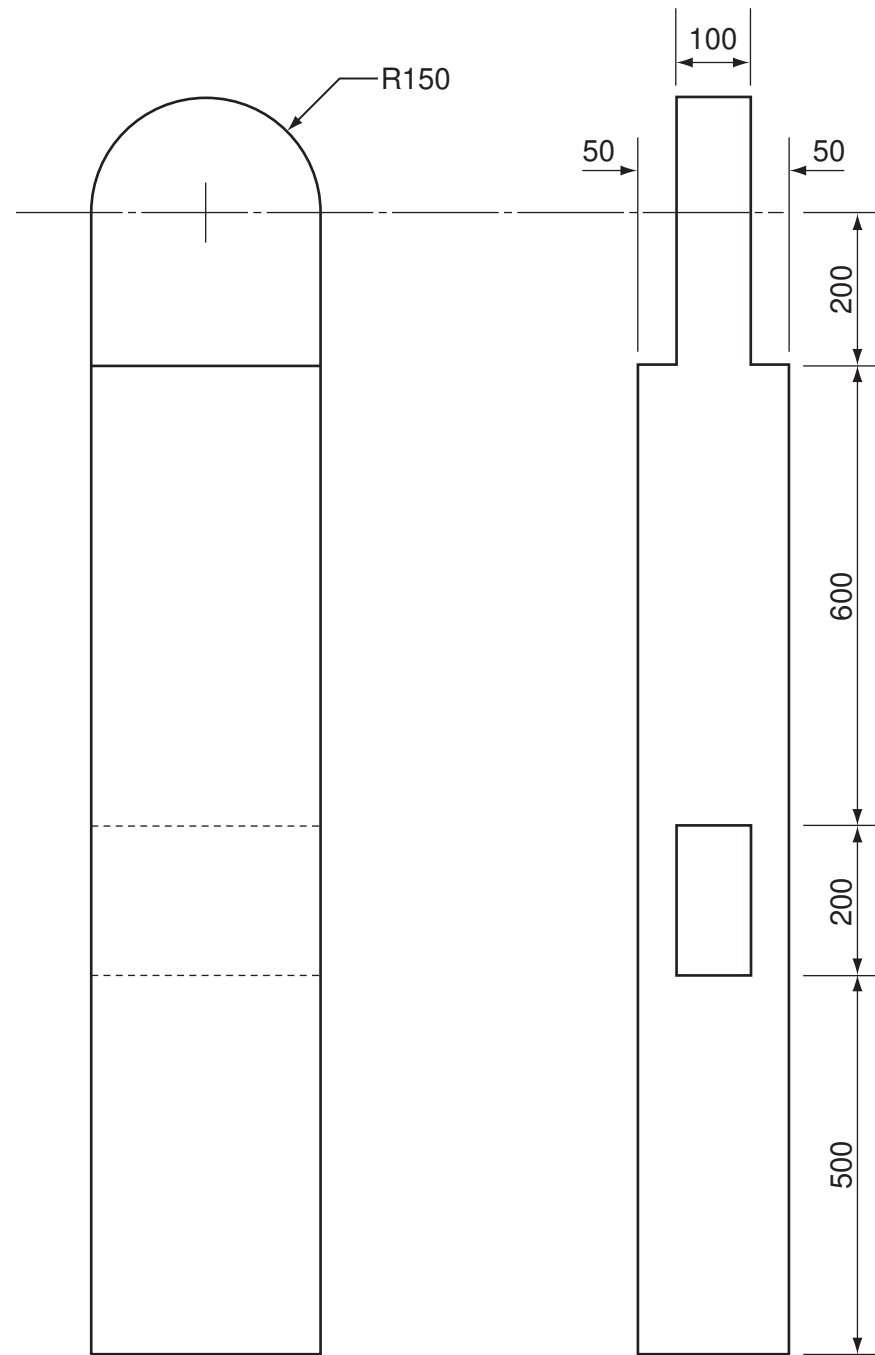
Other Names .....

[Turn over]

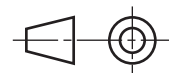
**A3** A fence post is drawn to a scale of 1:10 in the orthographic views given to the left.

In the space indicated to the right:

- (a) draw an isometric view of the fence post. The drawing should be to the same scale and all sizes should be taken from the orthographic views; [7]
- (b) apply the thick and thin line technique to enhance your isometric drawing. [3]



scale 1:10

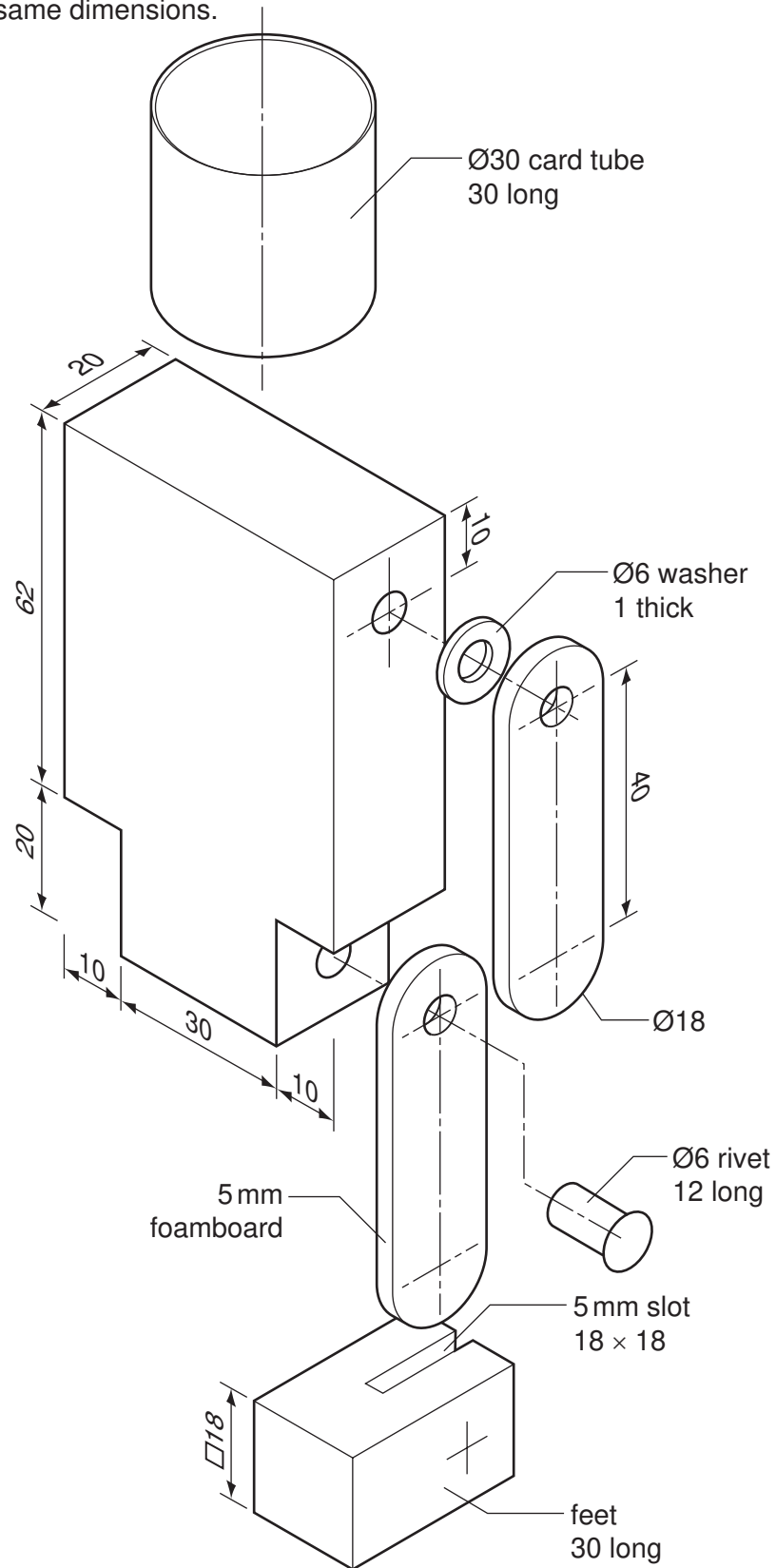


fence post

**Section B**

Answer **either** question **B4** or **B5**.

**B4** Parts of a self assembly robot model are shown below. The parts are made from expanded polystyrene, card tube and foamboard. Ø6 plastic rivets join the arms, legs and feet together. Washers allow the arms and legs to move freely. Arms and legs are to the same dimensions.

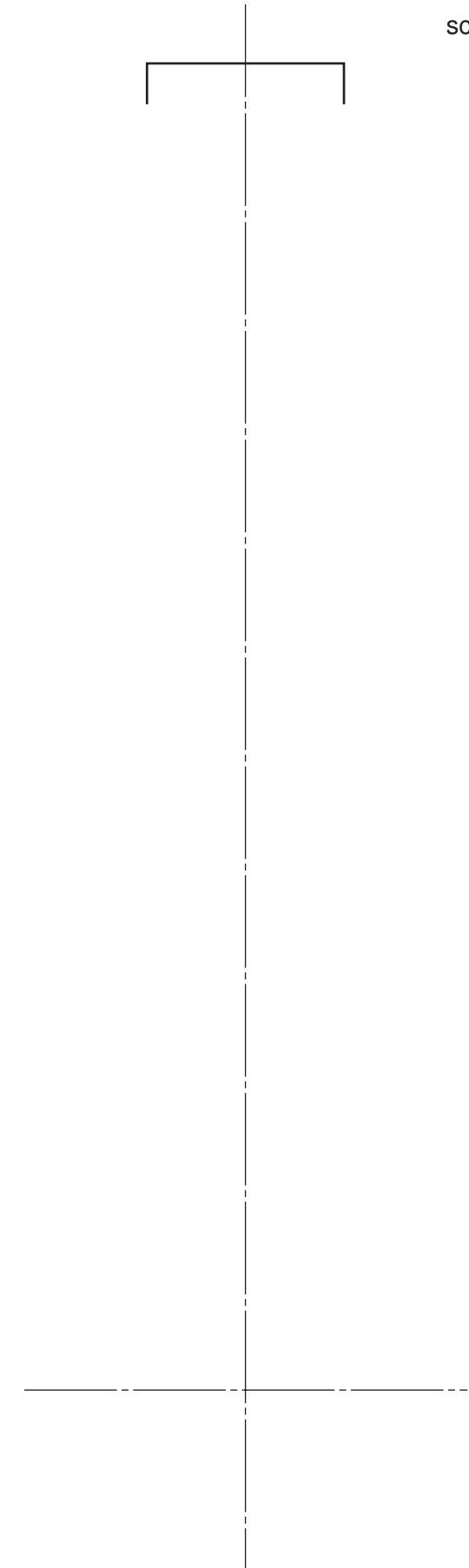


(a) On the centre lines given to the right, construct in first angle projection:

- (i) the front elevation of the assembled robot. The top of the head has been started for you; [10]
- (ii) the plan view of the assembled robot on the centre lines given; [5]
- (iii) an elliptical base made from 5 mm foamboard for the robot to stand on. Major axis 90, minor axis 60. [5]

(b) In the space below, use exploded sketches and notes to show how the head of the robot could be attached to the body whilst allowing it to rotate. [5]

scale 1:1



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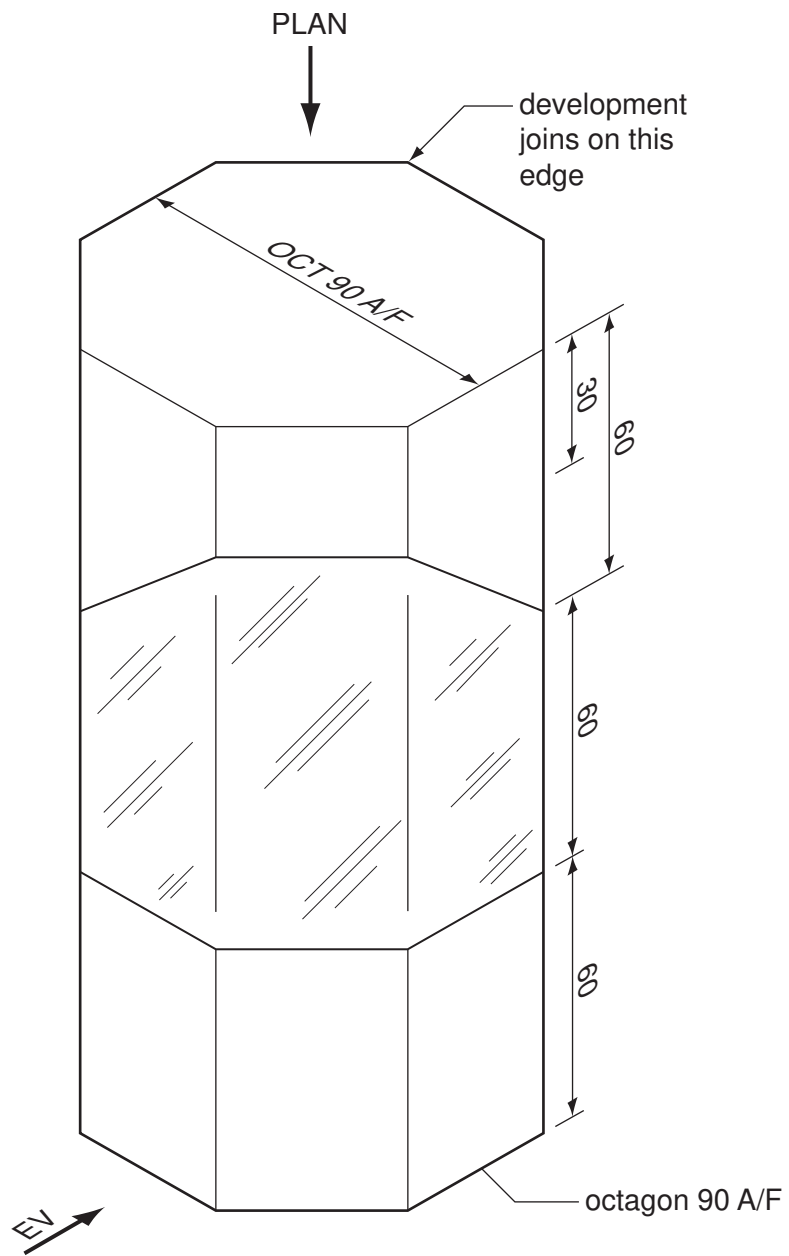
Other Names .....

[Turn over]

**B5** The isometric drawing below shows a thin card packaging for a cosmetic product. The packaging has a window on three sides so that customers can see the product.

In the spaces indicated:

- (a) draw to a scale of 1:2 in first angle projection, the PLAN and EV of the packaging; [10]
- (b) construct to the same scale, a one-piece development (net) of the packaging. Add a lid with three fold-in flaps. Do **not** include a base; [11]
- (c) use sketches and notes to show a simple support, also made from thin card, which can be inserted into the packaging so that the base of the cosmetic product will be level with the bottom edge of the window. [4]



Answer part (a) here

Answer part (b) here

Answer part (c) here