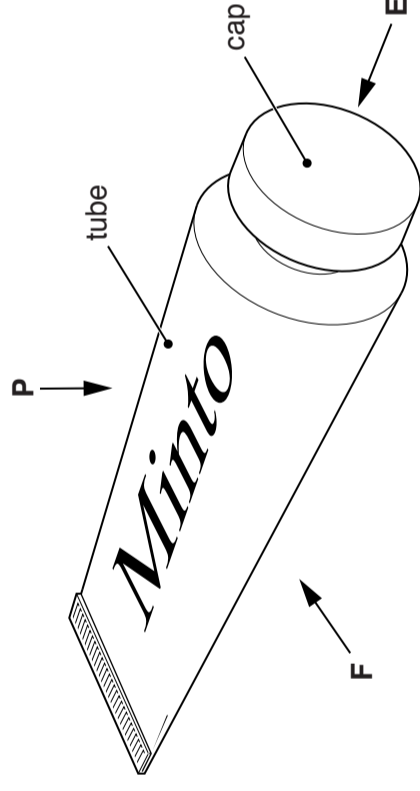


1 (a) A sketch of a toothpaste tube is shown on the right.

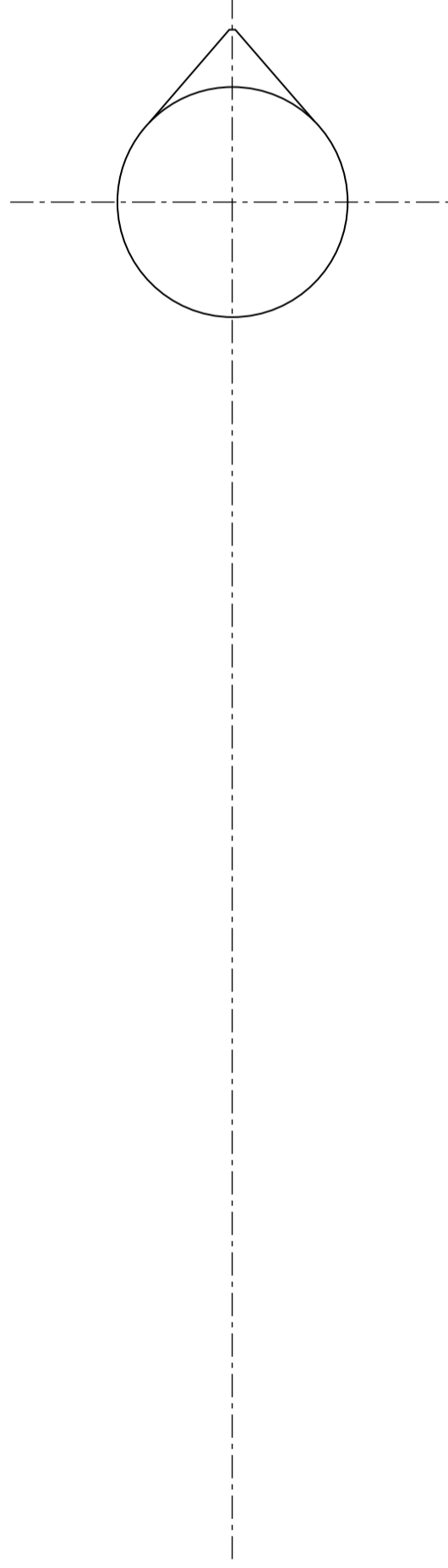
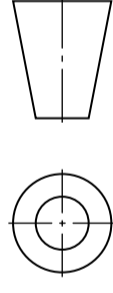
In the space below complete the following full size orthographic views of the toothpaste tube:

(i) a front view in the direction of F; [7]

(ii) an end view in the direction of E. [3]



plan

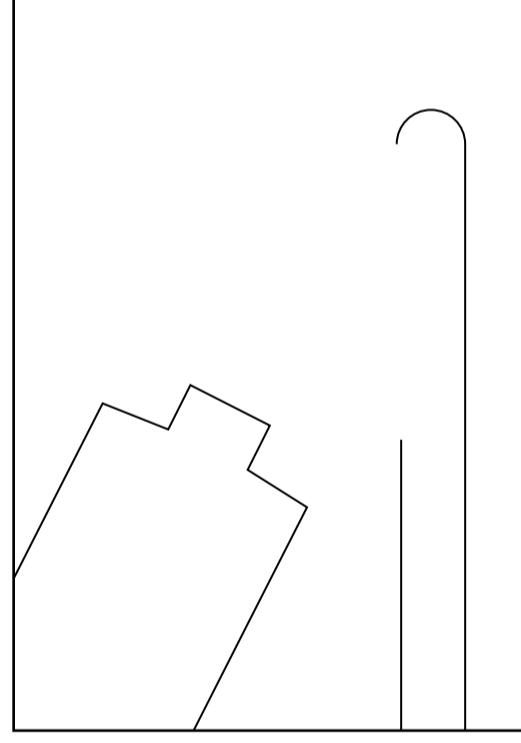


front view

(b) Write two specification points for the material the toothpaste tube is made from.

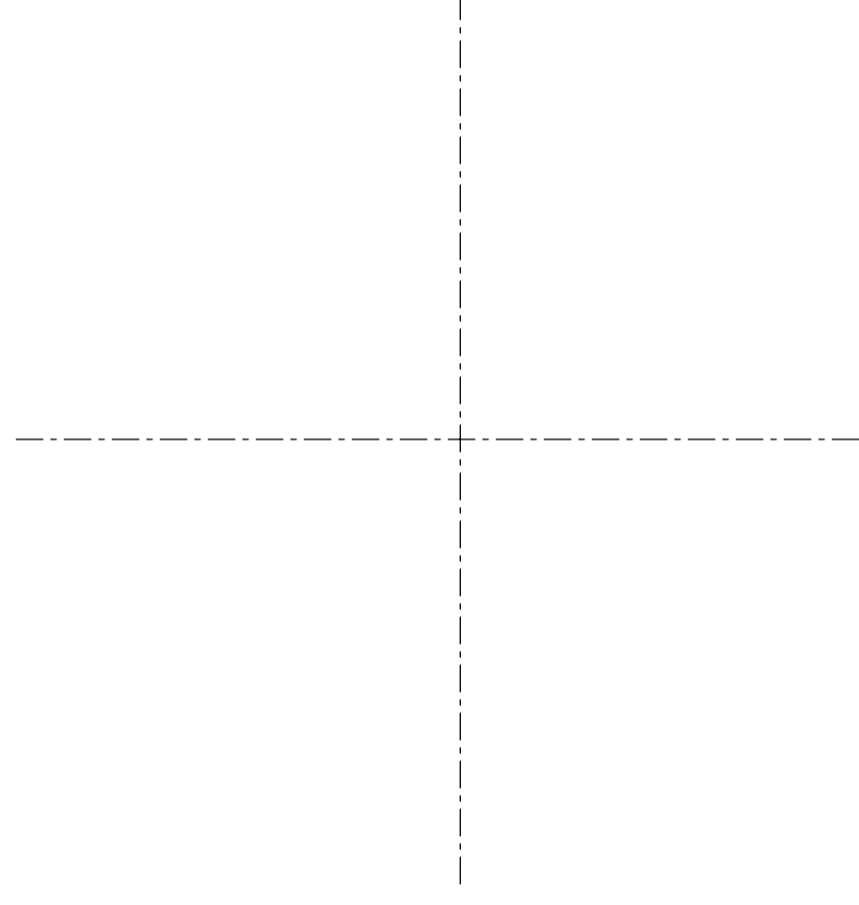
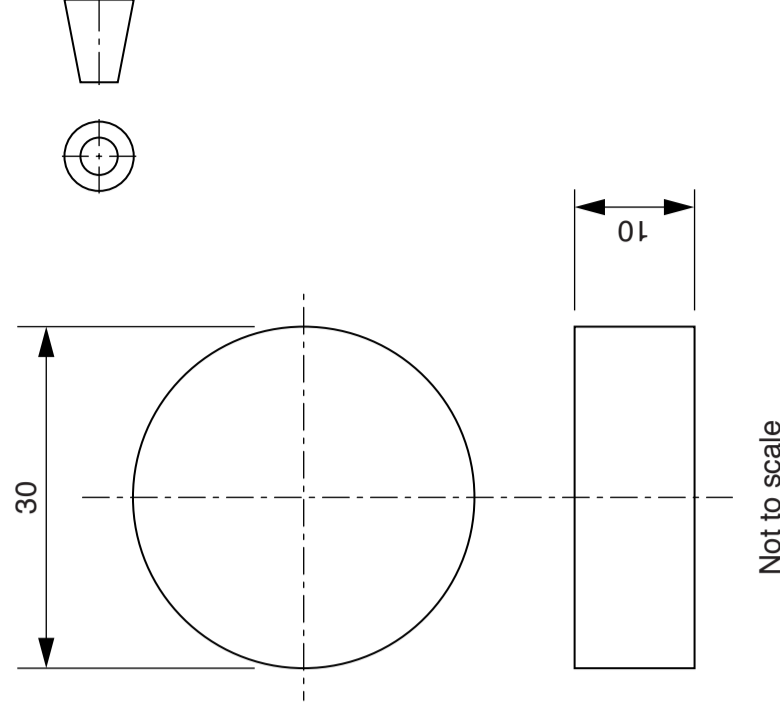
1. .... [1]
2. .... [1]

(c) Complete the diagram below to show the toothpaste being applied to a toothbrush. [3]



(d) Orthographic views of the cap of the toothpaste tube are shown on the right.

Draw to a scale of 2:1 a planometric view of the cap on the given centre lines. [5]



(e) The toothpaste tube is packaged in a card box. In the space below complete the sketch of the development (net) of the box for the toothpaste tube. Clearly show the fold in flaps, the glue lines and the glue tab. [8]



(f) Explain one way the manufacturer of the toothpaste could make the card packaging environmentally friendly. [2]

- .....
- .....
- .....
- .....
- .....
- .....

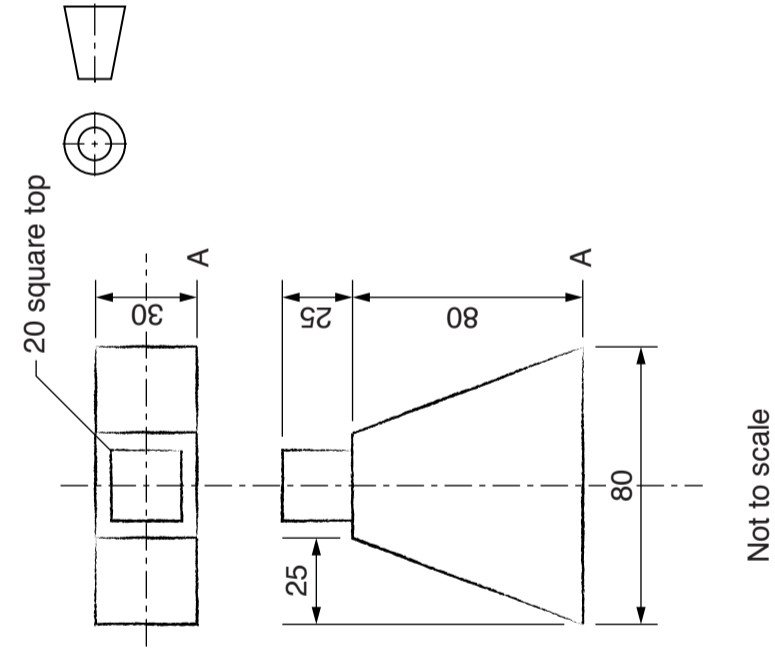


Candidate Surname .....  
Other Names .....  
Centre Number .....  
Candidate Number .....

[Turn over]

Examiner's use only

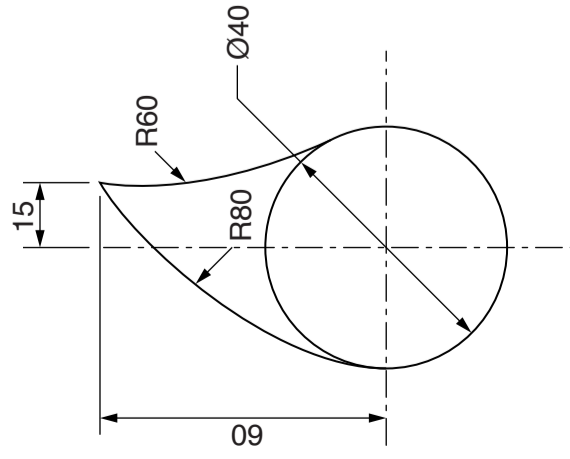
2 (a) Orthographic views of a perfume bottle are shown on the right. From the given start point **A** draw a full size **isometric** drawing of the perfume bottle. [8]



→ A

(b) A sketch of the label to be added to the perfume bottle is shown below.

On the centre lines below, draw a full size view of the outline shape of the label. [4]



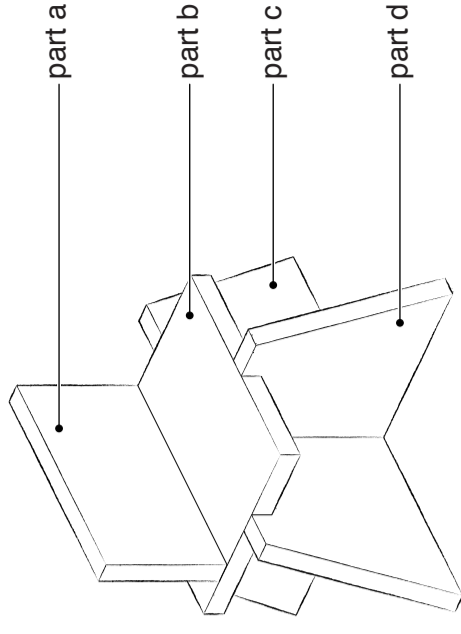
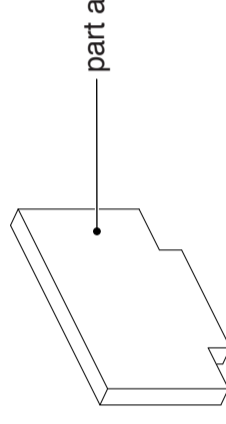
(c) Complete the list below to show **three** pieces of information that would be printed on the label for the perfume bottle. [1]

1. *Product name* .....
2. .... [1]
3. .... [1]

(d) Tick (✓) the method below that would be used to produce 20 000 colour labels for the perfume bottle. [1]

Photocopying	
Embossing	
Digital printing	

(e) A point of sale display stand for the perfume bottle is shown on the right. The stand is made from four pieces of foam board that slot together. Complete the exploded sketch below by adding parts **b**, **c** and **d**. [8]



(f) Add thick and thin line technique to part **a** of the exploded sketch above. [3]

(g) Complete the list below to show the **three** pieces of equipment that are required to cut out the foam board pieces of the point of sale display stand.

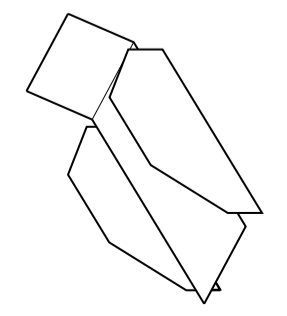
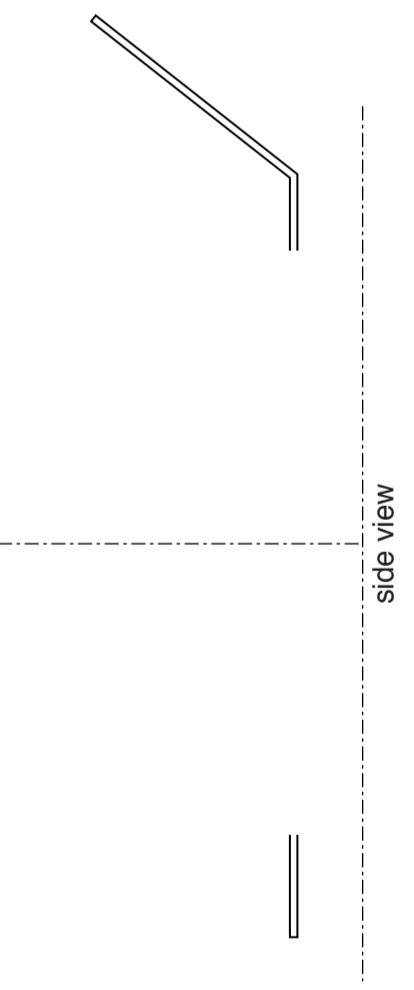
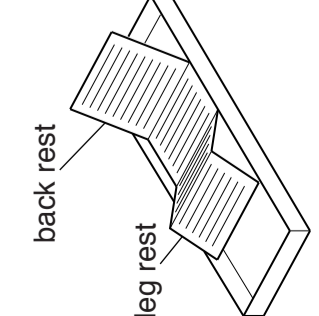
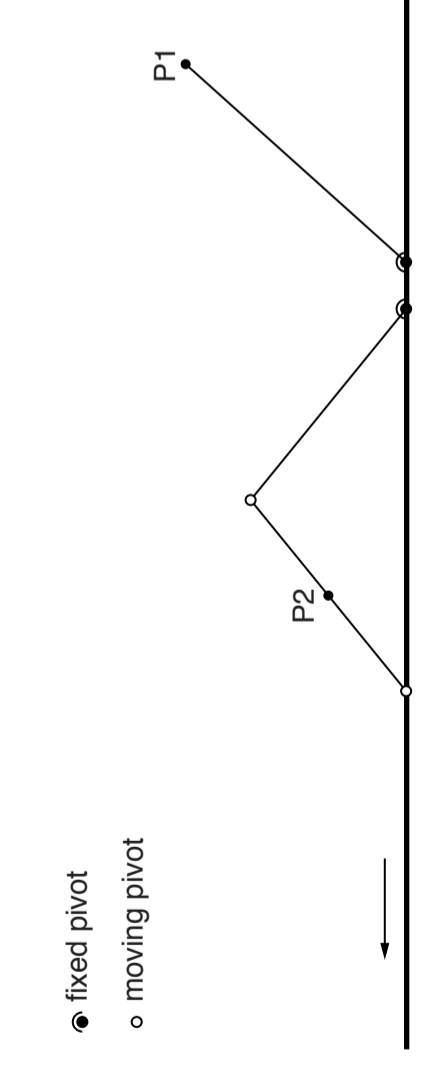
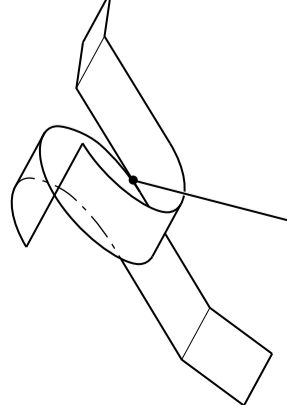
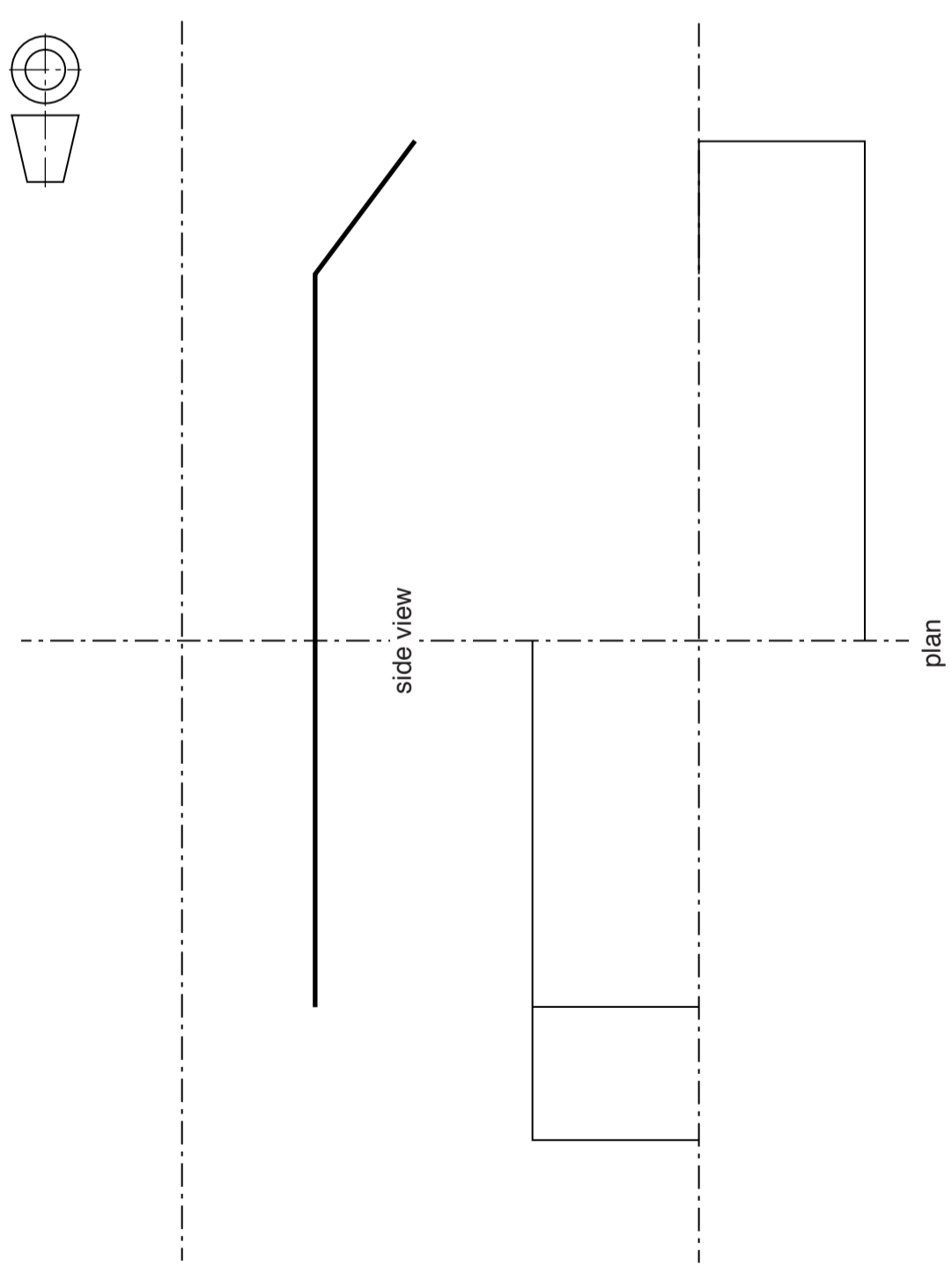
1. *Cutting mat* .....
2. .... [1]
3. .... [1]

(h) Explain **one** thing that would need to be checked to make sure the parts of the display stand are cut out correctly before they are assembled. [2]

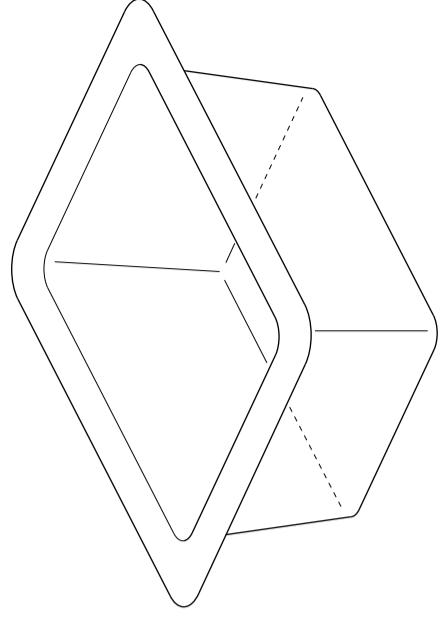
- .....
- .....
- .....
- .....
- .....
- .....

3 Three sun loungers are shown in the table below.

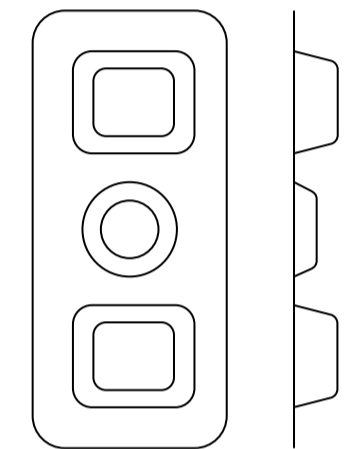
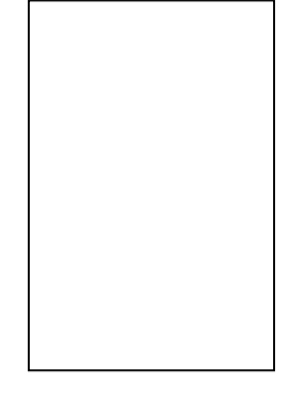

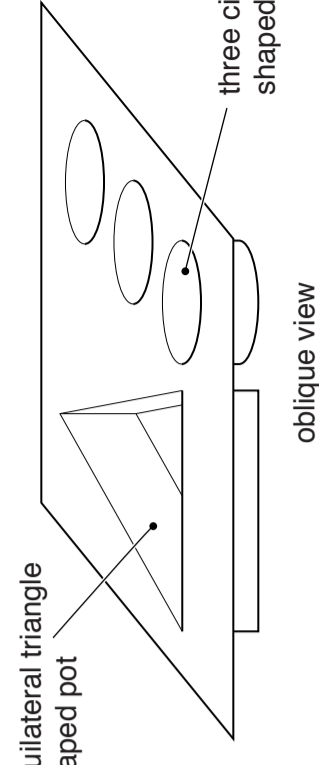
- (a) Complete the 1 : 10 scale drawing of the side view of sun lounger A by drawing a semi octagon with length of side 40. [7]
- (b) (i) Draw the path of point P1 as the back rest folds down to a horizontal position. [2]  
(ii) Draw the path of point P2 as the leg rest folds down to a horizontal position. [4]
- (c) Complete the 1 : 10 plan and side view of sun lounger C. [12]

<p><b>sun lounger A</b></p> 	 <p style="text-align: right;">side view</p>
<p><b>sun lounger B</b></p> 	 <p>● fixed pivot ○ moving pivot</p>
<p><b>sun lounger C</b></p>  <p>ellipse: 60 major axis 40 minor axis</p>	 <p style="text-align: right;">side view plan</p>

4 (a) A plastic container for food is shown on the right. Render the sketch of the container to show that it is made from clear plastic sheet. [3]



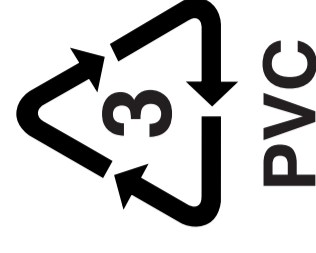
- (b) The table below shows two containers for food. In the spaces provided complete the sketches of:
- (i) the oblique view of container A; [6]  
(ii) the plan and side view of container B. [7]
- Estimate all dimensions.

<p>container A</p>  <p>orthographic views</p>	<p>container B</p>  <p>plan side view</p>
 <p>oblique view</p>	 <p>equilateral triangle shaped pot three circular shaped pots oblique view</p>

(c) The sales of container A over a four year period are shown in the table below. On the axis below draw and label a **line graph** to show the increase in sales over the four year period. [7]

	2011	2012	2013	2014
sales	20 000	45 000	50 000	70 000

(d) The symbol below is moulded into container B. Explain the meaning of the symbol and why it is needed. [2]



.....

.....

.....

.....



**SHEET 2 OF 2 (SECTION 2)**  
Write your surname, other names, Centre number and candidate number in the spaces provided.  
Answer **one** question only from Section 1 (Questions 1 and 2).  
Answer **two** questions only from Section 2 (Questions 3 to 6).  
Answer the questions in the spaces provided.  
All construction and projection lines must be clearly shown.  
All dimensions are in millimetres unless otherwise stated.  
The number of marks is given in brackets [ ] at the end of each question or part question.  
**DO NOT WRITE IN ANY BARCODES.**

[Turn over]

Candidate Surname .....

Other Names .....

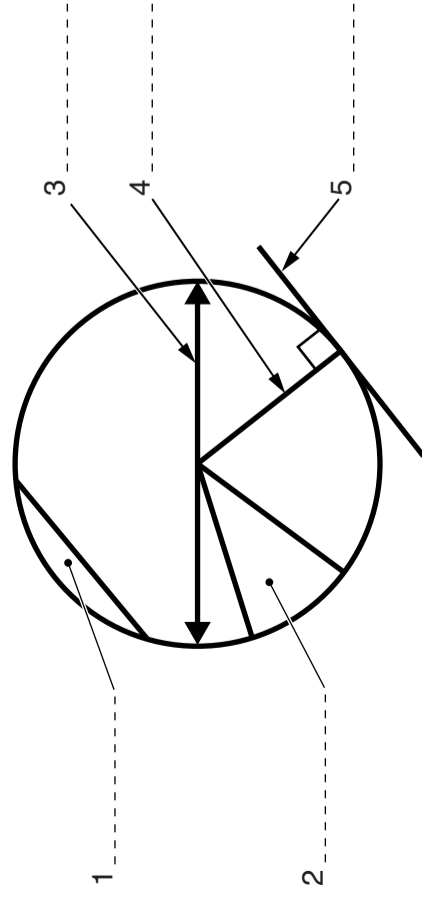
Centre Number .....

Candidate Number .....

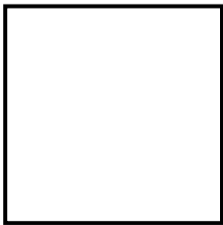
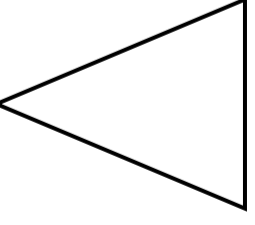
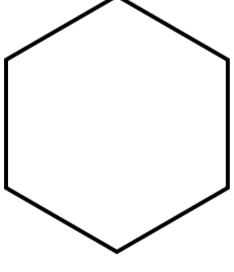
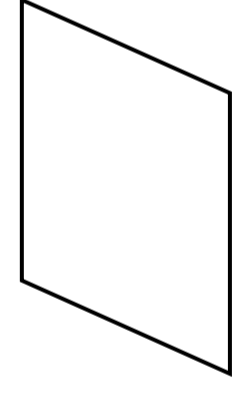
**Examiner's use only**

5 The teaching aid on the right is used to help young children understand geometrical shapes.

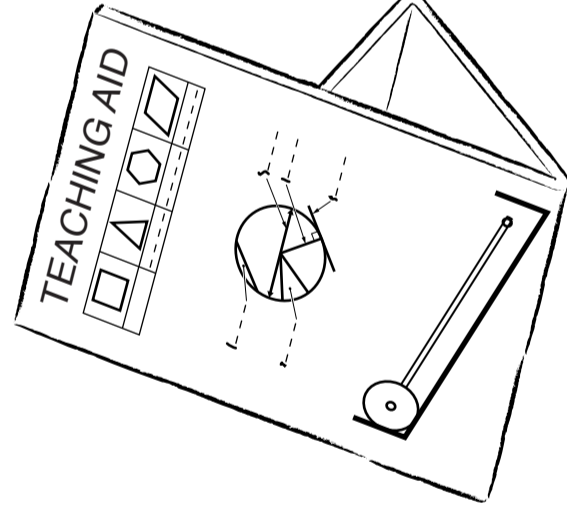
(a) Complete the diagram below by adding the names of the main parts of a circle. [5]



(b) Complete the table below to show the names of the four geometrical shapes. [4]

			
square			

teaching aid



6 (a) The stages in making a call on a mobile phone are shown below.

- Press red button to end call
- Talk
- Press green button
- Switch on mobile
- Enter number

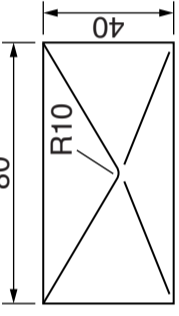
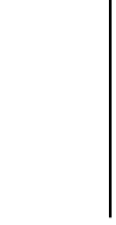
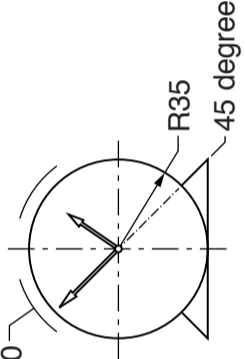
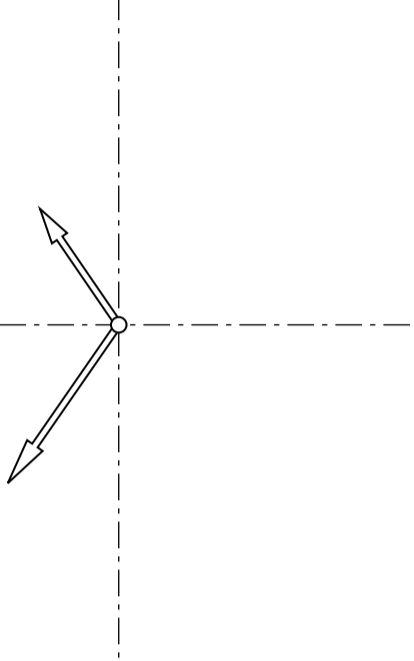
Complete the flow chart on the right to show how to make a call on a mobile phone. [7]



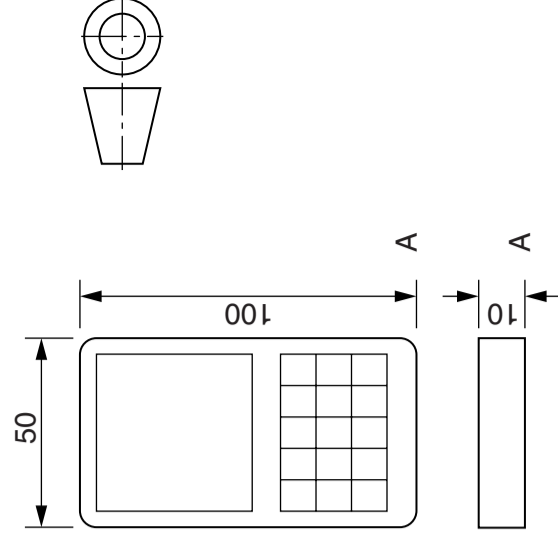
(b) Complete the table below to show full size drawings of:

(i) the text symbol; [5]

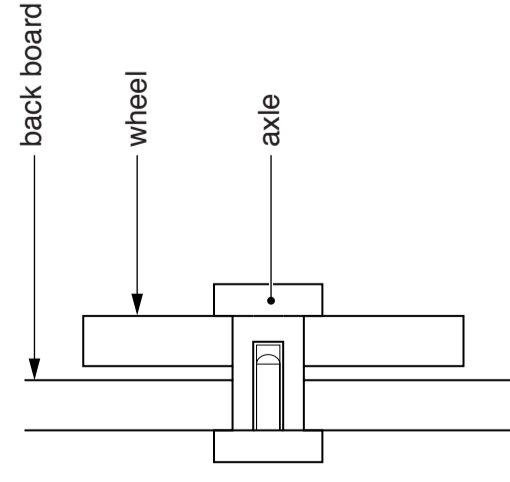
(ii) the alarm symbol. [4]

 <p>text symbol</p>	
 <p>alarm symbol</p>	

(c) Complete the estimated two point perspective drawing of a mobile phone in the space below. Estimate any dimensions not given. [9]

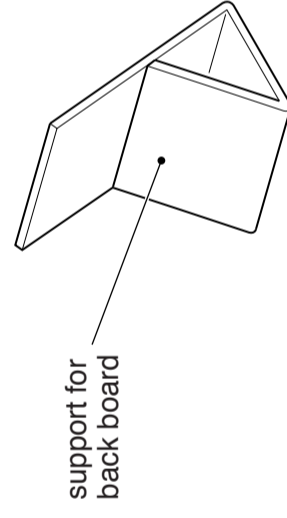


(d) Complete the sectional view below by adding cross hatching to the back board and wheel. [3]



sectional view

(e) The back board of the teaching aid is made from folded foam board. Use a sketch and notes to show a method of preventing the back board from slipping out of position. [3]



support for back board

(c) Plot the path of point P as the wheel rolls between the positions shown. [10]

