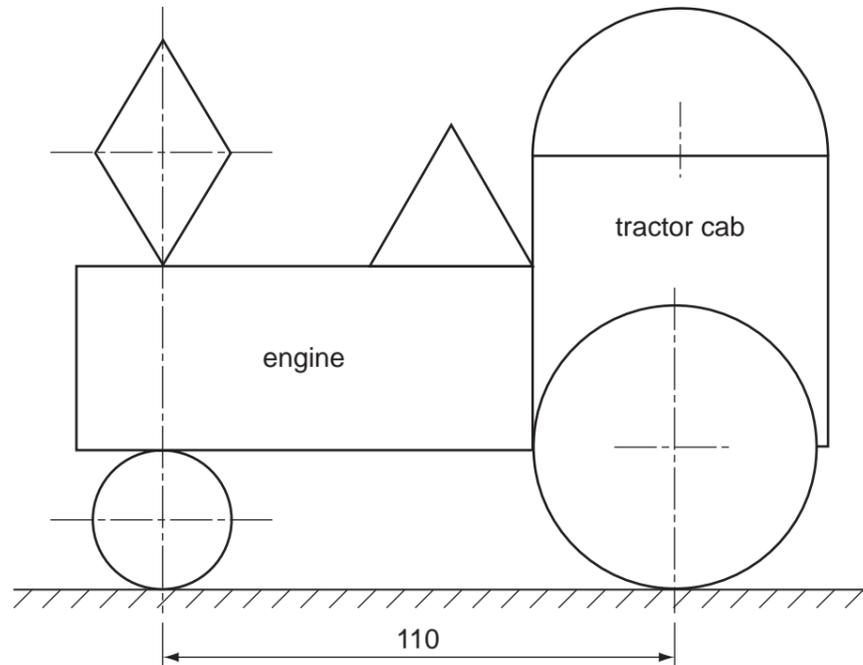


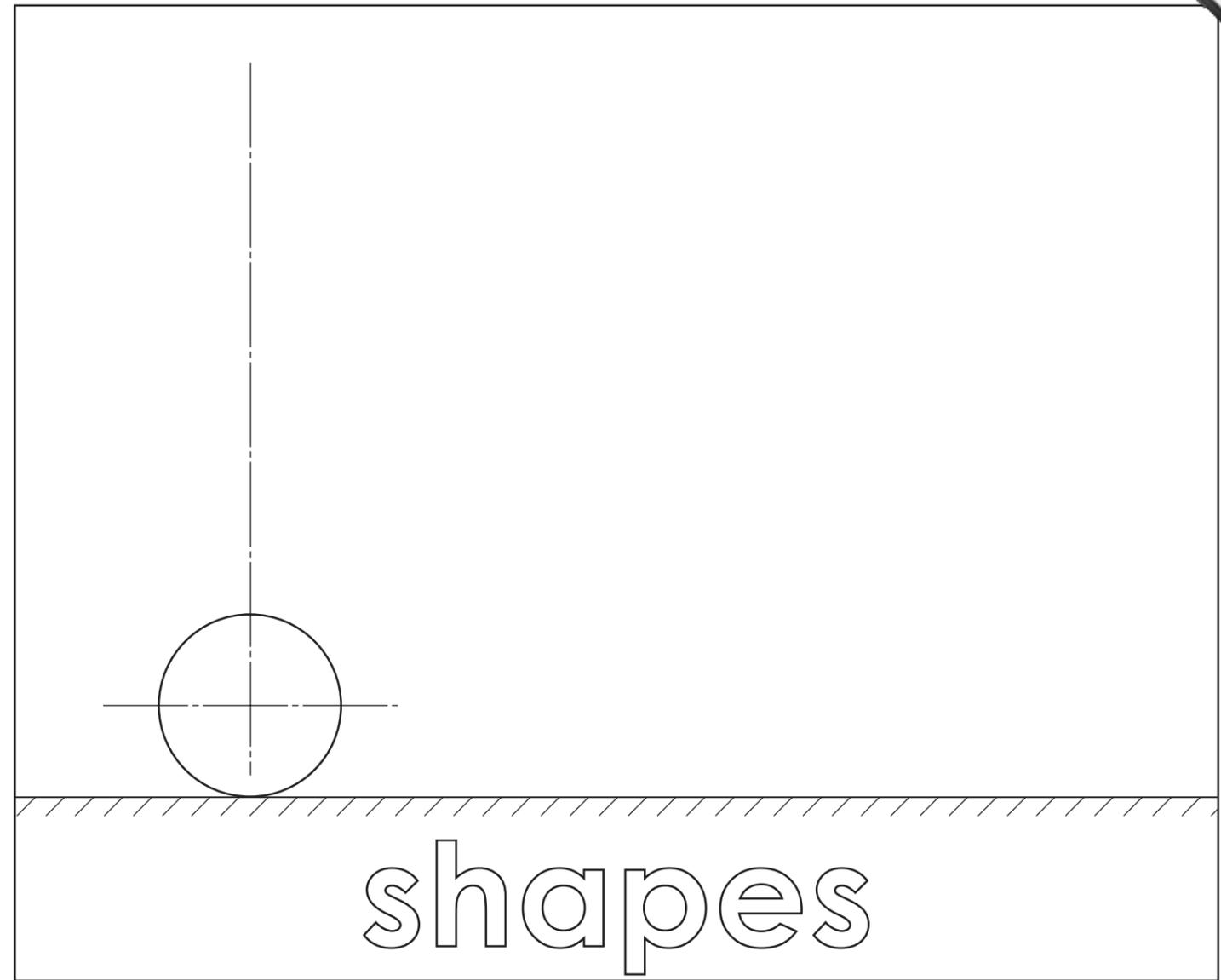
**A1** The sketch below shows a logo design for a pre-school Nursery called 'shapes'. The logo is an arrangement of shapes representing a tractor.



Draw on the full size signboard in the space provided:

- the rear wheel  $\text{Ø}60$ ;
- the rectangular engine  $100 \times 40$ ;
- the square tractor cab 64 side;
- the semi-circular roof of the cab;
- the diamond chimney  $50 \times 30$  diagonals;
- the equilateral triangle 35 side.

[9]



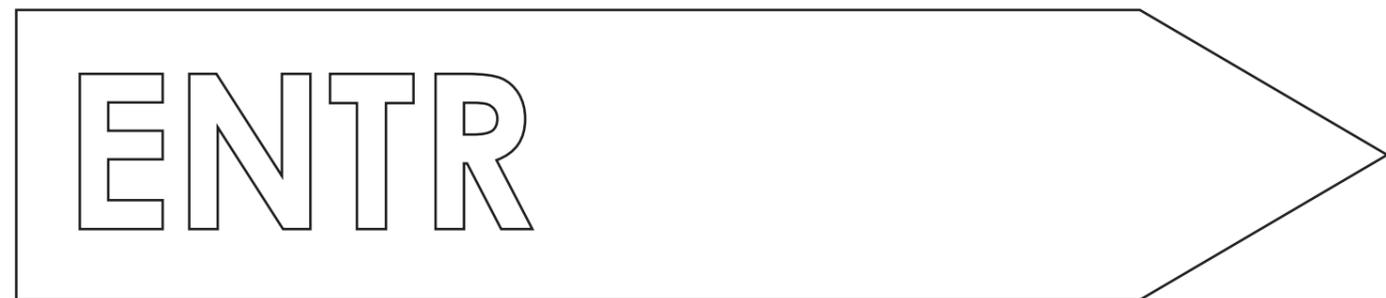
Full size signboard

**A2** An incomplete direction sign for 'ENTRANCE' is drawn to the right.

Complete the direction sign by adding the four remaining letters.

All the letters must be the same height and style as those given.

[6]



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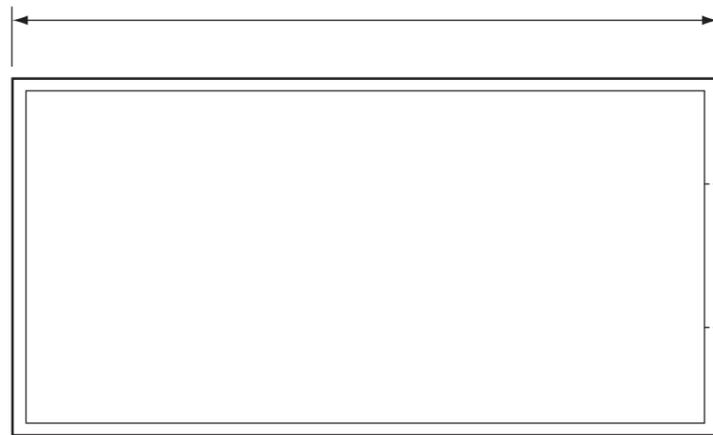
**A3** Three orthographic views of a tray made from corrugated card are shown below.

**(a)** Complete the given orthographic views by adding:

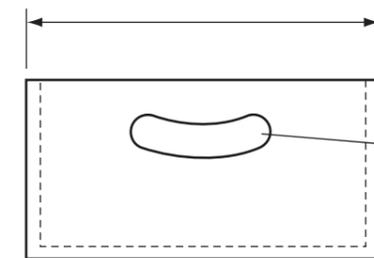
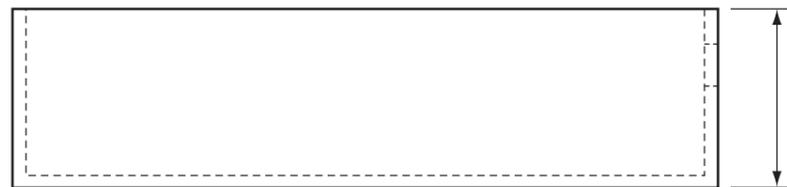
**(i)** one of the three missing measurements;

**(ii)** the third angle projection symbol. [3]

**(b)** Draw to the same scale in the space provided to the right, an isometric view of the tray. [4]

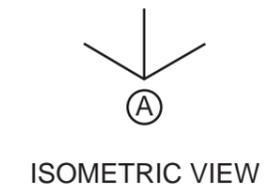


Third Angle Projection Symbol



cutout handle

SCALE 1:5



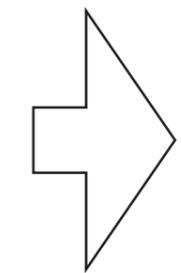
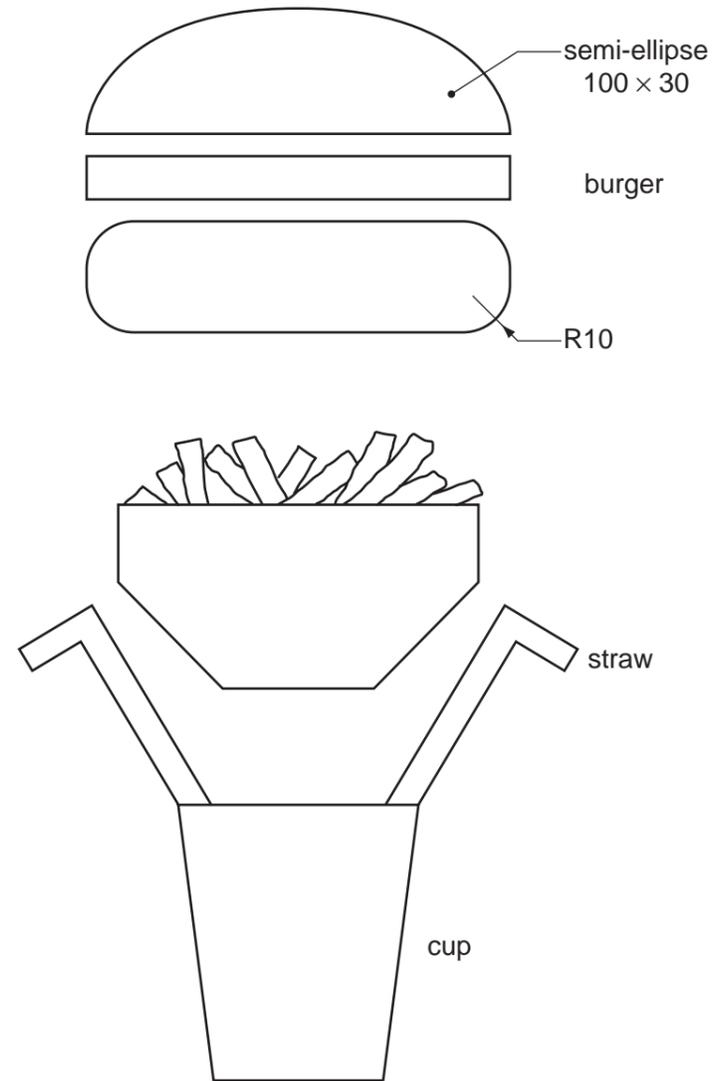
**(c)** The trays are to be used to transport fruit.

Use sketches and notes to show how the design of the tray must be modified to allow it to locate and stack one on top of the other. [3]

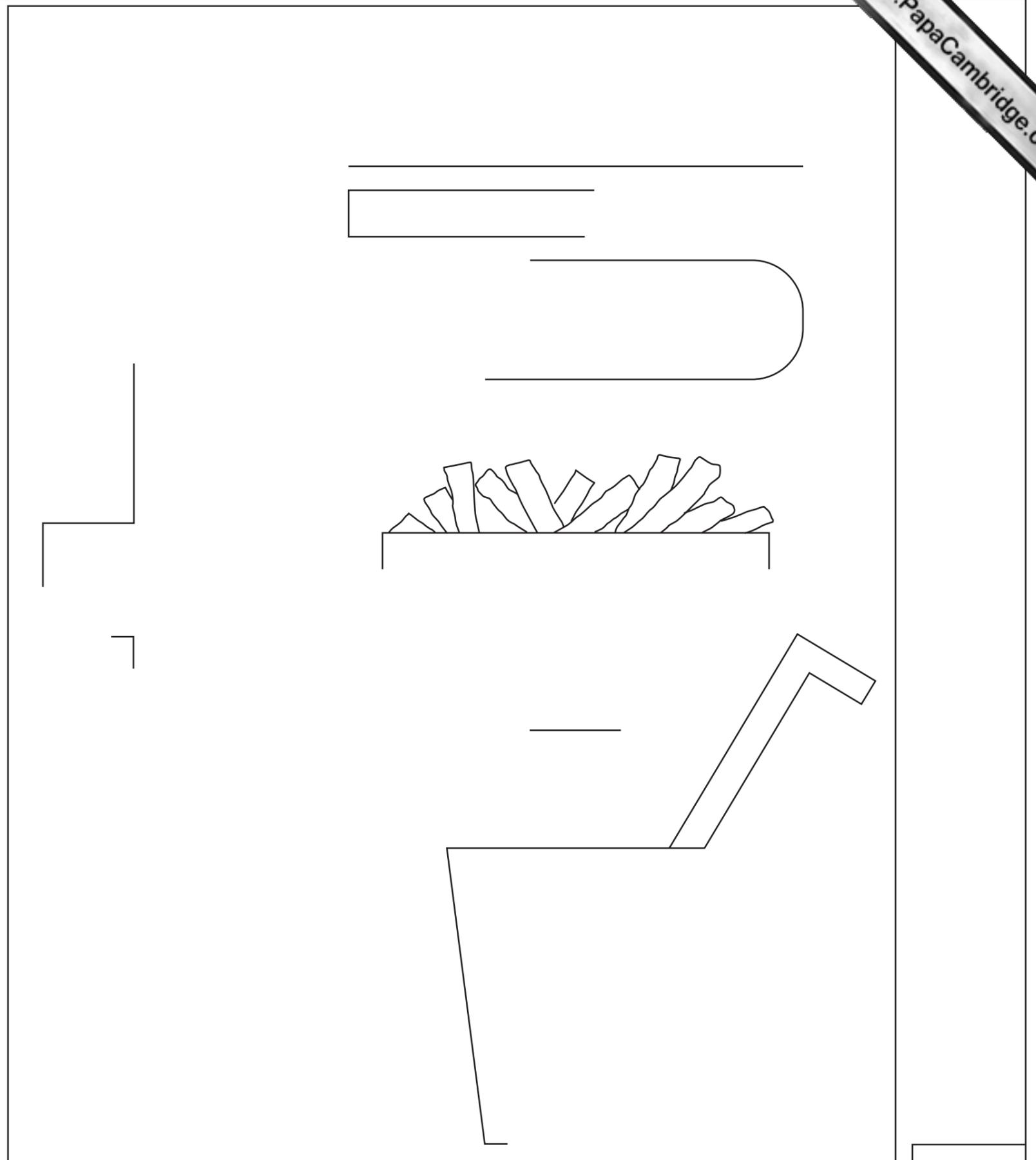
**B4** A fast food outlet uses a logo that depicts its three main products as shown in the sketch below.

Complete the full size drawing of the logo on the direction sign to the right by:

- (a) drawing the 100 × 30 semi-ellipse; [5]
- (b) completing the remainder of the 'burger' pictogram; [5]
- (c) completing the semi-octagon; [5]
- (d) completing the cup and drawing in the second straw; [5]
- (e) completing the arrow on the direction sign in the position shown by using a geometrical construction to enlarge the given 'Arrow' shape. [5]



'Arrow' shape



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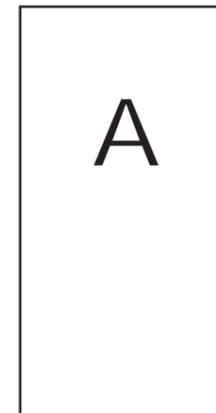
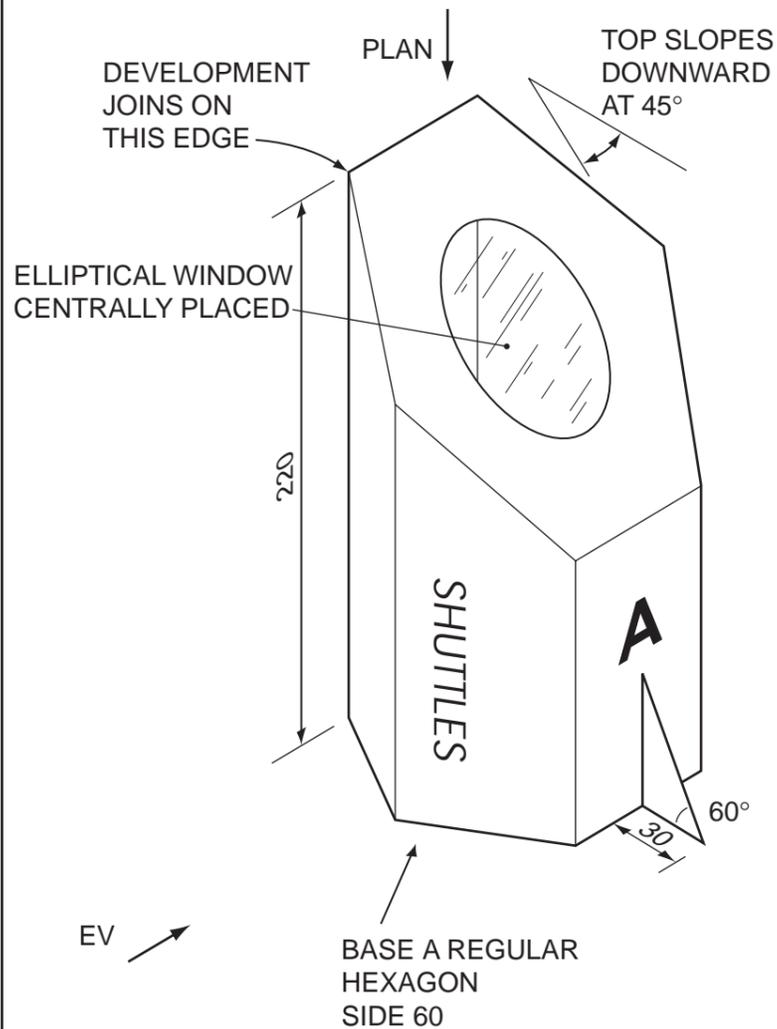
**B5** The sketch below shows a thin card packaging for sweets called 'SHUTTLES'.  
The packaging has a small window in the lid and a tail fin on side **A**.

Answer part (a) here

Answer part (b) here

In the spaces indicated:

- (a) Draw to a scale of 1:2 in first angle projection, the PLAN and the end view EV of the packaging. The elliptical window appears as a  $\text{Ø}50$  circle in the PLAN. [10]
- (b) Complete, to the same scale, the one piece development (net) of the packaging including the lid and the elliptical window. Do not include the base and the tail fin or gluing and other flaps. Ignore the thickness of the card. [11]
- (c) Sketch a design for attaching the tail to the packaging without using glue. [4]



Answer part (c) here