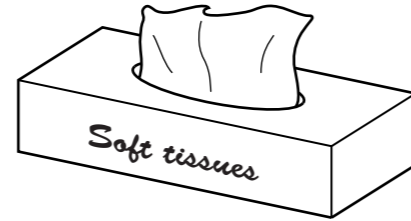
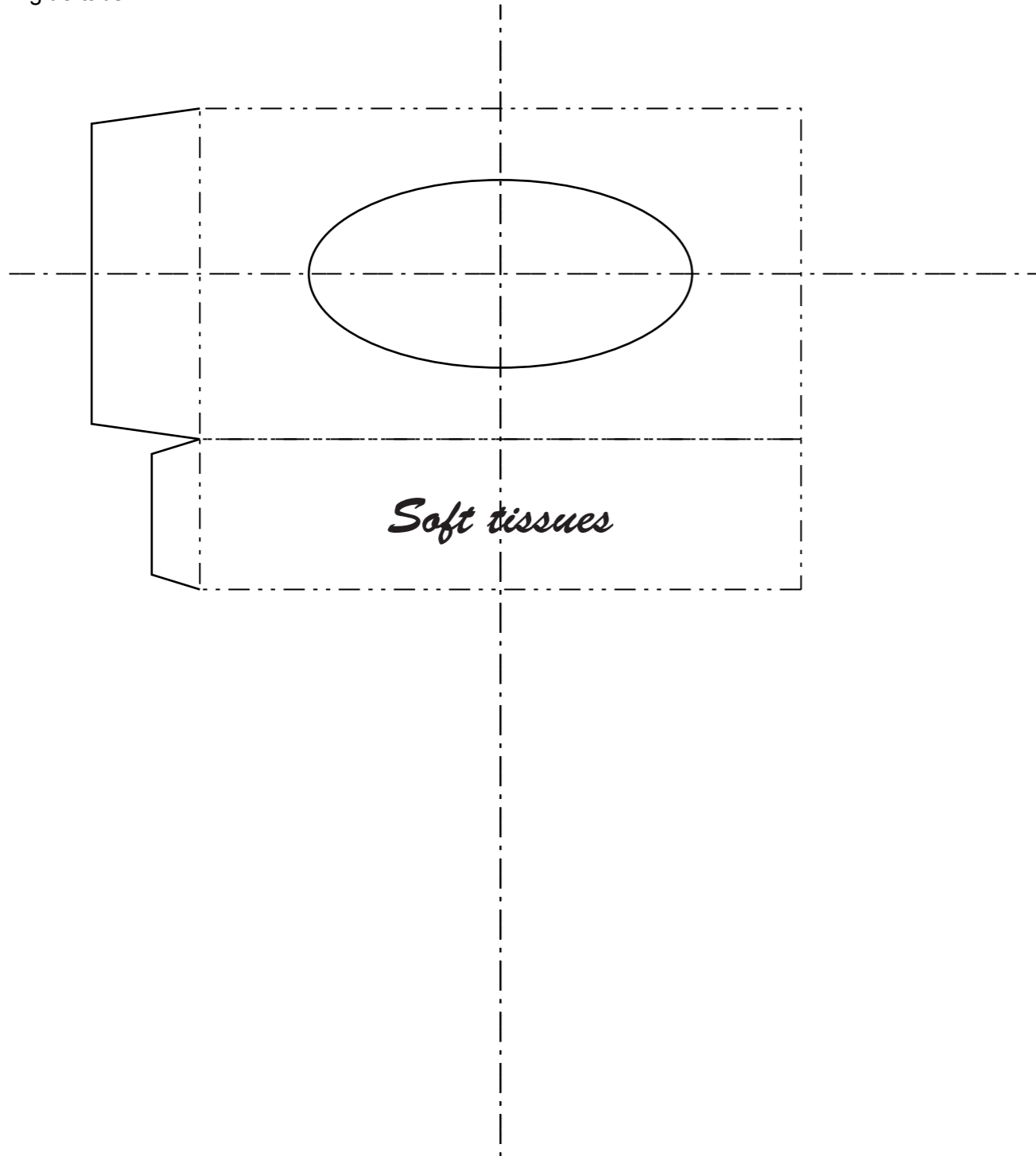


**Section A**  
Answer **all** questions in this section.

**A1** A sketch of a tissue box is shown on the right.

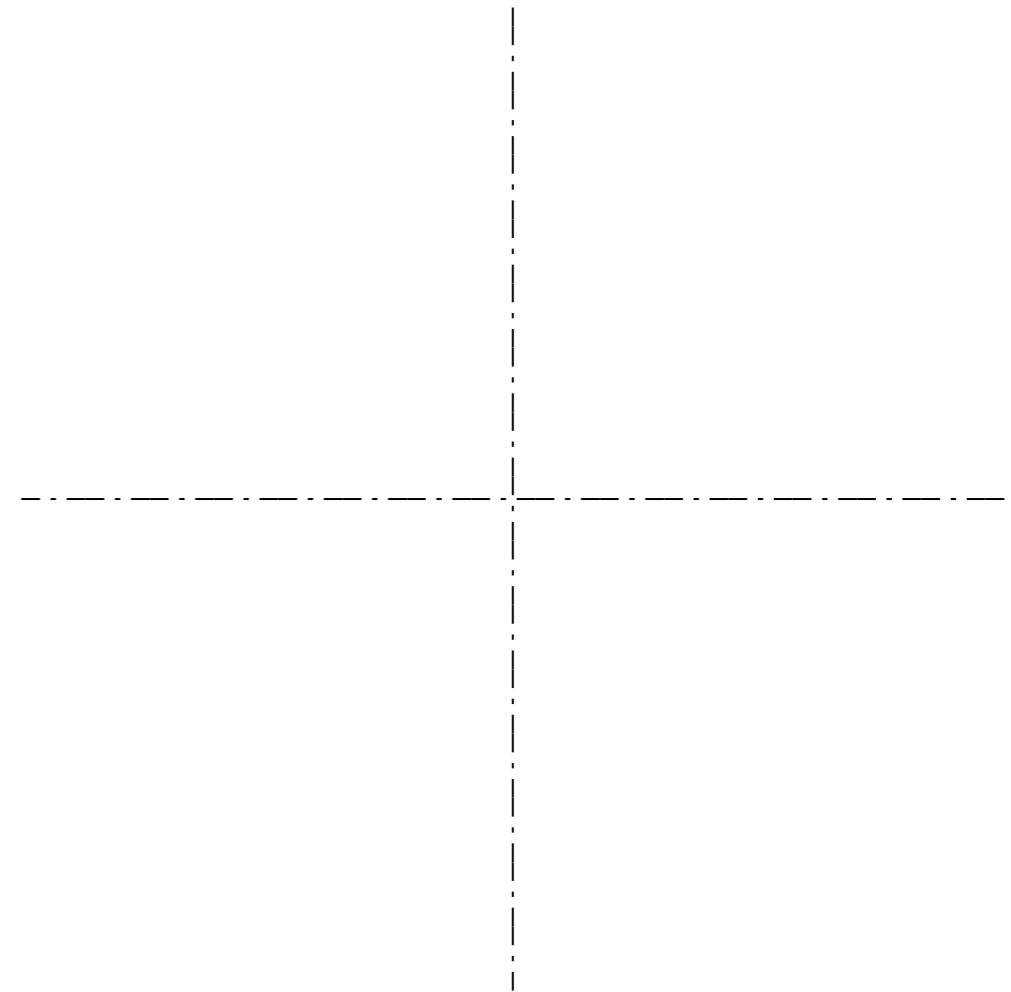


A scale 1:2 development (net) of the tissue box is shown below.  
Complete the drawing of the development (net) of the tissue box by adding the missing surfaces and glue tabs. [7]



**A2** An ellipse is printed on the top surface of the tissue box.

(a) On the centre lines below construct an ellipse with major axis 120 and minor axis 70. [6]



(b) The printed ellipse on the top of the tissue box is perforated.  
Use a sketch and notes to explain what is meant by the term perforated. [2]

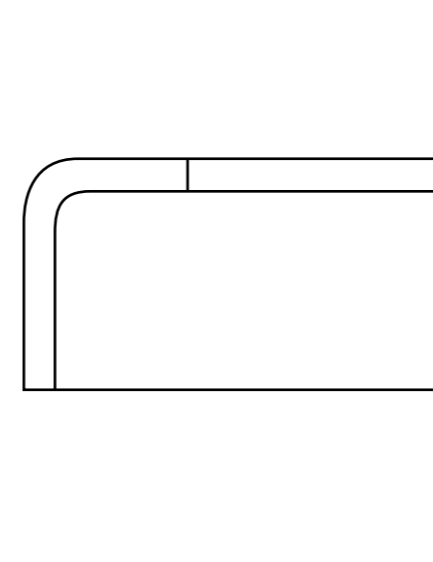
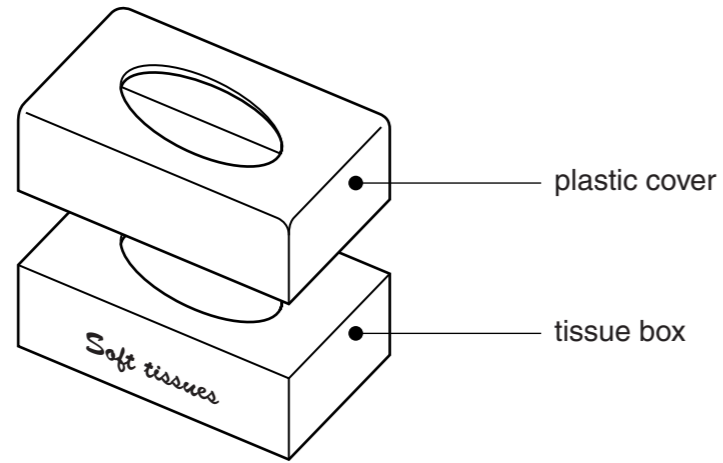
**0445/21** May/June 2016 **1 hour**  
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Centre Number ..... Candidate Number ..... Candidate Surname ..... Other Names ..... **[Turn over**

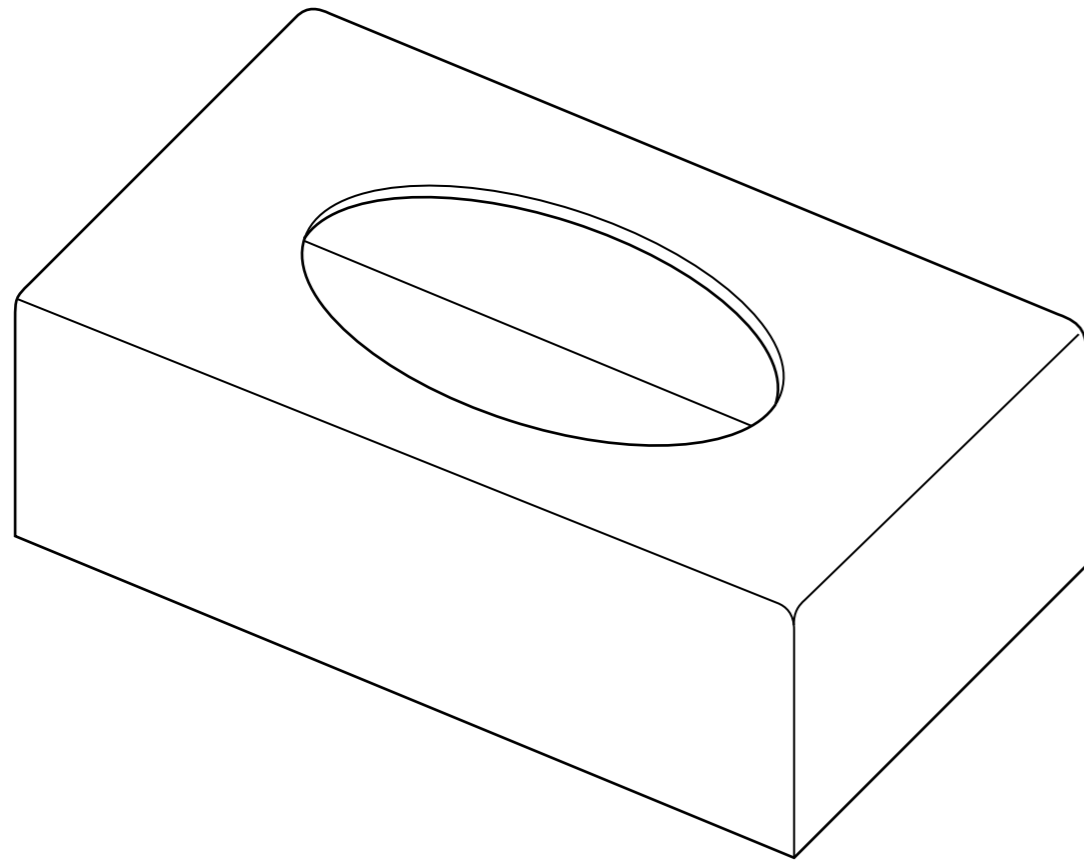
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A3 An exploded sketch of the tissue box and a plastic cover is shown below.

(b) Complete the sectional view below of the plastic cover. [4]



(a) Render the drawing of the tissue box cover below to make it appear like shiny plastic. [3]



(c) (i) Name a plastic that could be used to make the cover.

..... [1]

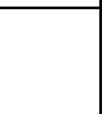
(ii) Give **two** reasons why this plastic is suitable for this product.

1. ....

.....

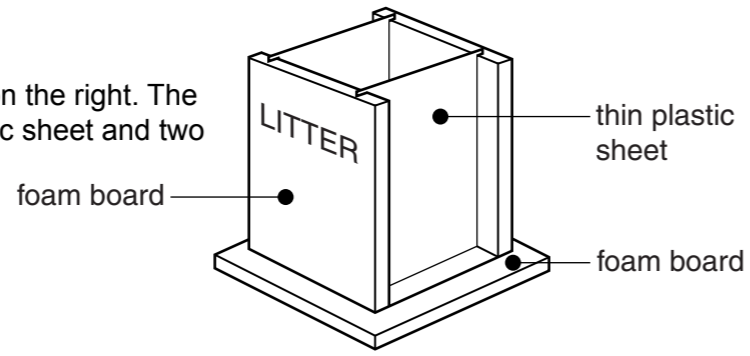
2. ....

..... [2]



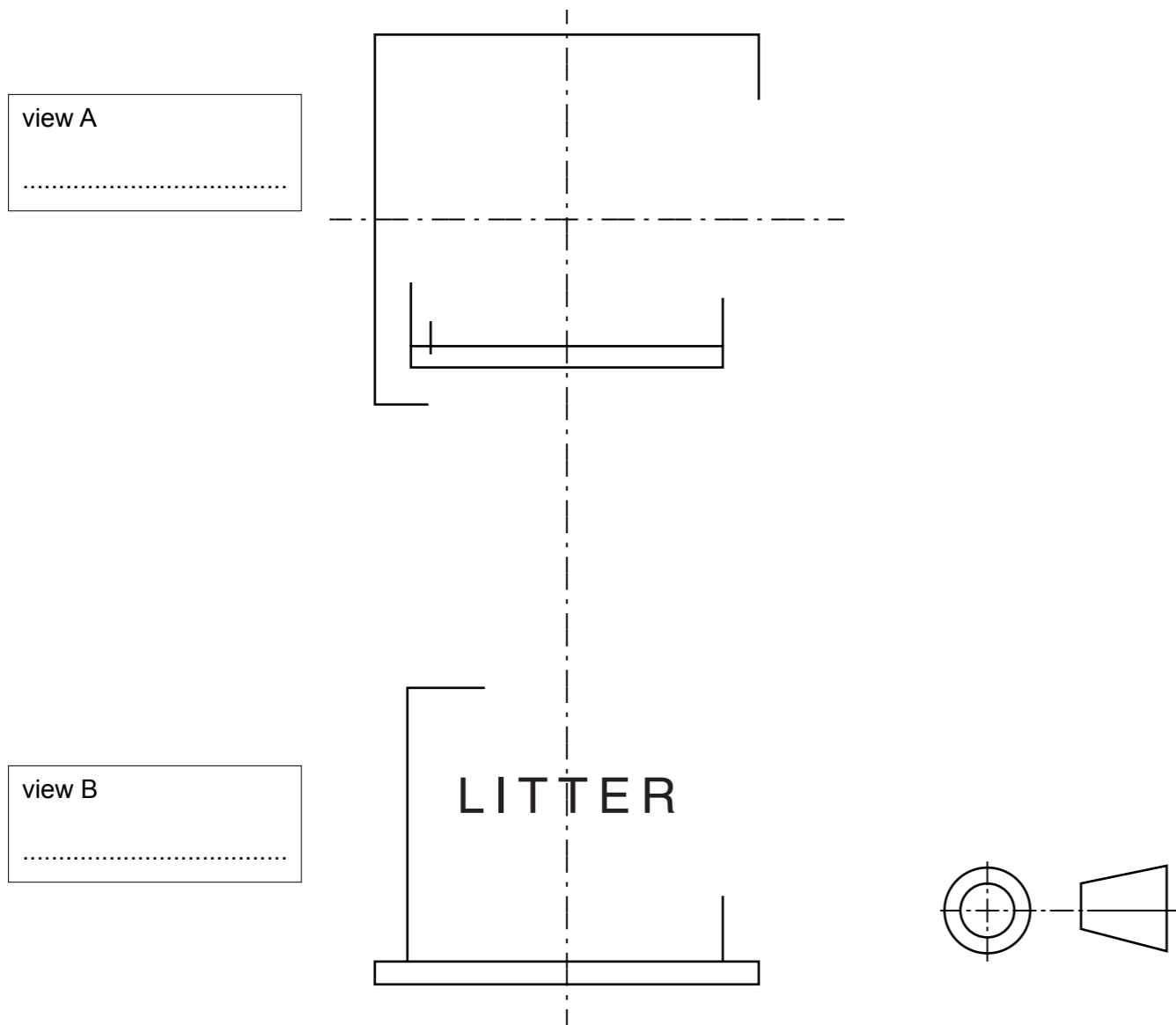
**Section B**  
Answer **either** question **B4** or **B5**.

**B4** A sketch of a model of a litter bin is shown on the right. The model is made from two pieces of thin plastic sheet and two pieces of foam board.

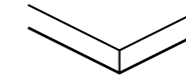


(a) Complete the orthographic views of the model of the litter bin by:

- (i) adding the missing lines to view A; [6]
- (ii) adding the missing lines to view B; [2]
- (iii) naming view A and view B in the given boxes. [2]



(b) Complete the exploded sketch below of the four parts of the model of the litter bin. [8]



(c) The symbol on the right is to be made using ICT and applied to the litter bin.

(i) Complete the table below to give the meaning of the two terms.

C.....	Computer Aided Design
CAM	Computer Aided M.....



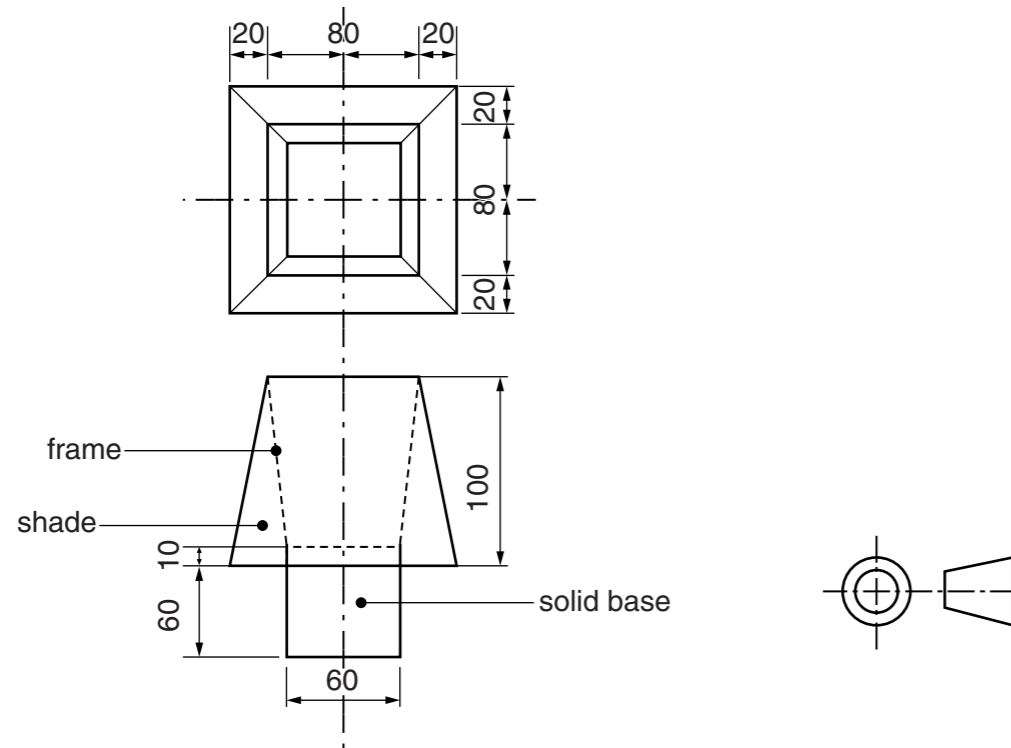
[2]

(ii) Describe the process of cutting out the symbol from self-adhesive vinyl using CAM.

.....  
 .....  
 .....  
 .....  
 ..... [5]

For  
Examiner's  
use

**B5** Orthographic views of a model of a lamp are shown below.



**(b)** Complete the table below to show the materials used to make the model of the lamp.

	Material	Reason
base	..... [2]	This material is used for the base because it is available in large blocks and is easy to cut to shape with a craft knife or hot wire.
shade	Laminated paper	..... ..... ..... [2]
frame	..... [2]	This material is used to hold the shade in place on the lamp because it can be bent to shape by hand and held in place with tape.

**(c)** Use sketches and notes to explain how polymorph could be used to produce an ergonomically designed switch for the model of the lamp. [7]

**(a)** On the start lines below draw scale 1 : 2 isometric drawings of:

**(i)** the solid base; [5]

**(ii)** the shade. [7]



base



shade

