

Tuesday 11 June 2013 – Afternoon

GCSE DESIGN AND TECHNOLOGY Graphics

A534/01 Technical Aspects of Designing and Making

Candidates answer on the Question Paper.

OCR supplied materials:
None

Other materials required:
None

Duration: 1 hour 15 minutes



Candidate forename		Candidate surname	
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Centre number						Candidate number				
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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 **60**.
- Your Quality of Written Communication will be assessed in questions marked with an asterisk (*).
- This document consists of **20** pages. Any blank pages are indicated.

2
SECTION A

Answer **all** questions.

- 1 Fig. 1 shows a point of sale display for bottles of water. The display is made from card.

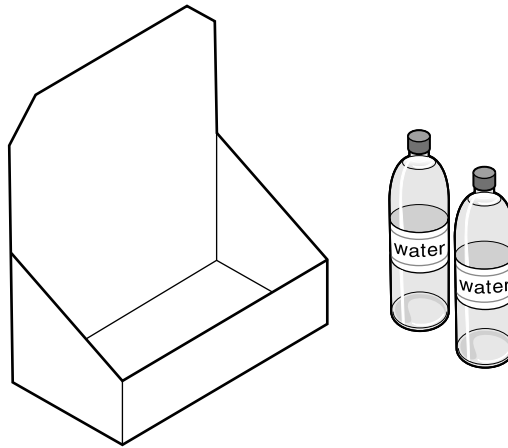
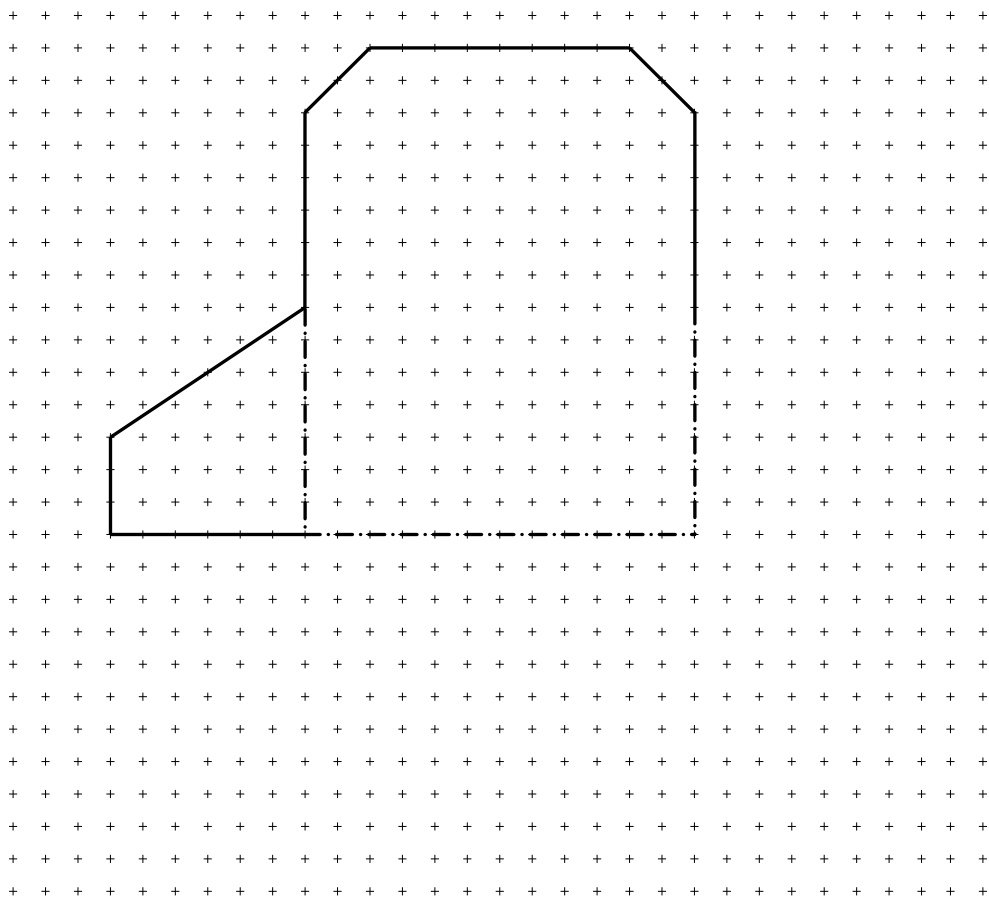


Fig. 1

- (a) Complete the development (net) below of the point of sale display shown in Fig. 1.



[4]

(b) The table below shows three quantities of production for the development (net). For each quantity, name the most appropriate tool for cutting the development (net) from thin card.

Quantity	Cutting Tool
1 (prototype)	
50 (batch production)	
5000 (mass production)	

[3]

(c) Fig. 2 shows a Styrofoam insert that will be placed inside the point of sale display.

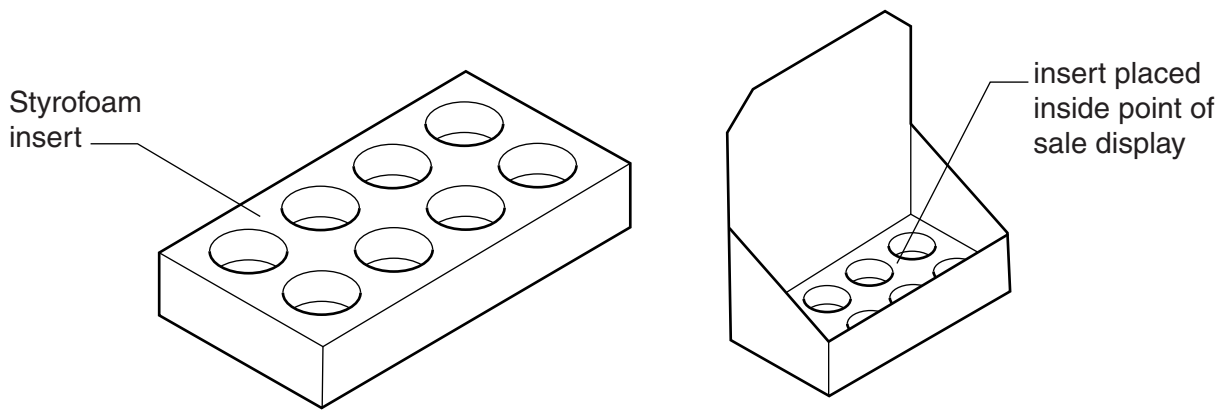


Fig. 2

(i) State **one** purpose of the insert.

.....
 [1]

(ii) The Styrofoam insert is to be manufactured using a CNC machine. State what the letters CNC stand for.

C **N** **C** [1]

- (d) Fig. 3 shows another design for an insert for the point of sale display. The insert is vacuum formed from thin plastic sheet.

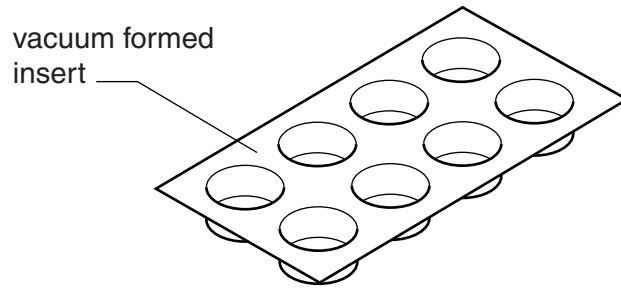


Fig. 3

Name a suitable plastic for the vacuum formed insert.

..... [1]

- (e) Fig. 4 shows a section through the mould that would be used to vacuum form the insert shown in Fig. 3.

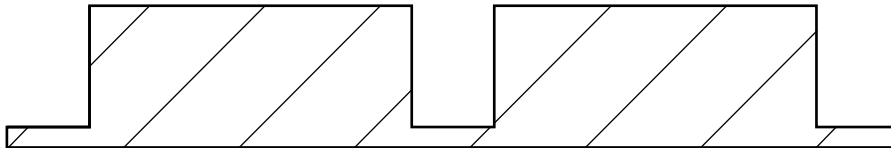


Fig. 4

On Fig. 4, sketch **two** modifications that will make the plastic insert easier to form. [2]

[Total: 12]

2 Fig. 5 shows an architectural model of an office block. The model is made from foamboard.

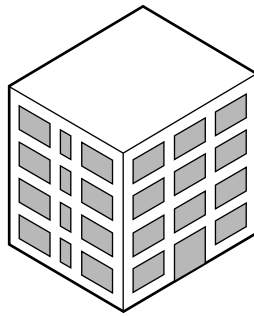


Fig. 5

(a) State **one** reason for making a model of the office block.

..... [1]

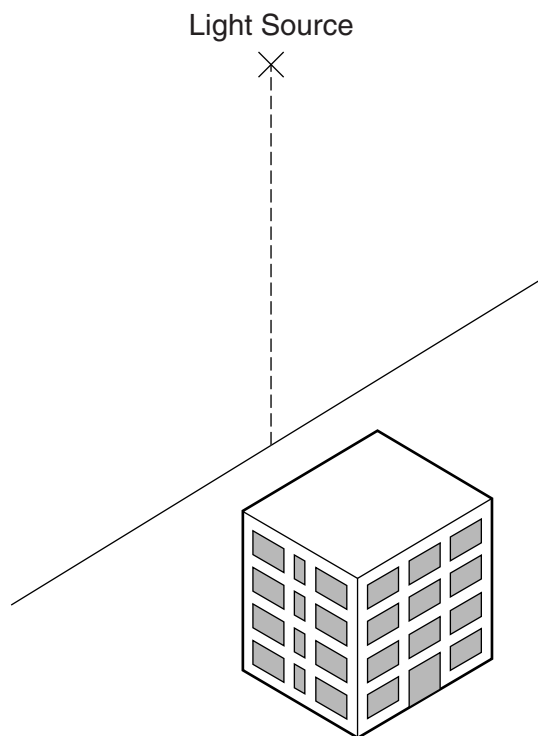
(b) Give **two** reasons why foamboard is a suitable material for an architectural model.

1

2

[2]

(c) Add shadowing to the sketch of the office block below.



[2]

- (d) The table below states the two processes used to make the model. Complete the table below by naming **two** tools or items of equipment for each process.

Process	Tools/Items of Equipment
Draw the shape onto foamboard	1
	2
Cut out the shape	1
	2

[4]

- (e) Fig. 6 shows how five pieces of foamboard will fit together to make the architectural model. Complete the cutting list below to show the required sizes for each of the pieces.

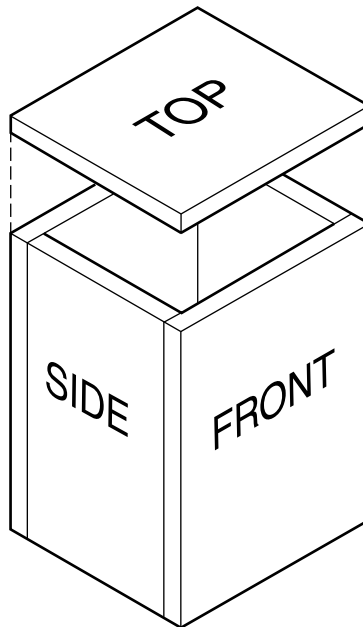


Fig. 6

Piece	Number Required	Length	Width	Thickness
Front/Back	2	320 mm	240 mm	5 mm
Sides	2		180 mm	5 mm
Top	1			5 mm

[3]

[Total: 12]

7
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3 Fig. 7 shows orthographic views of a box file. The box is made from corrugated card.

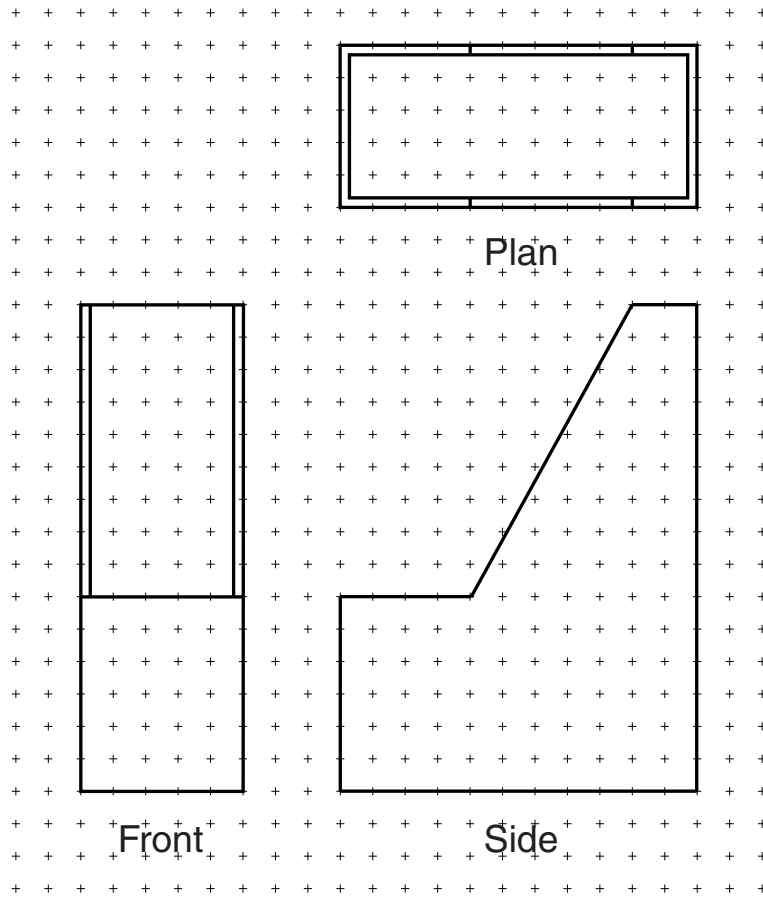
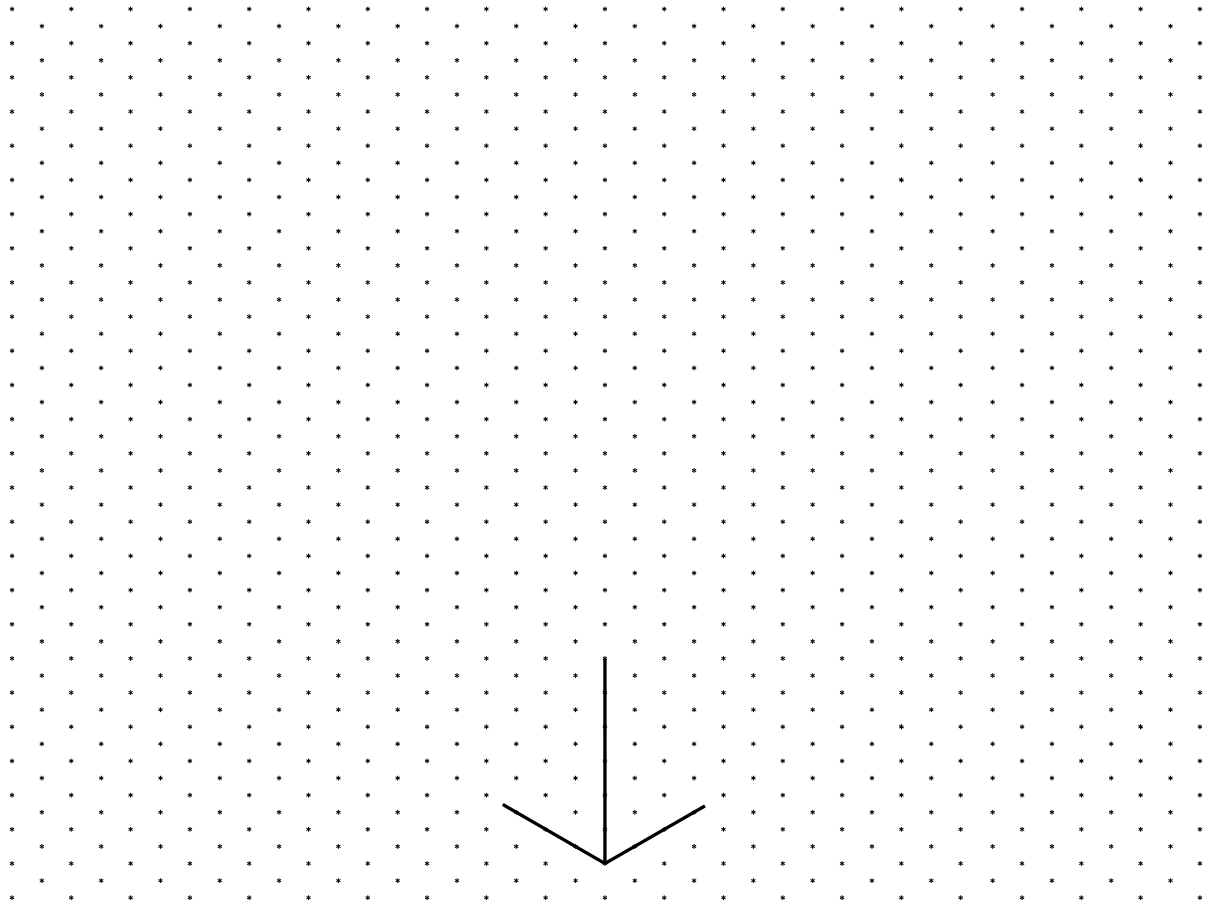


Fig. 7

(a) Complete the isometric view of the box file below:



[4]

(b) Fig. 8 shows a pull ring which is to be fastened to the front of the box file to make it easier to use. The pull ring is to be made from 3 mm thick flexible plastic.

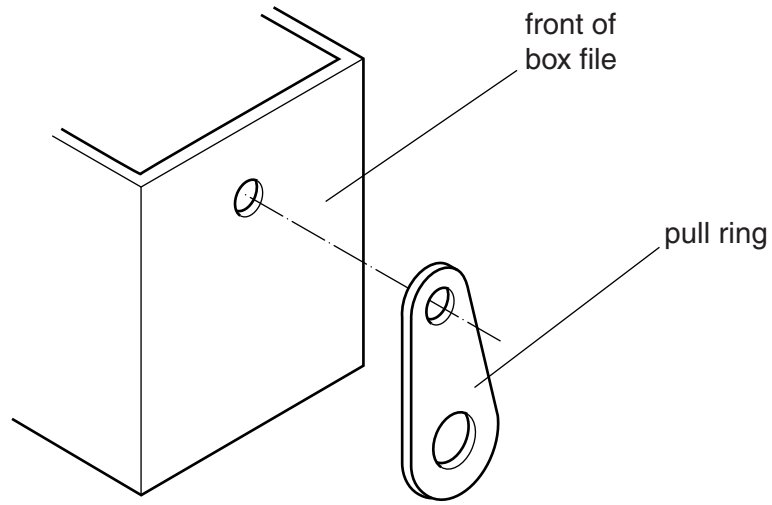
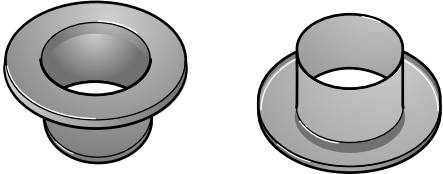
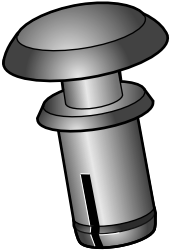


Fig. 8

The table below shows two components that could be used to fasten the pull ring to the front of the box file.

Name each component.

Component	Name
	
	

[2]

SECTION B

Answer **all** questions.

- 4 Fig. 9 shows a flag for a school sports day. The flag is made from paper and thin plastic tube.

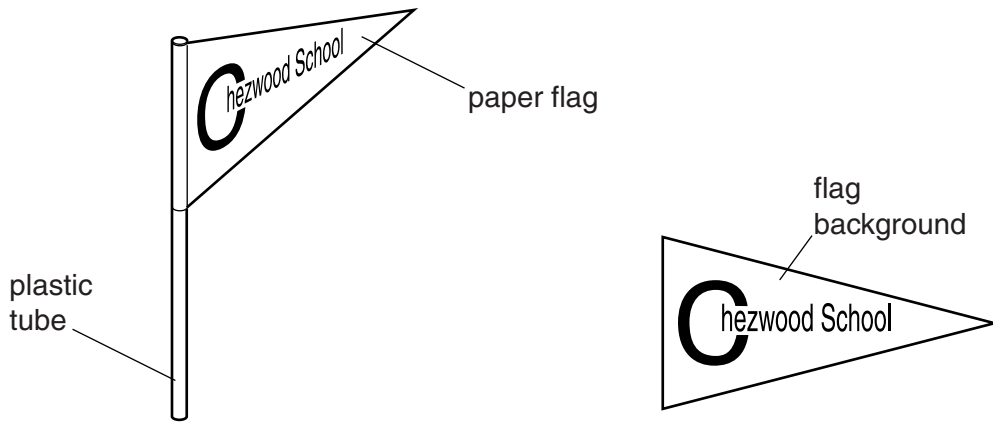
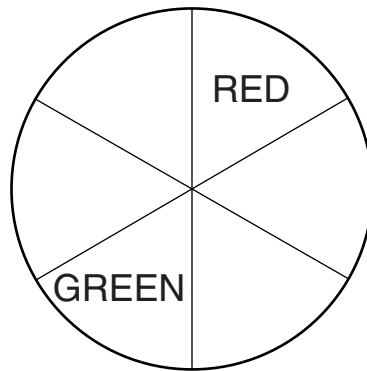


Fig. 9

The flags are to be printed in six different colour combinations. On each flag the 'Chezwood School' text will be the opposite (contrasting) colour to the background of the flag.

- (a) Complete the colour wheel to show which colours are opposite to each other:



[2]

- (b) Translucent tube is to be used for the flags.
State the meaning of the term 'translucent'.

.....

..... [1]

- (c) Use sketches and notes to show a suitable method of attaching the paper flag to the plastic tube.

[3]

Question 4(d) begins on page 14

(d) A display board is needed to show the scores of the six different teams at sports day.

Use sketches and notes to design the display board. The display board must:

- be made from a waterproof graphic material
- be portable
- reflect the theme of sports day
- show each team's total points
- be easily updated.

[6]

[Total: 12]

(b) Fig. 11 shows the logo that is to be printed onto the shopping bags.



Fig. 11

The logo is saved as a bitmap image and will need to be made five times larger for printing on the shopping bag.

State **one** disadvantage of scaling the bitmap image and explain how this could be overcome.

Disadvantage

.....

Explanation

.....

.....

[3]

(c) Fig. 12 shows a handle design for a shopping bag.

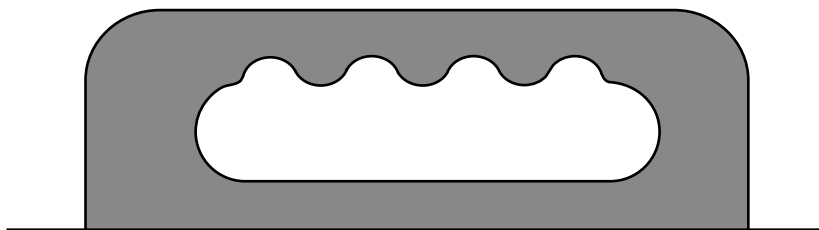


Fig. 12

State **one** piece of anthropometric data that will have been used to design the handle.

..... [1]

(d) State **two** issues that must be considered by the shop owner when deciding on the design of a shopping bag.

1

.....

2

.....

[2]

[Total: 12]

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