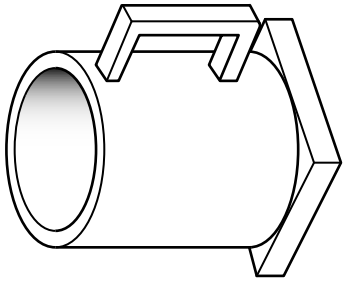


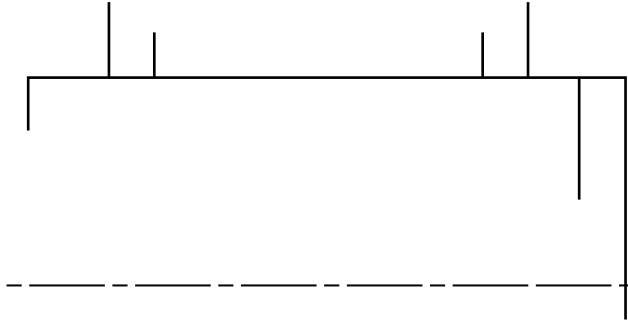
**Section A**  
Answer all questions in this section.

A sketch of a coffee mug with a square base is shown on the right.

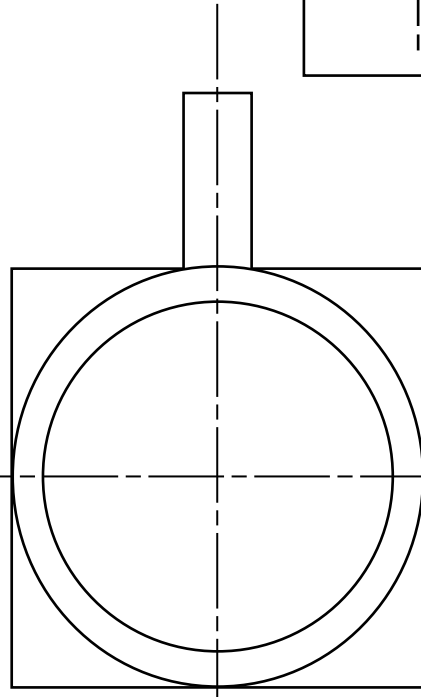


**A1 (a)** Complete the scale 1 : 2 orthographic views of the coffee mug by:

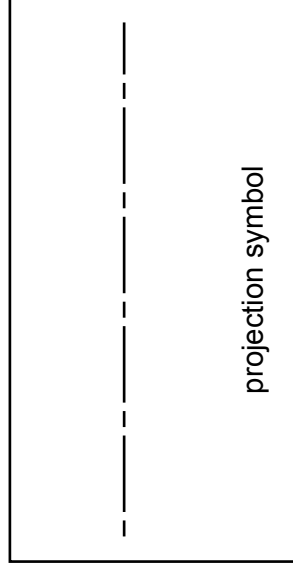
- (i) adding the missing lines to the side view; [5]
- (ii) adding one dimension to the plan; [2]
- (iii) adding the projection symbol in the given box. [3]



side view



plan



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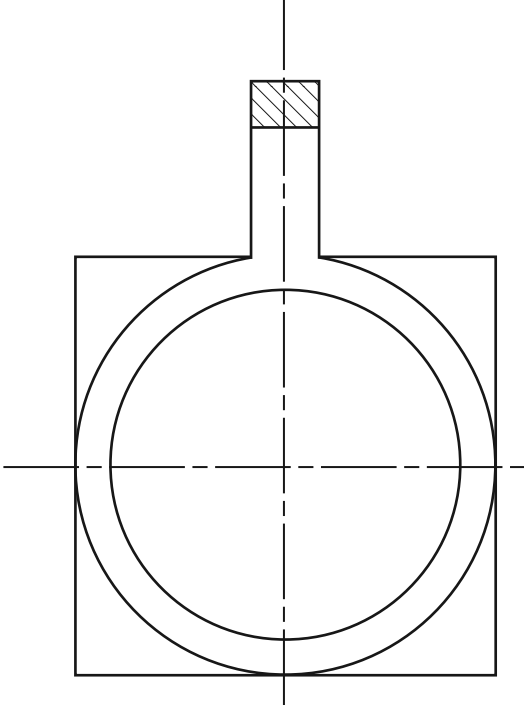
Candidate Surname .....

Other Names .....

[Turn over

**A2 (a)** Complete the sectional plan view of the coffee mug below.

[2]



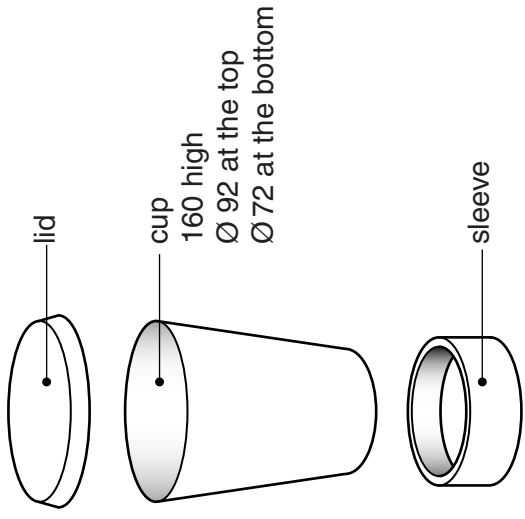
**(b)** A design is printed on the coffee mug in thermochromic ink. Describe how the thermochromic ink adds interest to the coffee mug.

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

[2]

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use

**A3** An exploded view of a take away coffee cup is shown below.



**(a)** In the space below draw a scale 1 : 2 planometric view of the cup.  
Do not include the lid or sleeve.

[4]

---

**(b)** The lid of the coffee cup is vacuum formed. Describe **three** main steps in the process of vacuum forming.

.....

.....

.....

.....

.....

.....

.....

.....

..... [3]

**(c)** The sleeve is made from corrugated card.

**(i)** In the space below draw a sectional view of corrugated card. [2]

**(ii)** Explain why corrugated card is used for the sleeve.

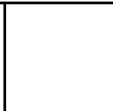
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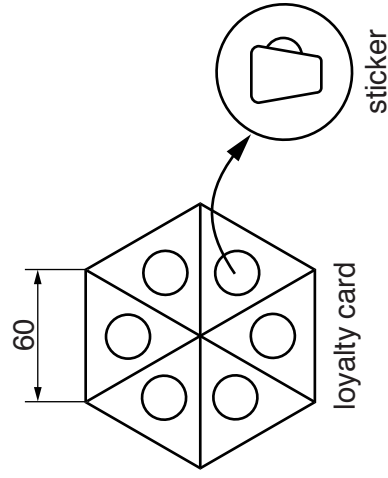
.....

..... [2]



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

**B4** A café loyalty card is shown below. Customers are given a sticker when they buy a drink and once they have six stickers attached to the loyalty card they get a free drink.

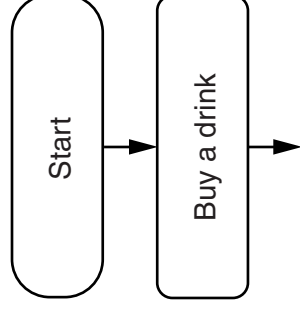


(a) On the centre lines below construct a full size view of the loyalty card by:

- (i) completing the drawing of the regular hexagon with length of side 60; [2]
- (ii) dividing the hexagon into six equal triangles; [3]
- (iii) adding a  $\text{Ø}20$  circle in the middle of each triangle. [7]



(b) A flow chart is printed on the back of the loyalty card to show customers what they have to do to get a free drink. Complete the flow chart below by adding four more stages. [9]



(c) 10 000 loyalty cards are printed by lithography.

- (i) Name the commercial process used to cut out the loyalty cards.  
.....[1]
- (ii) Give **three** examples of where ICT could be used in the design and manufacture of the loyalty card.  
1. ....[1]  
2. ....[1]  
3. ....[1]

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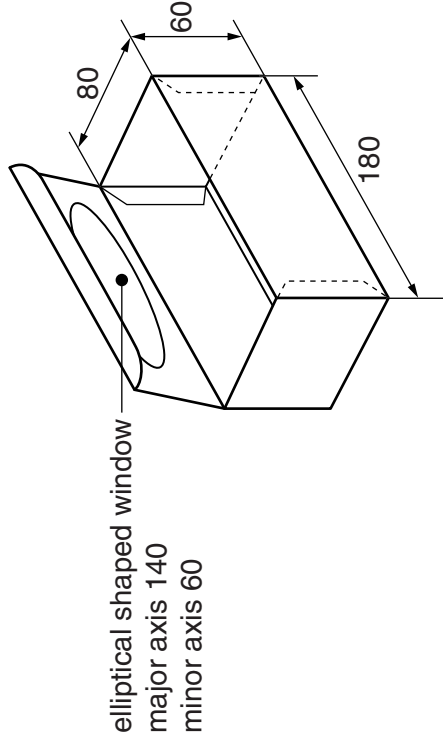
Candidate Number .....

Candidate Surname .....

Other Names .....

[Turn over

**B5** A sketch of a package for biscuits is shown below.

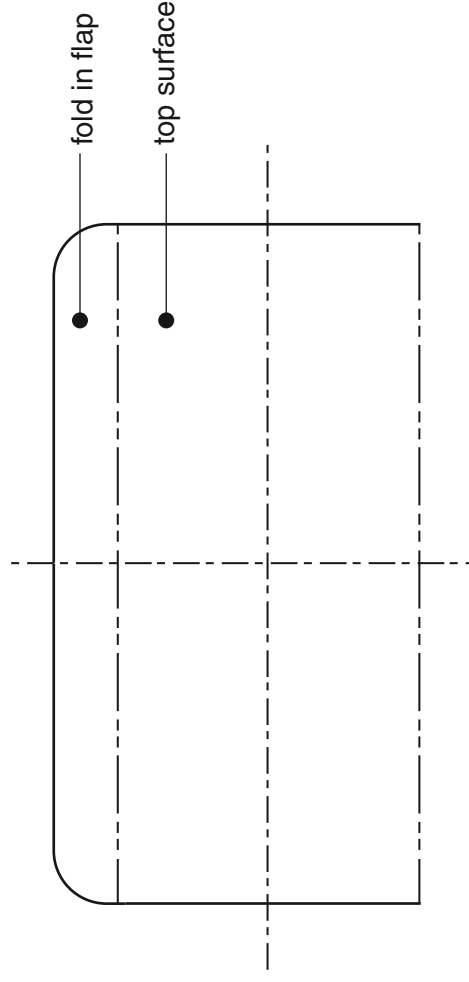


(b) The fold in flap needs to lock in place without the use of glue. In the space below use sketches and notes to show a design for a locking flap. [3]

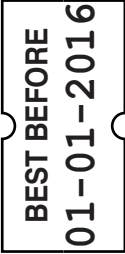

(a) Complete the scale 1 : 2 development (net) of the package for the biscuits below by:

(i) constructing the elliptical shaped window on the given top surface; [7]

(ii) drawing the remaining surfaces and glue tabs of the development (net). [9]



(c) Complete the table below to explain **three** pieces of information that are printed on the package for the biscuits.

Symbol	Explanation
[2]	This means the card used to make the package can be recycled. ..... ..... ..... ..... [2]
	..... ..... ..... ..... [2]
	..... ..... ..... ..... [2]