



Wednesday 11 June 2014 – Afternoon

GCSE DESIGN AND TECHNOLOGY Graphics

A535/01 Sustainability and Technical Aspects of Designing and Making

Candidates answer on the Question Paper.

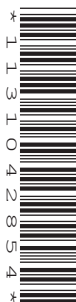
OCR supplied materials:

None

Other materials required:

None

Duration: 1 hour 30 minutes



Candidate forename						Candidate surname					
Centre number						Candidate number					

INSTRUCTIONS TO CANDIDATES

- Write your name, centre number and candidate number in the boxes above. 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**.
- Do **not** write in the bar codes.

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 (*).
- This document consists of **20** pages. Any blank pages are indicated.

SECTION A

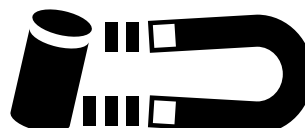
Answer **all** questions.

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]

4

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	☐	☐	[1]
12 The compostable plastic symbol is shown on products that can biodegrade	☐	☐	[1]
13 A social issue is concerned with recycling	☐	☐	[1]
14 Paper sometimes comes from wood pulp	☐	☐	[1]
15 The European eco-label is used to show that a product has little or no impact on the environment	☐	☐	[1]

5

16 Fig.1 shows cereal packaging.

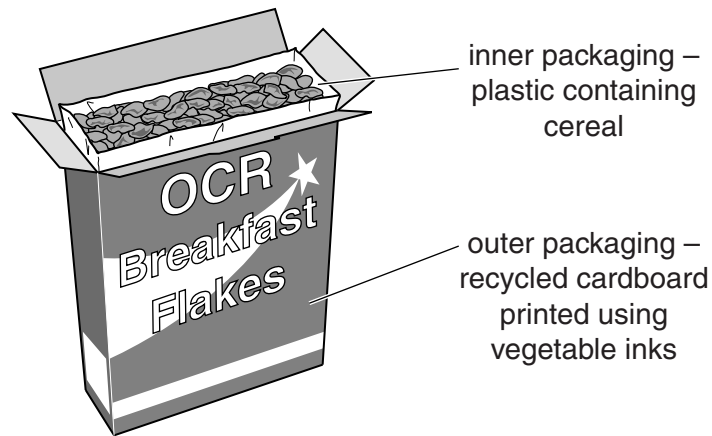


Fig. 1

(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

 [4]

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

- 1
 2 [2]

6

- (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]

(f)* Discuss the issues for manufacturers when disposing of waste created in the production of graphic products.

..... [6]

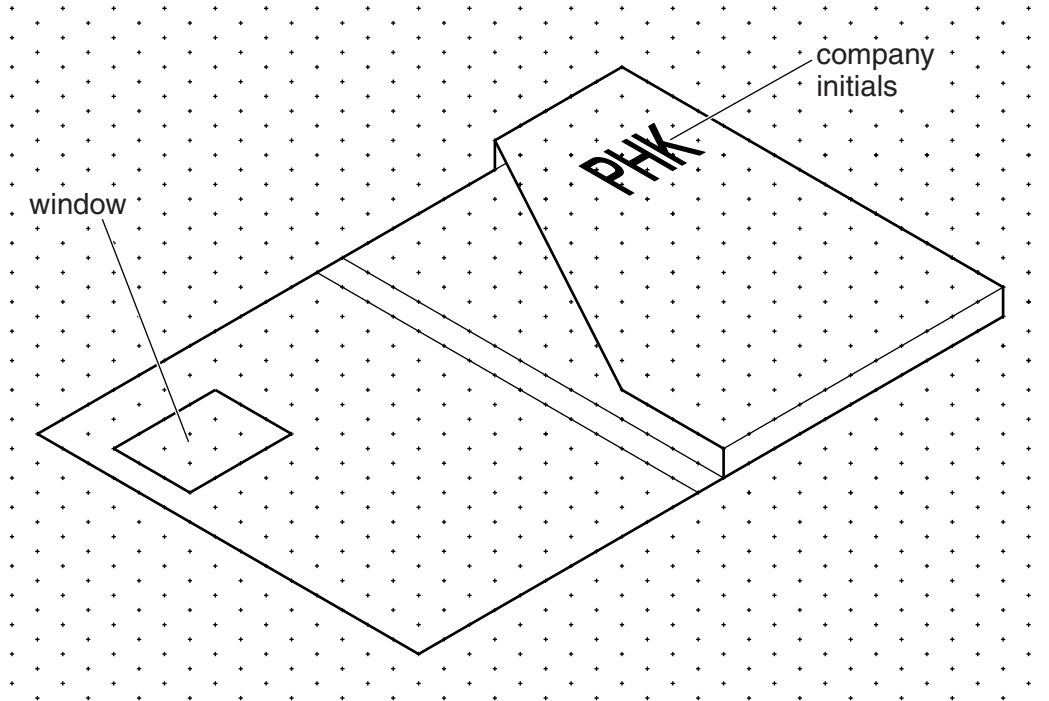
Total [35]

8

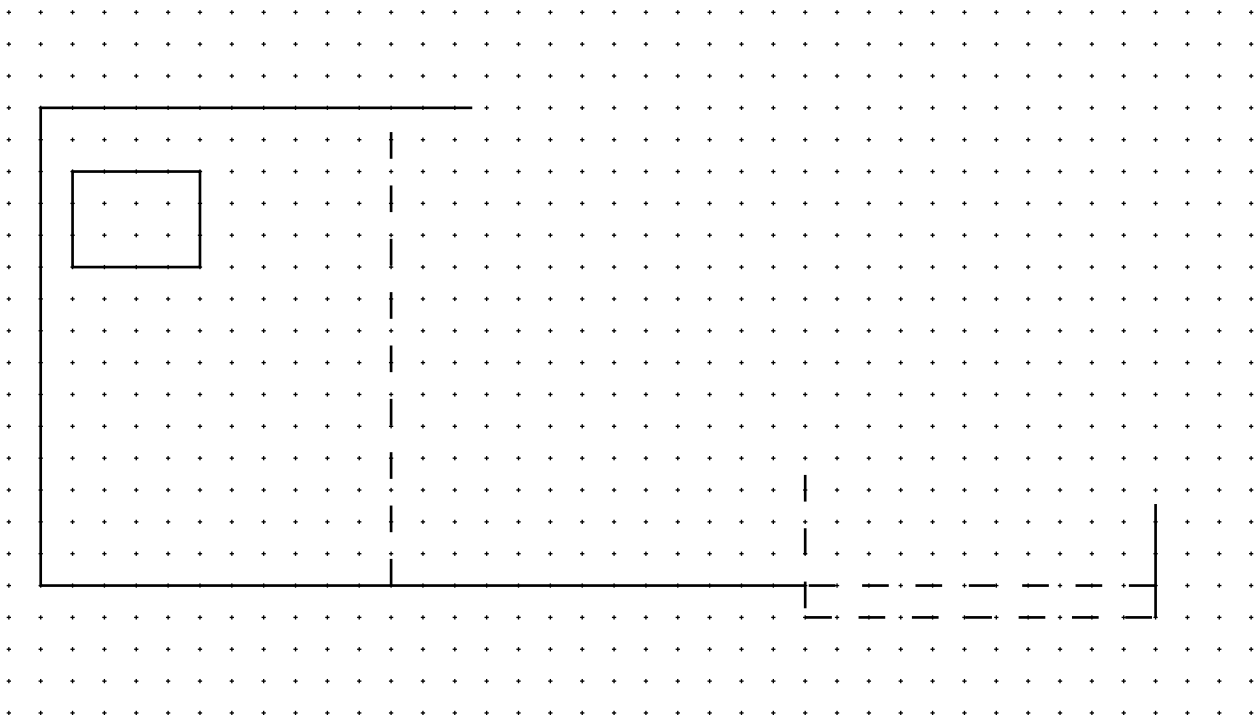
SECTION BAnswer **all** questions.

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]**

9

(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.

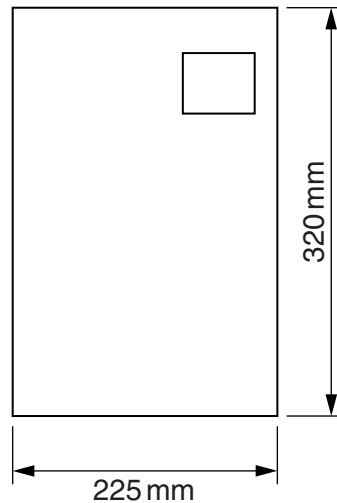


Fig. 3

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]

10

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

.....

.....

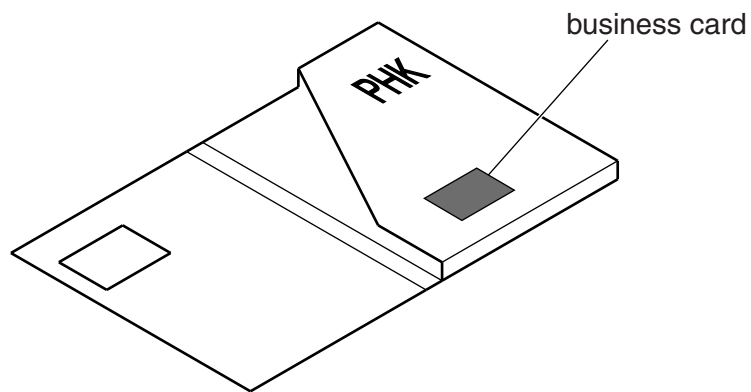
.....

.....

.....

..... [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.

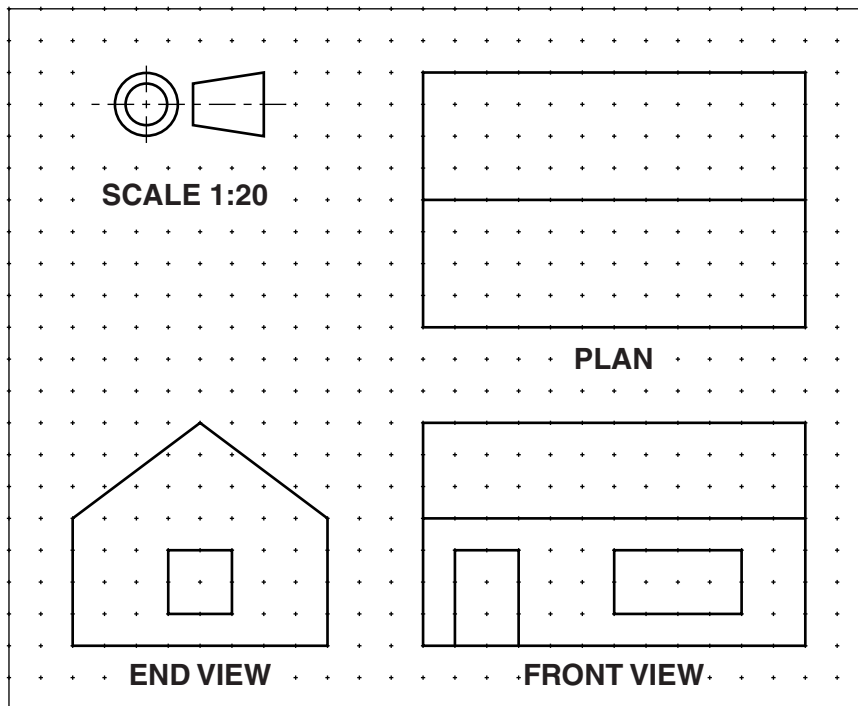
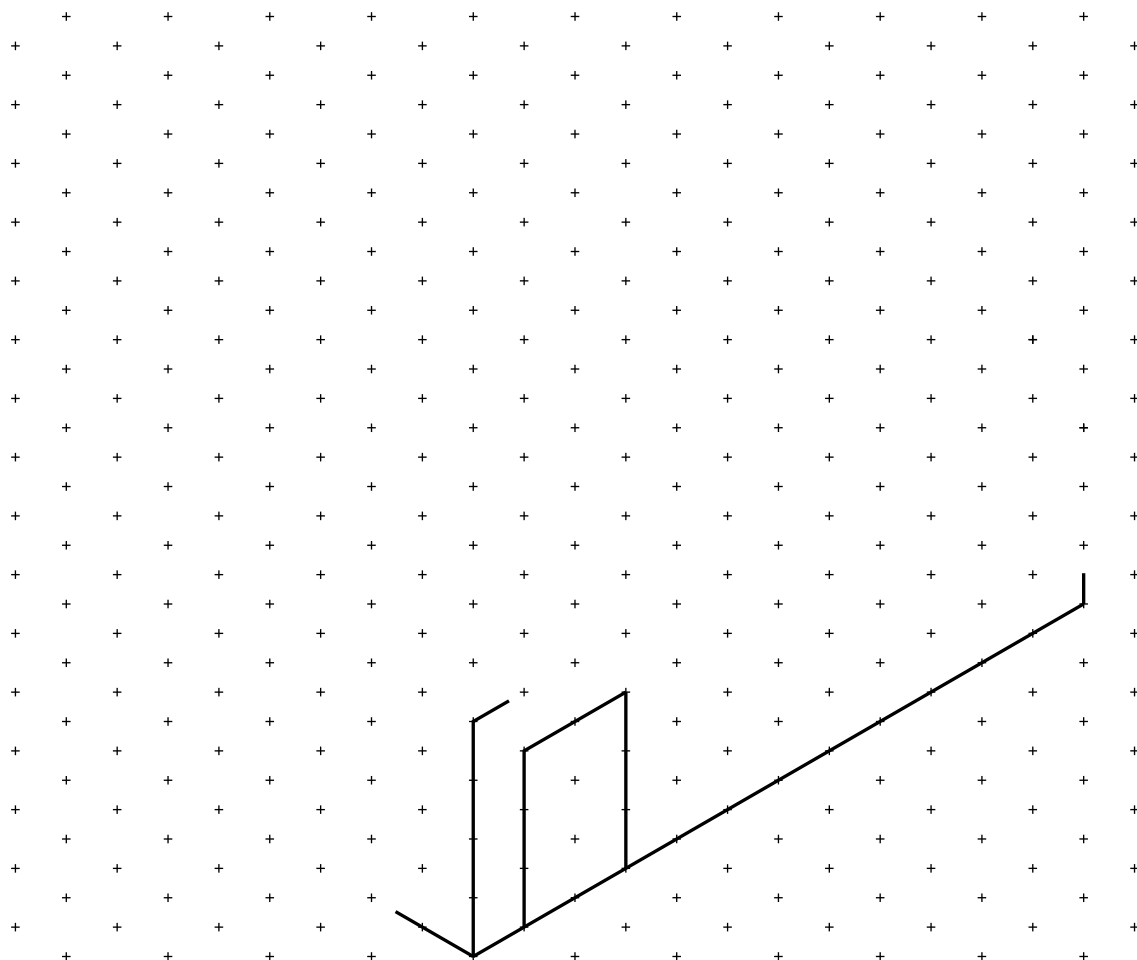


Fig. 5

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



[6]

Turn over

12

(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]

Total [15]

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

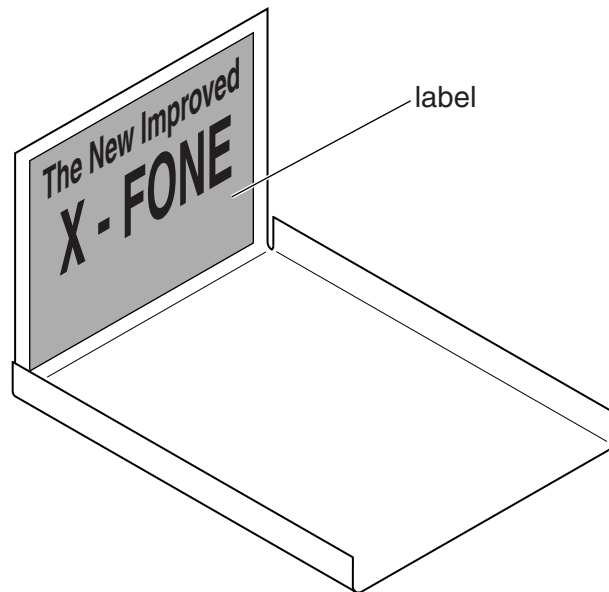


Fig. 6

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

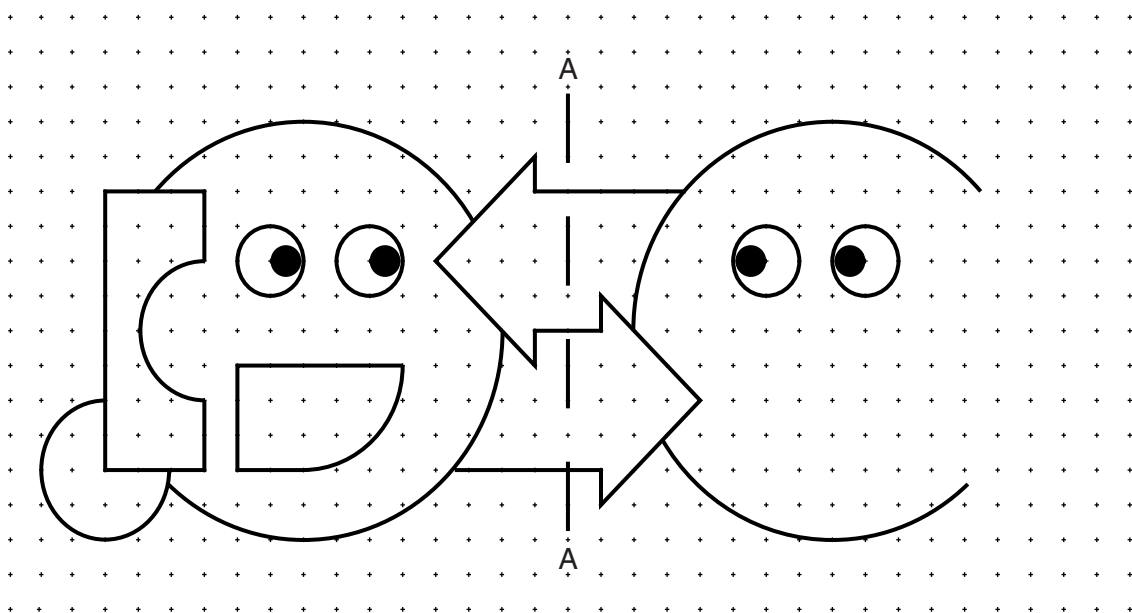
H I P S [1]

(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 below by mirroring the image in axis A-A.



[3]

15

- (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]

16

(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.
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]
Total [15]

END OF QUESTION PAPER

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18

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