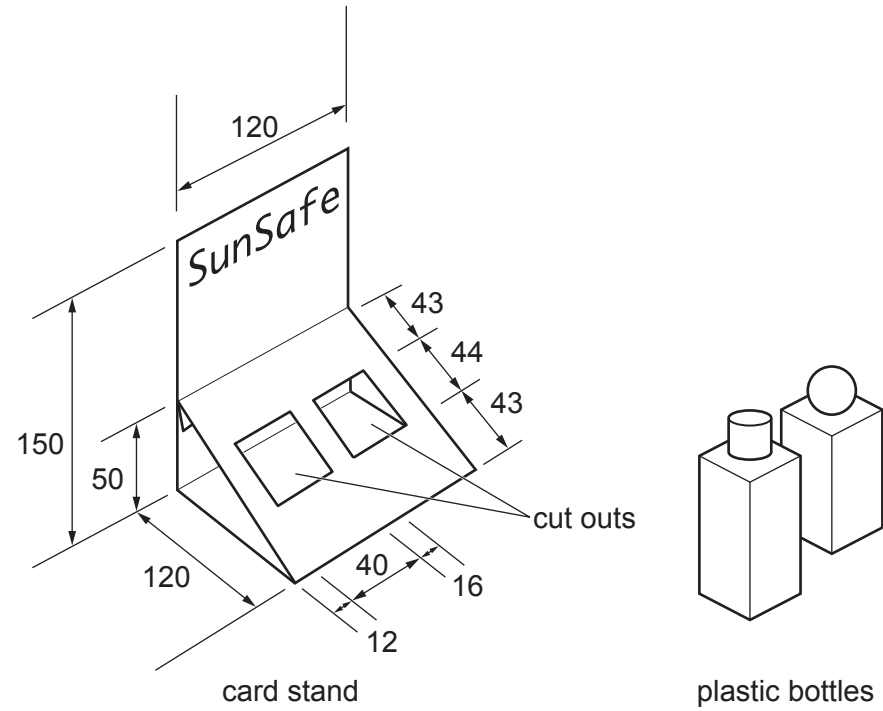


**Section A**

Answer question A1.

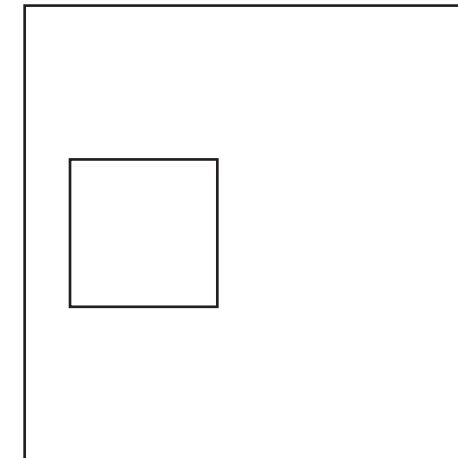
**A1** A design for a point of sale display for sun protection products is shown below. The plastic bottles fit into the cut outs on the card stand.



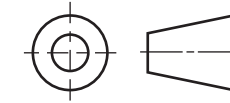
**(b)** Complete the orthographic views of the card stand to a scale of 1 : 2 by adding:

(i) the second cut out to the plan view [3]

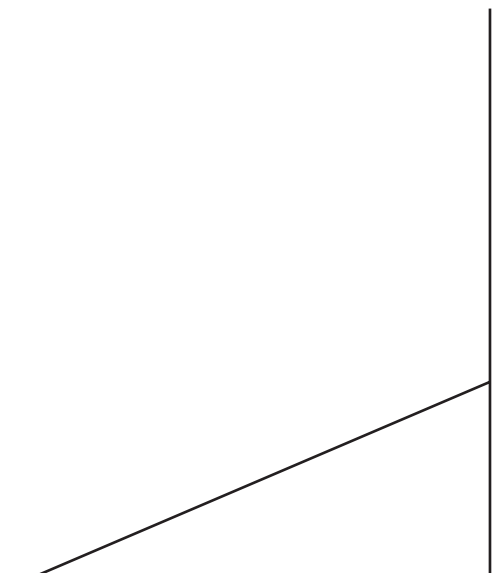
(ii) both cut outs to the front view. [6]



plan



front view



end view

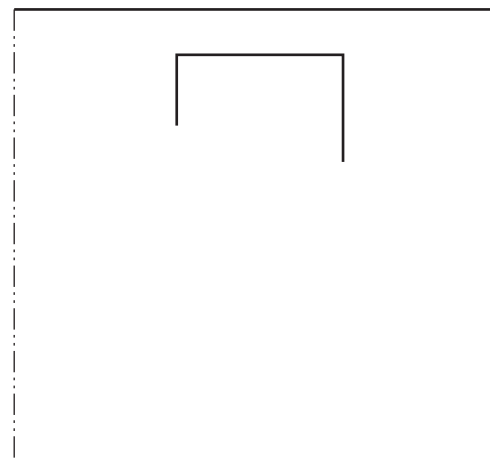
**(a)** Complete the development (net) of the card stand to a scale of 1 : 2 by adding:

(i) the missing base and back [5]

(ii) the two cut outs [3]

(iii) the glue tab. [1]

SunSafe



development (net)

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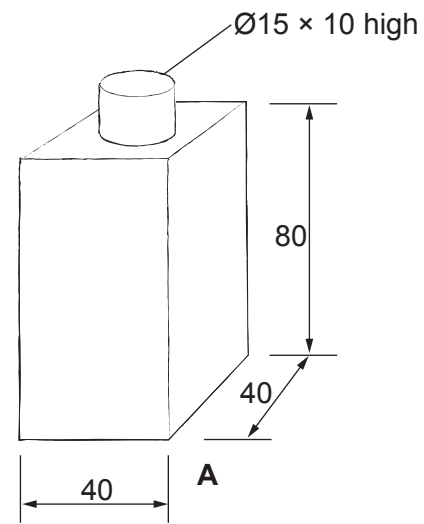
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Other Names .....

**[Turn over]**

For Examiner's use	
A	
B	
B	
Total	

(c) One of the plastic bottles for the point of sale display stand is shown below.



Accurately construct a full size isometric view of the plastic bottle.

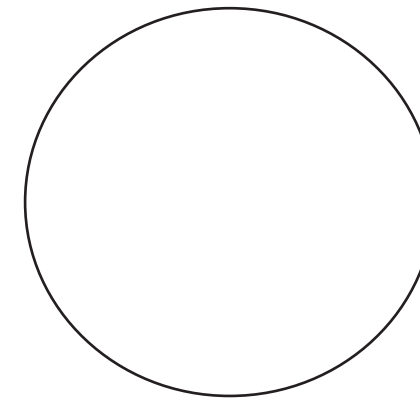
Corner **A** has been given as a starting point.

[8]

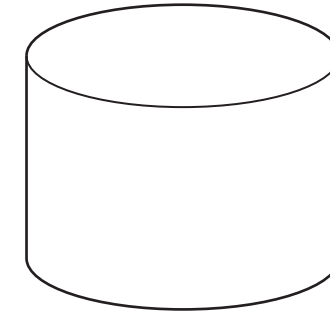
(d) Drawings of the caps for the two plastic bottles are shown below.

(i) Render the spherical bottle cap to look like it is made from shiny plastic. [2]

(ii) Add finger grips to the cylindrical bottle cap. [2]



spherical bottle cap



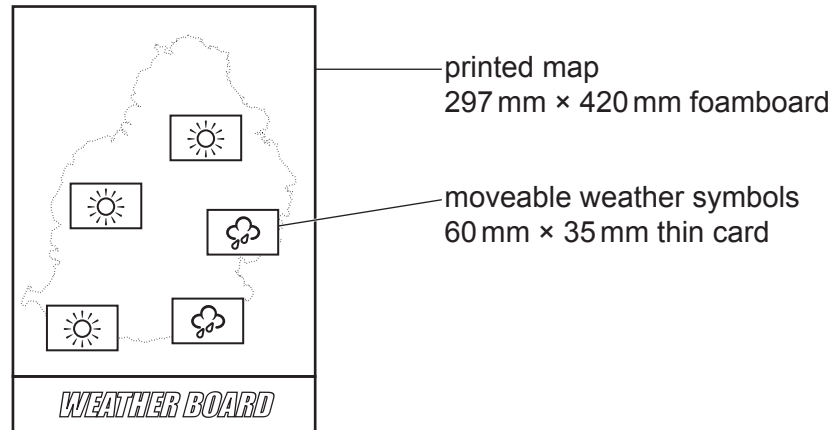
cylindrical bottle cap

isometric view

**Section B**

Answer **two** questions from this section.

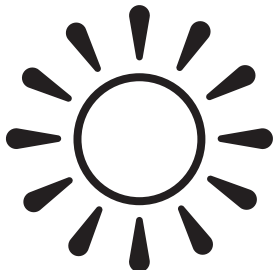

**B2** A design for a weather display board is shown below.



(a) A table showing the different weather symbols used on the display board is shown below. Complete the table by adding:

(i) the word *SUNNY* [1]

(ii) designs for the *CLOUDY* and *LIGHTNING* symbols. [6]

	
	<i>CLOUDY</i>
	
<i>RAIN</i>	<i>LIGHTNING</i>

(iii) Give **two** benefits of using symbols rather than words to show the weather.

1 ..... [1]

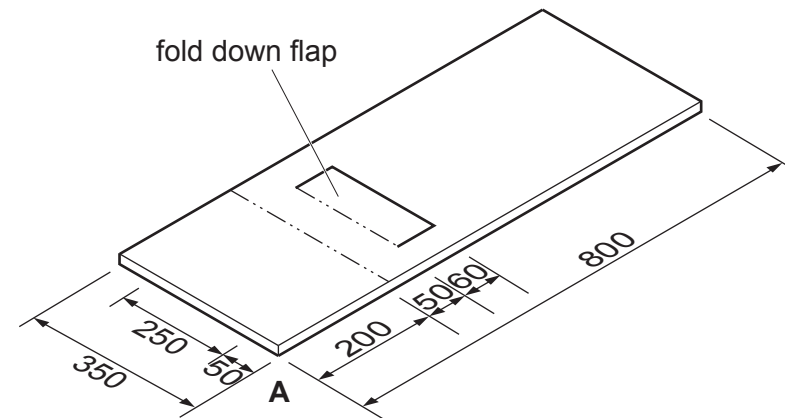
2 ..... [1]

(b) Use sketches and notes to show:

(i) a temporary method of attaching the card weather symbols to the foamboard map [3]

(ii) a method of making the card weather symbols water resistant. [3]

(c) A stand for the weather display board is to be made from acrylic sheet. The marked out and cut acrylic sheet is shown below.



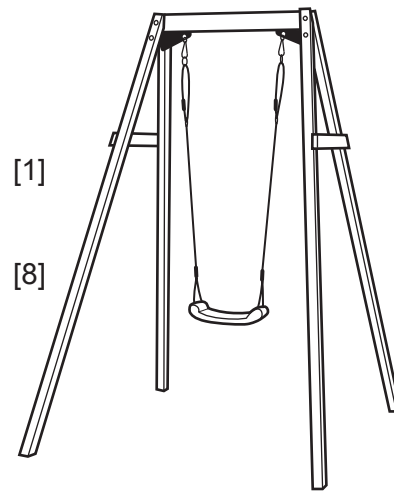
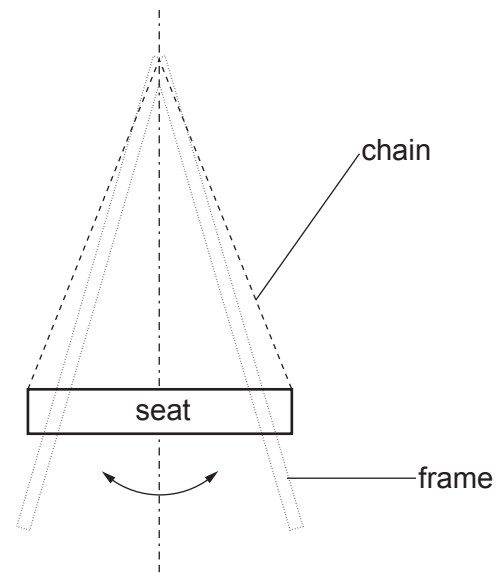
Accurately complete the scale 1:10 planometric view below of the folded sheet of acrylic. Corner **A** has been given as a starting point. [10]



**B3** A garden swing is shown to the right.

(a) Complete the schematic drawing of the garden swing below by:

- (i) labelling the fixed pivot [1]
- (ii) showing the positions of the seat and chain 30° to the left and 30° to the right of the vertical. [8]



(b) Sales of the garden swing over a four year period are shown in the table below.

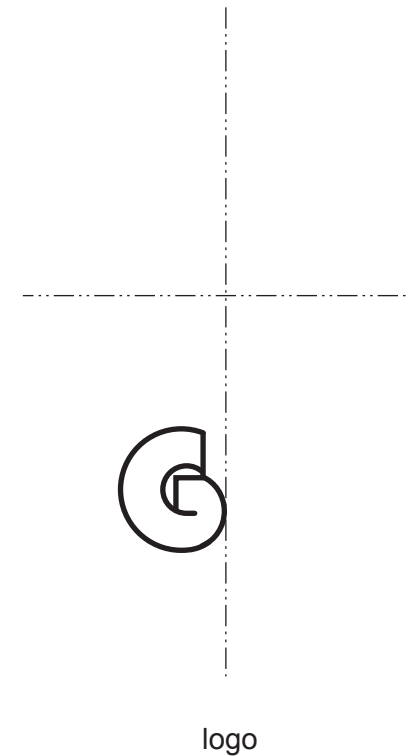
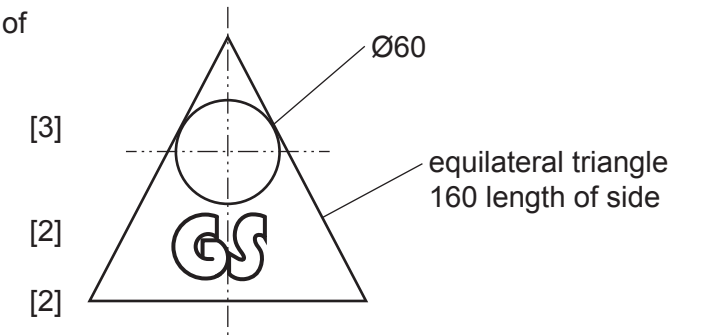
In the space below draw a 3D bar chart to show the sales of the garden swing over the four year period. Use colour and labels to enhance the appearance of the bar chart. [5]

	Sales
2020	4600
2021	5800
2022	3200
2023	2800

(c) A logo that is used by the garden swing manufacturer is shown below.

On the given centre lines complete the drawing of the logo to a scale of 1:2 by adding:

- (i) the Ø60 circle [3]
- (ii) the equilateral triangle with length of side 160 mm [2]
- (iii) the missing letter 'S'. [2]

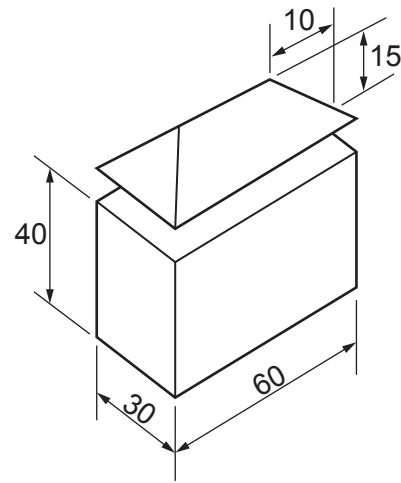


(iv) Use sketches and notes to show **two** modifications to the garden swing manufacturer's logo that will make the logo represent a swinging motion. [4]

modification 1

modification 2

**B4** A model building made from two blocks of Styrofoam is shown below.



**(c) (i)** Use sketches and notes to show a method of adding a door and a window to the Styrofoam model. [3]

**(ii)** Render the drawing of the door below to make it look like wood, and the drawing of the window to look like glass. [4]

**(a) (i)** State **two** reasons why Styrofoam is a suitable material for the model.

1 ..... [1]

2 ..... [1]

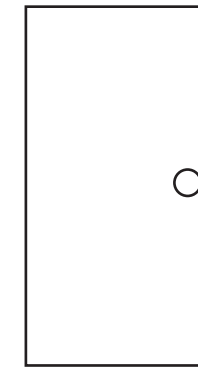
**(ii)** Name **two** tools that could be used to shape the Styrofoam blocks.

1 ..... [1]

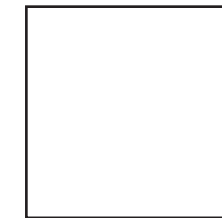
2 ..... [1]

**(iii)** Name an adhesive that could be used to join the Styrofoam blocks together.

..... [1]



door



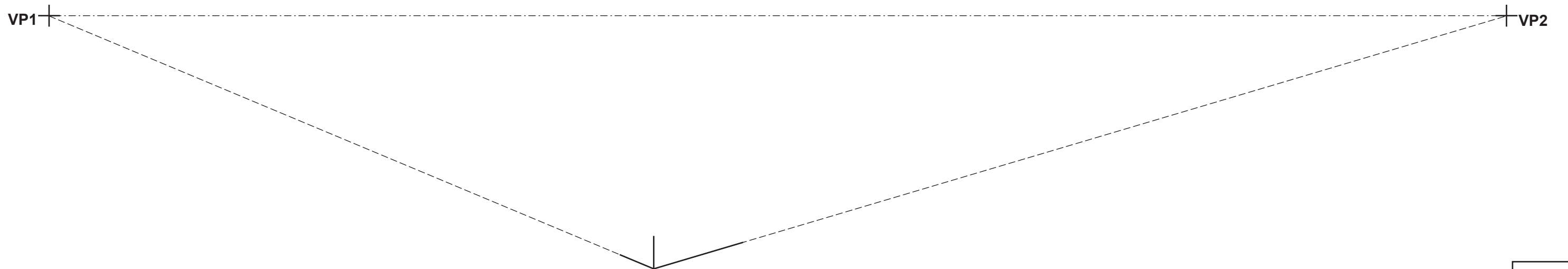
window

**(d)** State **two** reasons why a designer might make a model of a building.

1 ..... [1]

2 ..... [1]

**(b)** Complete the full size two-point perspective drawing of the assembled model building below. [11]



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