

**OXFORD CAMBRIDGE AND RSA EXAMINATIONS
GCSE**

A535/01

**DESIGN AND TECHNOLOGY Graphics
Sustainability and Technical Aspects
of Designing and Making**

WEDNESDAY 11 JUNE 2014: Afternoon

**DURATION: 1 hour 30 minutes
plus your additional time allowance**

MODIFIED ENLARGED

Candidate forename		Candidate surname	
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Centre number						Candidate number				
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Candidates answer on the Question Paper.

OCR SUPPLIED MATERIALS:

None

OTHER MATERIALS REQUIRED:

None

READ INSTRUCTIONS OVERLEAF

INSTRUCTIONS TO CANDIDATES

Write your name, centre number and candidate number in the boxes on the first page. Please write clearly and in capital letters.

Use black ink. HB pencil may be used for graphs and diagrams only.

Read each question carefully. Make sure you know what you have to do before starting your answer.

Write your answer to each question in the space provided. Additional paper may be used if necessary but you must clearly show your candidate number, centre number and question number(s).

Answer ALL the questions in SECTION A AND SECTION B.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets [] at the end of each question or part question.

The total number of marks for this paper is 80.

Your Quality of Written Communication is assessed in questions marked with an asterisk (*).

Any blank pages are indicated.

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SECTION A

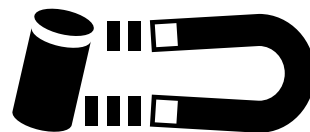
Answer ALL questions.

You are advised to spend 40 minutes on this section.

On questions 1–5 circle your answer.

1 The symbol shown means:

- (a) Recyclable Steel**
- (b) Plastic should be recycled**
- (c) Throw your rubbish away**
- (d) Recycle aluminium**



[1]

2 Primary recycling involves:

- (a) Recycling something once**
- (b) Breaking down a product chemically**
- (c) Using the product again**
- (d) School children**

[1]

- 3 Photochromic ink changes colour with:**
- (a) Heat**
 - (b) Light**
 - (c) Water**
 - (d) Varnish** **[1]**
- 4 A redundant product is one that:**
- (a) Can be used again**
 - (b) Has reached the end of its useful life**
 - (c) Uses many different materials**
 - (d) Is expensive to manufacture** **[1]**
- 5 To rethink a product means to:**
- (a) Take it apart**
 - (b) Use it again**
 - (c) Redesign it**
 - (d) Mend it when it is broken** **[1]**

6 State the meaning of the percentage shown inside a Mobius Loop symbol.

_____ [1]

7 Give the meaning of the term finite.

_____ [1]

8 The measurement of human impact on the environment is called

_____ [1]

9 Disposing of waste in the ground is called

_____ [1]

10 What do the letters FSC stand for?

F _____

Stewardship

C _____

[1]

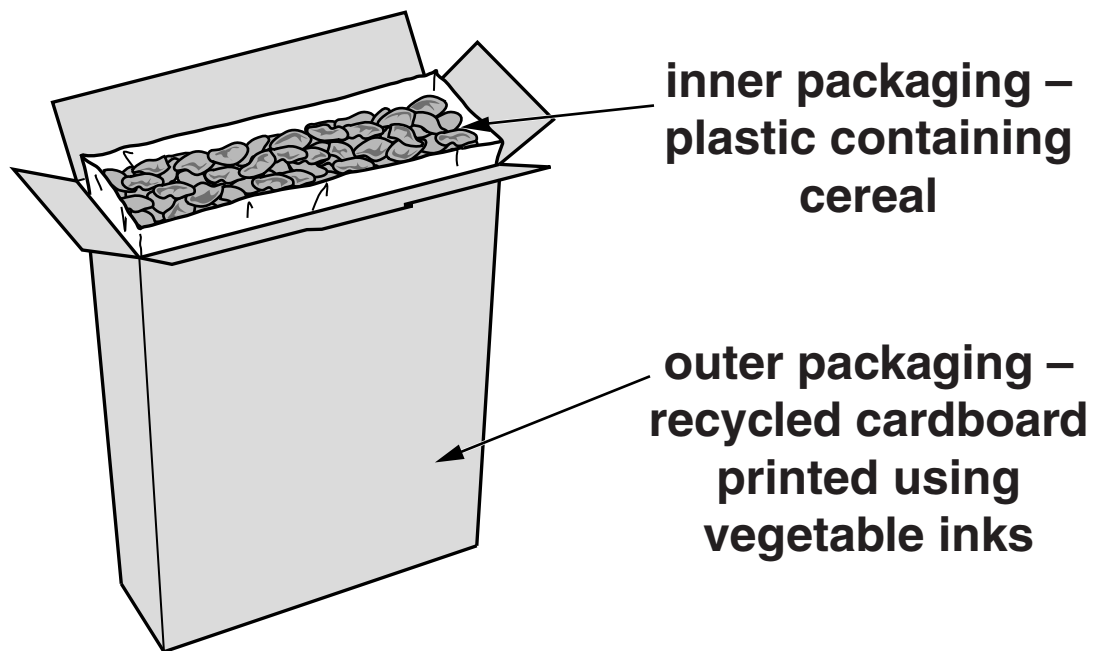
Decide whether the statements below are TRUE or FALSE.

Tick (✓) the box to show your answer.

	TRUE	FALSE	
11 Solar power is sourced from the sea	<input type="checkbox"/>	<input type="checkbox"/>	[1]
12 The compostable plastic symbol is shown on products that can biodegrade	<input type="checkbox"/>	<input type="checkbox"/>	[1]
13 A social issue is concerned with recycling	<input type="checkbox"/>	<input type="checkbox"/>	[1]
14 Paper sometimes comes from wood pulp	<input type="checkbox"/>	<input type="checkbox"/>	[1]
15 The European eco-label is used to show that a product has little or no impact on the environment	<input type="checkbox"/>	<input type="checkbox"/>	[1]

16 Fig. 1 shows cereal packaging.

Fig. 1



(a) Give TWO reasons for the inner packaging.

- 1 _____
- 2 _____

[2]

(b) Explain TWO benefits to the environment of using recycled cardboard and vegetable inks for the outer packaging.

1 _____

2 _____

[4]

(c) State TWO items of information that can be found on the cereal packaging.

1 _____

2 _____

[2]

(d) The cereal packaging is to be manufactured for worldwide distribution.

Explain how the design of the packaging must be suitable for different countries and cultures.

[3]

- (e) The design of the cereal packaging is to be modified to reduce the amount of material needed.**

Using sketches and notes produce a design that uses less material.

[3]

[illegible]

TOTAL [35]

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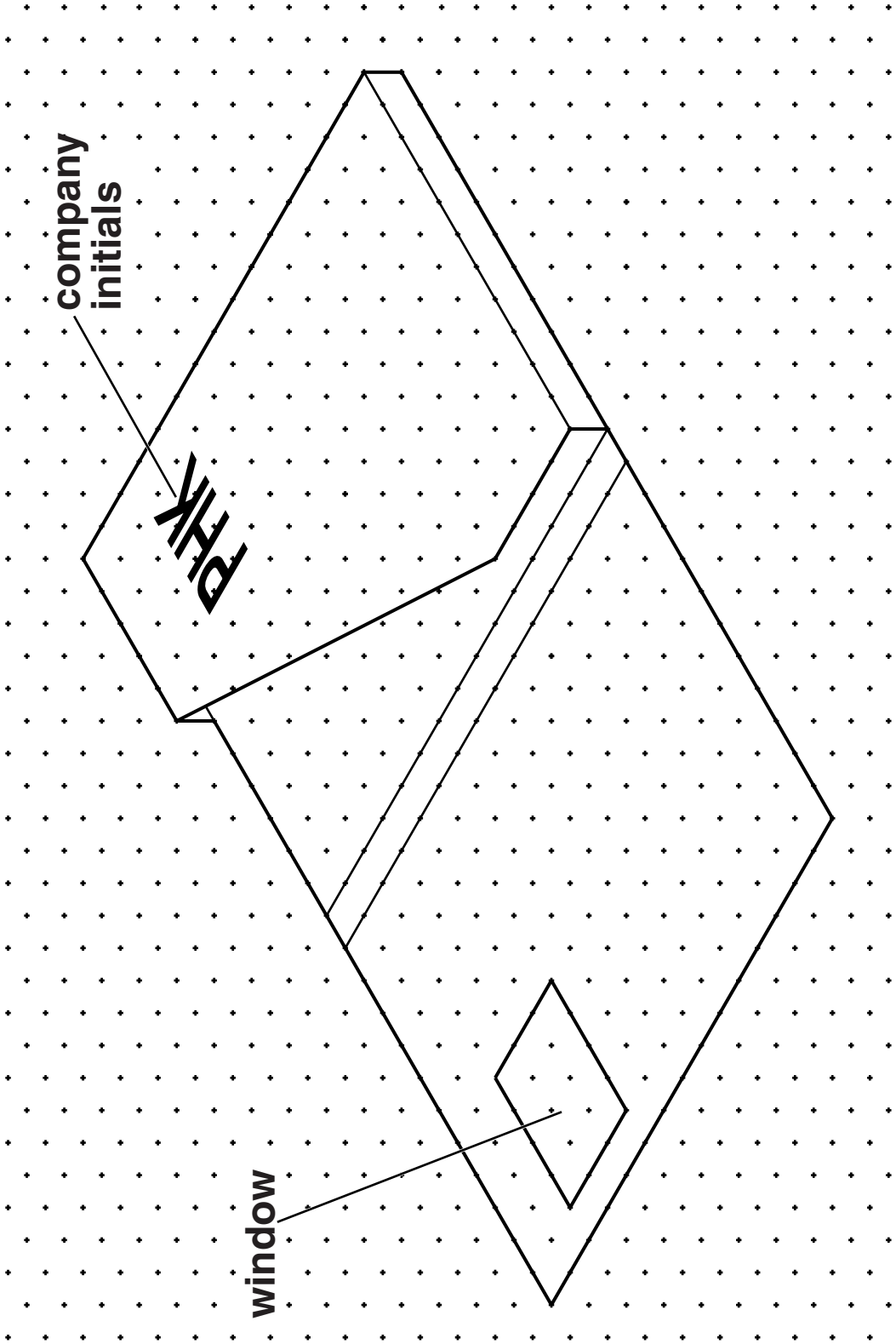
SECTION B

Answer ALL questions.

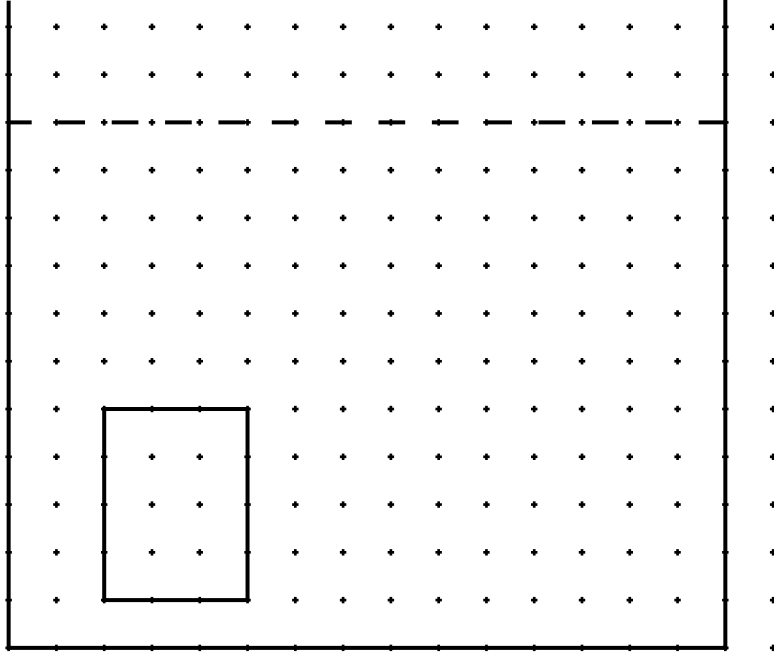
You are advised to spend 50 minutes on this section.

17 Fig. 2 shows an isometric view of an opened document wallet.

Fig. 2



(a) Complete the development (net) below of the document wallet shown in Fig. 2.



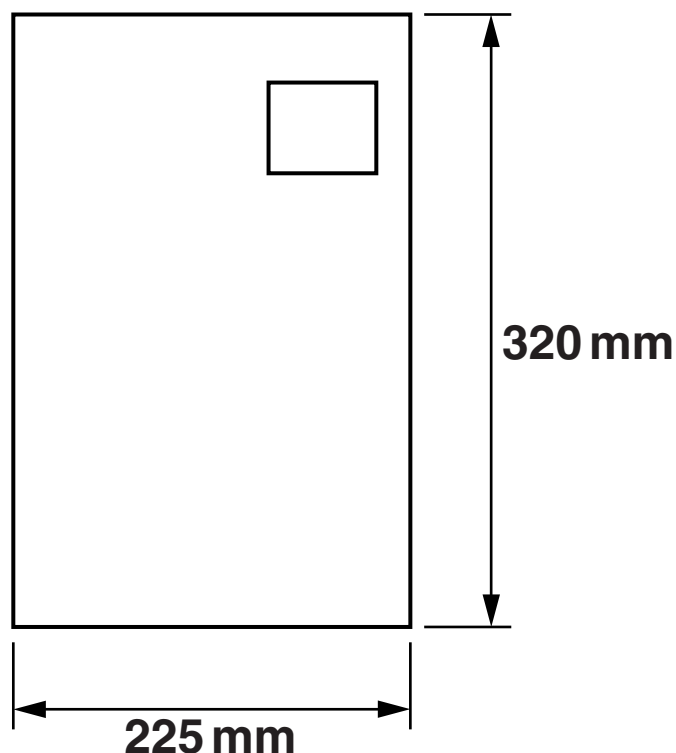
[6]

- (b) State the purpose of the window in the front of the document wallet shown in Fig. 2.

_____ [1]

- (c) Fig. 3 shows the front of the document wallet.

Fig. 3



Tick (✓) the largest standard paper size the document wallet will hold without folding the paper.

A2	A3	A4

[1]

(d) Fig. 4 shows a business card.

Fig. 4



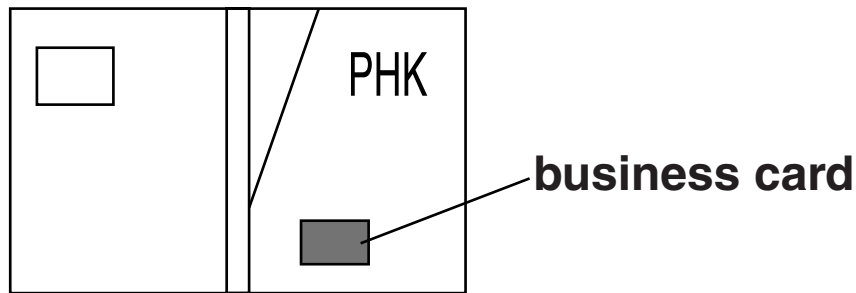
State ONE other item of information which could be included on the business card.

1 _____ [1]

- (e) The company initials are to be embossed onto the business card.
Describe the embossing process.**

[3]

- (f) The business card is to be temporarily fixed to the inside of the wallet as shown below.



Using sketches and notes show a suitable method of holding the card in the wallet.

The method must:

allow the card to be removed and put back in place easily

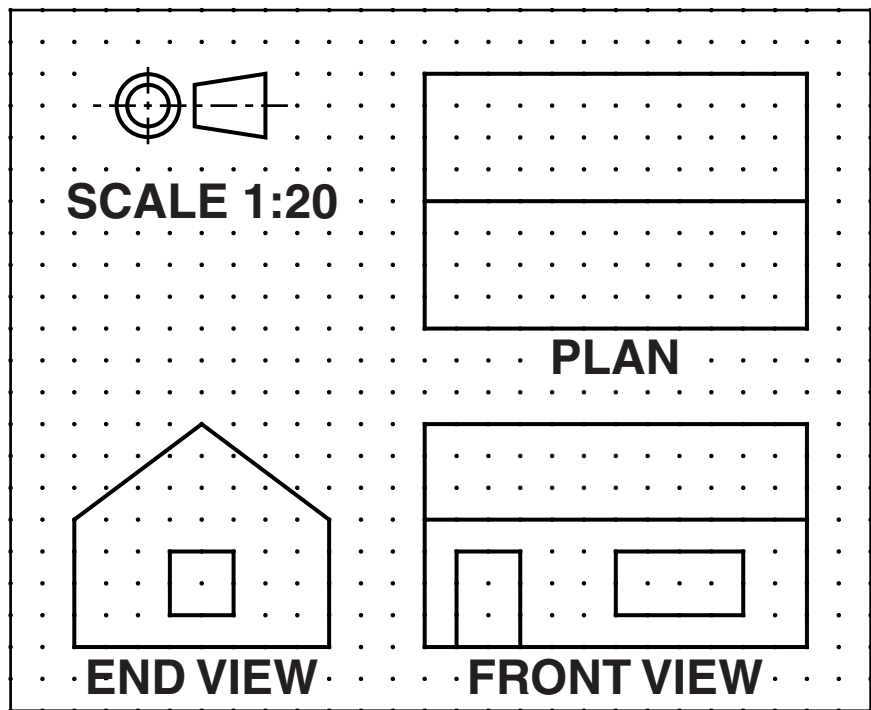
use no additional material

[3]

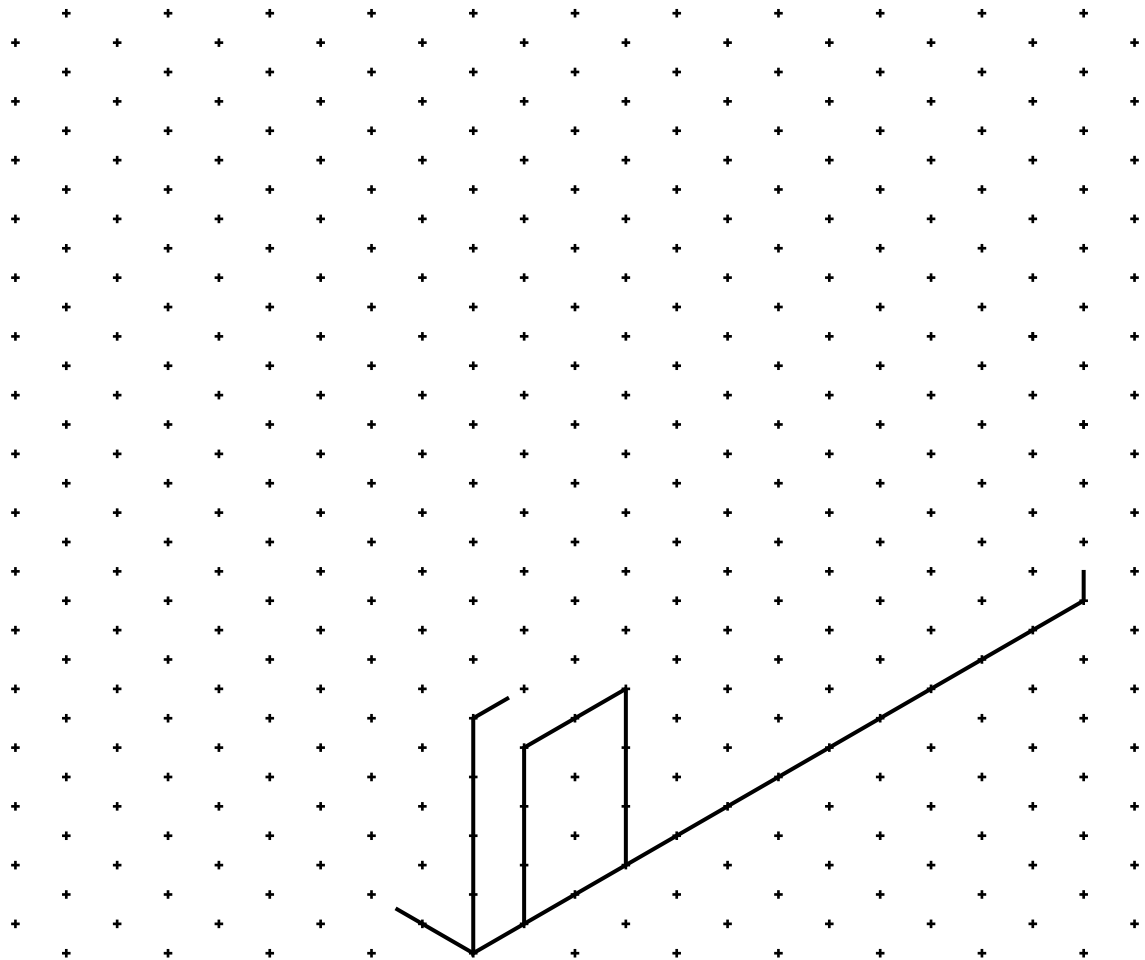
TOTAL [15]

18 Fig. 5 shows an orthographic drawing of a bungalow.

Fig. 5



(a) Complete the isometric view below of the bungalow shown in Fig. 5.



[6]

(b) A model of the bungalow is to be made from thin card.

(i) State ONE reason for making a model of the bungalow.

_____ **[1]**

(ii) Give ONE reason why card is a suitable material for making the model of the bungalow.

_____ **[1]**

**(c) The model is to be made to a scale of 1:20.
Tick the correct statement below.**

**The model will be 20 times bigger than
the bungalow**

☐

**The bungalow will be 20 times bigger
than the model**

☐

**The model will be 20 times bigger
than the drawing**

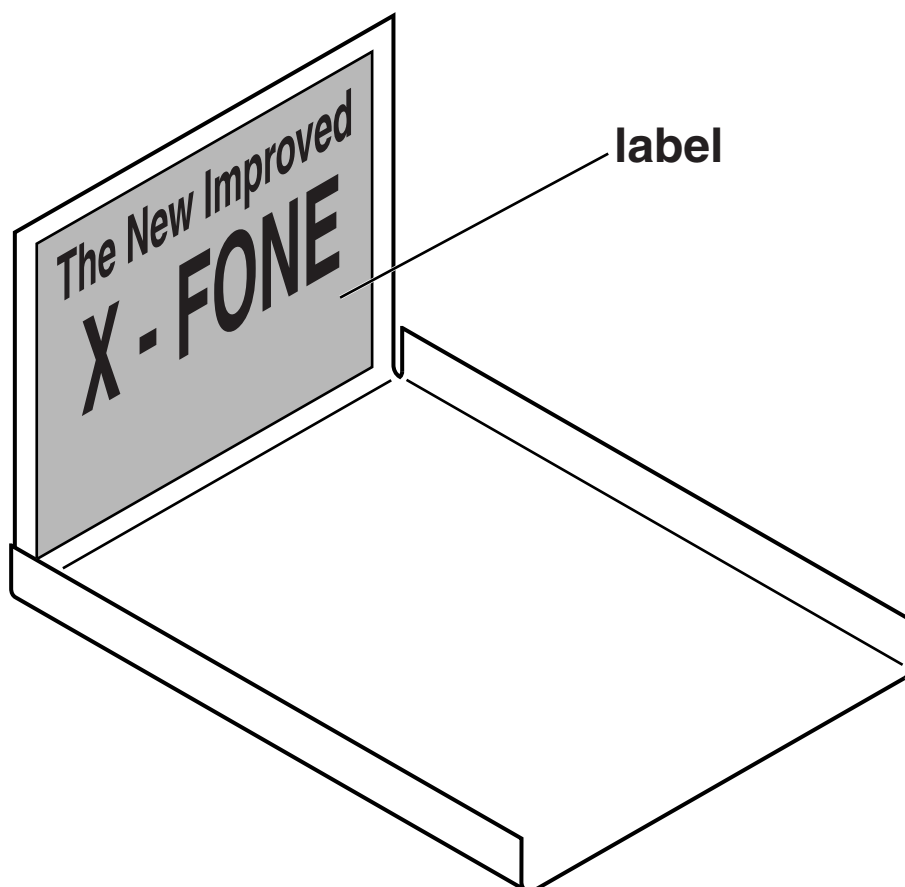
☐

[1]

**(d)* Explain the benefits of creating the orthographic
drawing of the bungalow using CAD compared to
drawing it by hand. [6]**

19 Fig. 6 shows a leaflet holder made from thin plastic.

Fig. 6



(a) The type of plastic used for the leaflet holder is HIPS. State what the letters HIPS stand for.

H _____

I _____

P _____

S _____

[1]

(b) Explain ONE way the design of the leaflet holder could be improved.

[2]

(c) A logo is to be added to the label on the leaflet holder shown in Fig. 6.

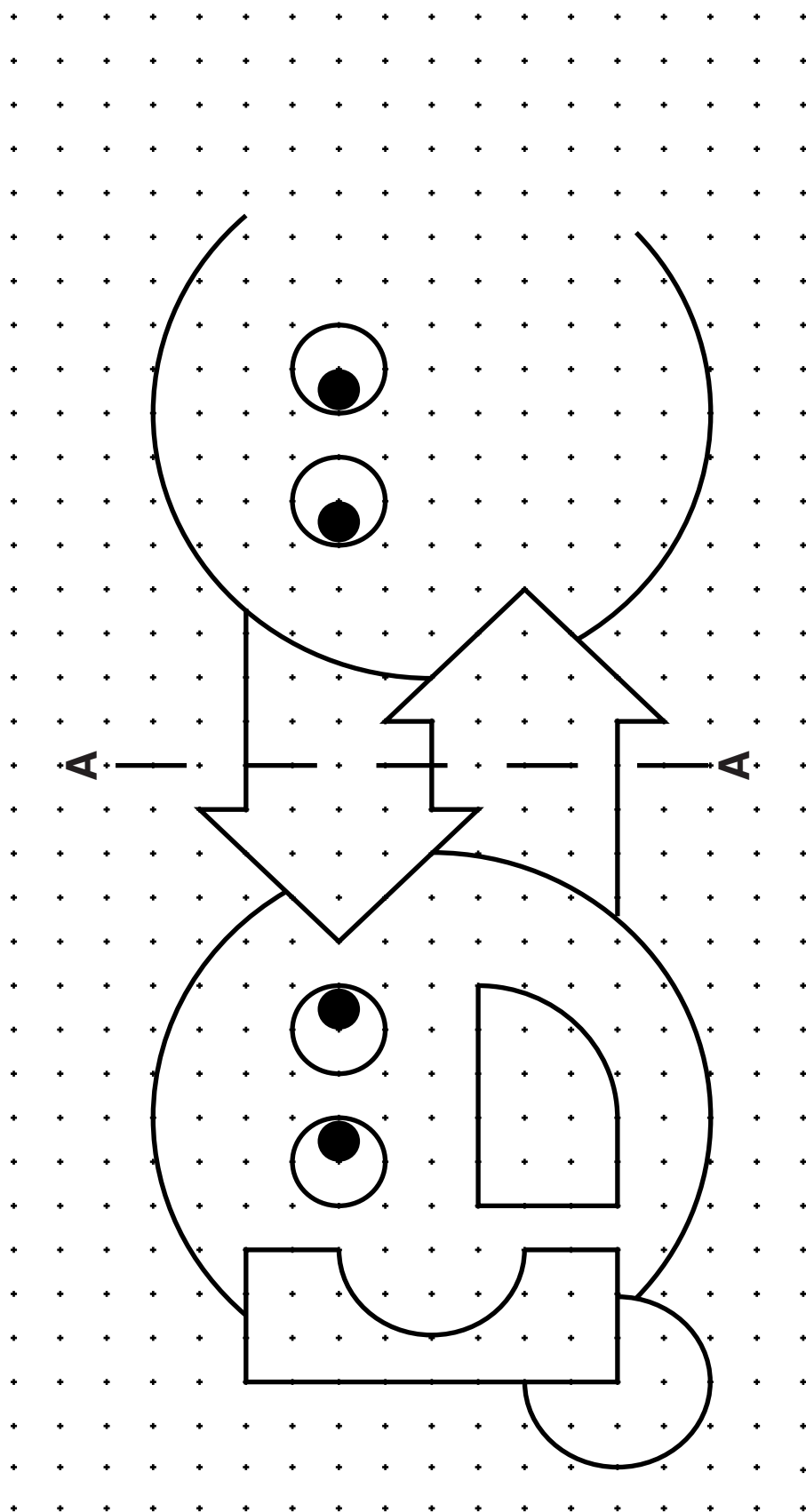
Complete the logo opposite by mirroring the image in axis A-A. [3]

(d) The table below shows the processes used to manufacture the leaflet holder from a flat sheet of HIPS.

Complete the table below by naming ONE tool/item of equipment for each process.

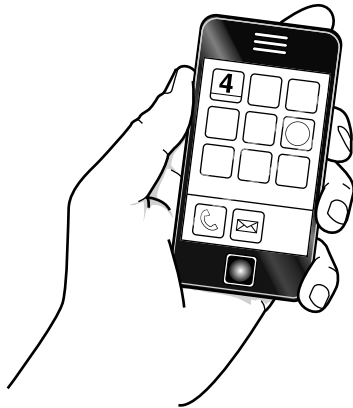
Process	Tool/item of equipment
Marking out the outline of the leaflet holder on to the HIPS	
Cutting out the net	
Bending the leaflet holder	

[3]



(e) Fig. 7 shows the new X-FONE.

Fig. 7



A point of sale display for the new X-FONE is required.

Using sketches and notes show ONE idea for the point of sale display. Use the space opposite. Specification points are that it must:

be made from one A4 sheet of 5 mm thick foamboard;

hold the X-FONE in an upright position;

be made from flat shapes that slot together without the need for adhesive;

have surface graphics that promote the new X-FONE.

[6]

END OF QUESTION PAPER

TOTAL [15]



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