Section A

Answer all questions in this section.

A1 A sketch of a model boat is shown below.

In the space below complete:

(a) the plan and end view of the model boat; [8]
(b) the third angle projection symbol. [2]

A2 (a) The model boat is to be made from a block of wood.

Add colour/shading to the drawing of the block below to make it look like wood. [3]

(b) The name Neptune is written on the hull of the model boat. Complete the drawing below to show the name of the model boat. [3]
A3 (a) The model boat below is to be made from thin card. In the space below complete the one-piece development (net) required to make the model boat. Include all glue tabs and clearly show fold lines. [5]

(b) Complete the table below to show the equipment required to draw the development (net) of the model boat on thin card.

<table>
<thead>
<tr>
<th>Equipment required to draw the development (net) on thin card</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ........................................ [1]</td>
</tr>
<tr>
<td>2. Pencil and rule</td>
</tr>
<tr>
<td>3. Set square [1]</td>
</tr>
</tbody>
</table>

(c) Name a method of printing 10 000 colour copies of the development (net) required to make the model boat and give one reason for your choice of printing method.

Method .................................................................................................................... [1]
Reason .....................................................................................................................
......................................................................................................................................... [1]
Section B
Answer either question B4 or B5.

B4 (a) A model of the tail of an aeroplane is to be used to promote an airline. A sketch of the model of the tail of the aeroplane and the airline logo are shown on the right.

On the centre lines on the right construct, full size:

(i) the logo; [10]

(ii) the outline shape of the tail of the aeroplane. [8]

(b) The outline shape of the tail of the aeroplane is to be made from foam board and the logo design printed on paper.

Complete the table below to show:

| (i) the tools and equipment required for cutting out the foam board shape; [3] | 1. .................................................................
| | 2. .................................................................
| | 3. .................................................................

(ii) a method of attaching the paper logo design to the foam board. [1]

..........................................................................

(c) The foam board tail of the aeroplane is to stand in an upright position on a flat surface.

In the space below use sketches and notes to show a modification to the outline shape of the tail of the aeroplane that will allow it to stand in an upright position on a flat surface. [3]
Orthographic views of a juice carton with a round cap are shown below.

On the orthographic views:

(i) add the round cap to the plan; [3]
(ii) project the true shape of surface X from the front view. Do not include the cap. [4]

Orthographic views of the round cap for the juice carton are shown below.

In the space below draw a scale 2:1 isometric view of the cap. [10]

The sales figures for four different types of juice are shown below.

<table>
<thead>
<tr>
<th></th>
<th>Lemon</th>
<th>Orange</th>
<th>Mango</th>
<th>Apple</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>15000</td>
<td>90000</td>
<td>45000</td>
<td>30000</td>
</tr>
</tbody>
</table>

On the centre lines below draw a pie chart to show the sales figures for the four different types of juice. Use colour/shading and labels to enhance the appearance of the pie chart. [5]

Complete the list below to show four specification points for the juice carton. [3]

1. The carton must be able to contain a liquid.
2. ...........................................................................................................................
3. ...........................................................................................................................
4. ...........................................................................................................................