

Monday 23 January 2012 – 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 **12** pages. Any blank pages are indicated.

Section A

Answer **all** questions.

1 Fig. 1 shows a menu.

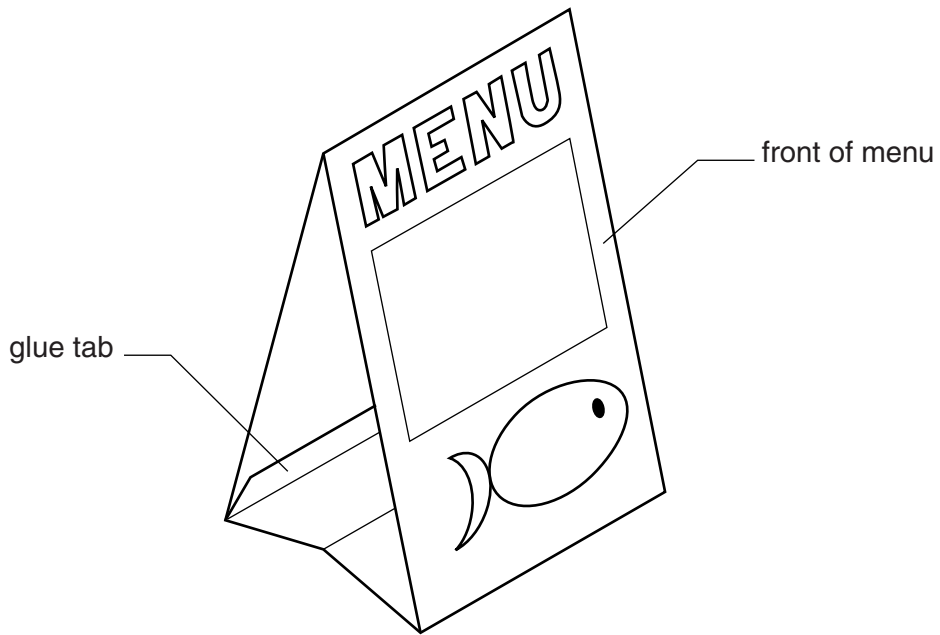


Fig. 1

(a) Complete the front of the menu shown in Fig. 2 by adding:

(i) the missing letters from the word MENU [2]

(ii) the bottom half of the fish image. [2]



Fig. 2

(b) A prototype of the menu is to be made from a one piece development (net).

(i) State what is meant by the term 'prototype'.

.....
 [1]

(ii) Give **one** economic reason for making a prototype.

.....
 [1]

(iii) The prototype menu is to be made from card. State a suitable thickness for the card.

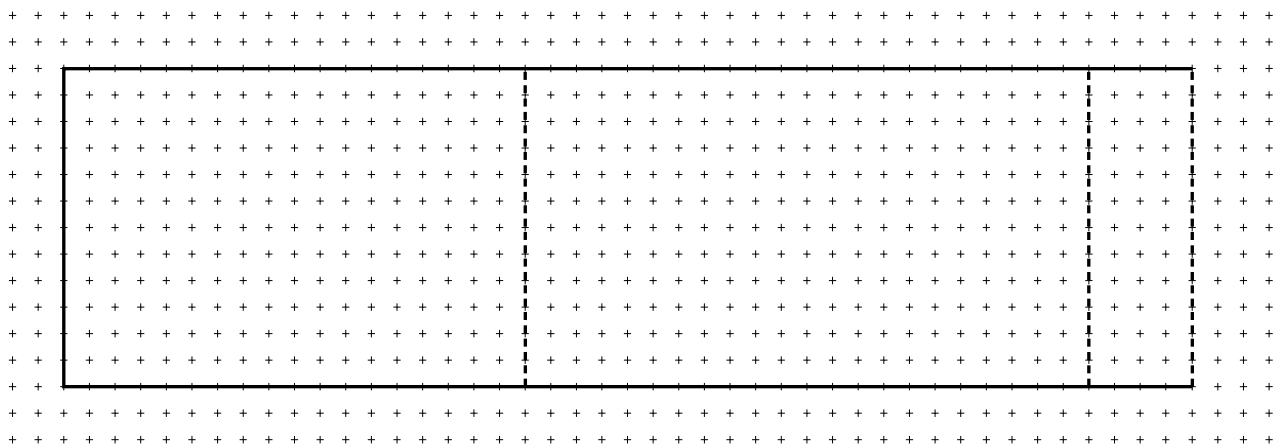
..... [1]

(c) The table below shows the processes used to manufacture the prototype menu. Complete the table below by stating one tool / item of equipment for each process.

Process	Tools / items of equipment
Draw the design on the menu	
Cut out the shape	
Join the development (net) together	

[3]

(d) Complete the development (net) below of the menu shown in Fig. 1.



[2]

[Total: 12]

2 The body of a toy car is shown in Fig. 3.

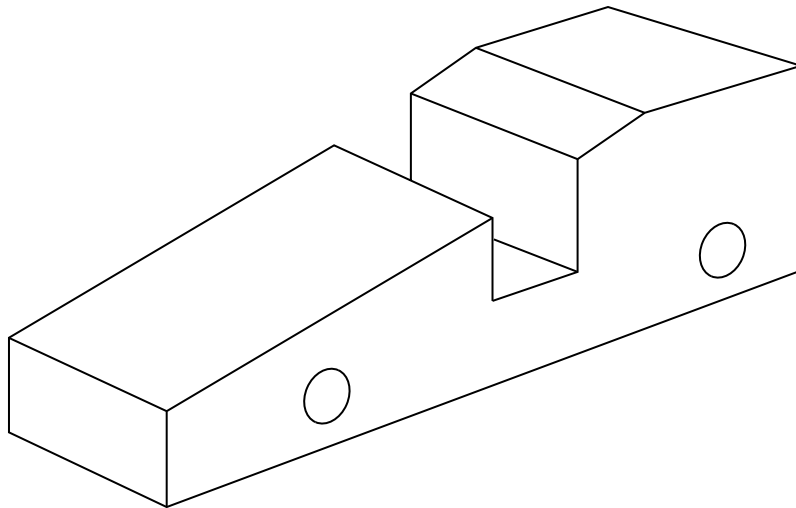


Fig. 3

- (a) Apply thick and thin line technique to Fig. 3 to enhance the appearance of the body of the toy car. [3]
- (b) Four Styrofoam wheels are to be added to the body of the toy car. The wheels are to be cut from blocks of 10 mm thick Styrofoam shown below. Sketch the shape of **one** wheel on the block of Styrofoam shown in Fig. 4.

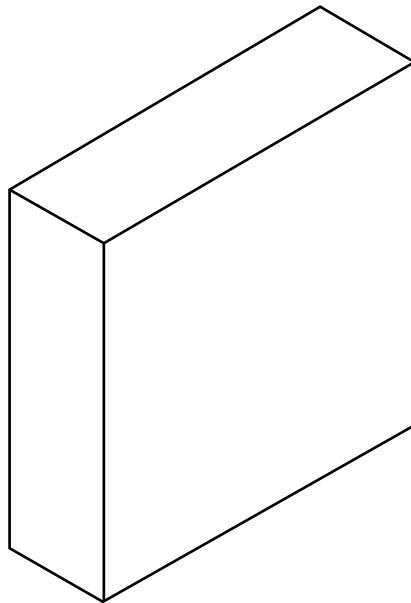


Fig. 4

[2]

- (c) State **one** suitable method of cutting out the Styrofoam wheel.

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..... [1]

(d) Complete orthographic views in Fig. 5 to show the fully assembled toy car.
Do **not** show hidden detail.

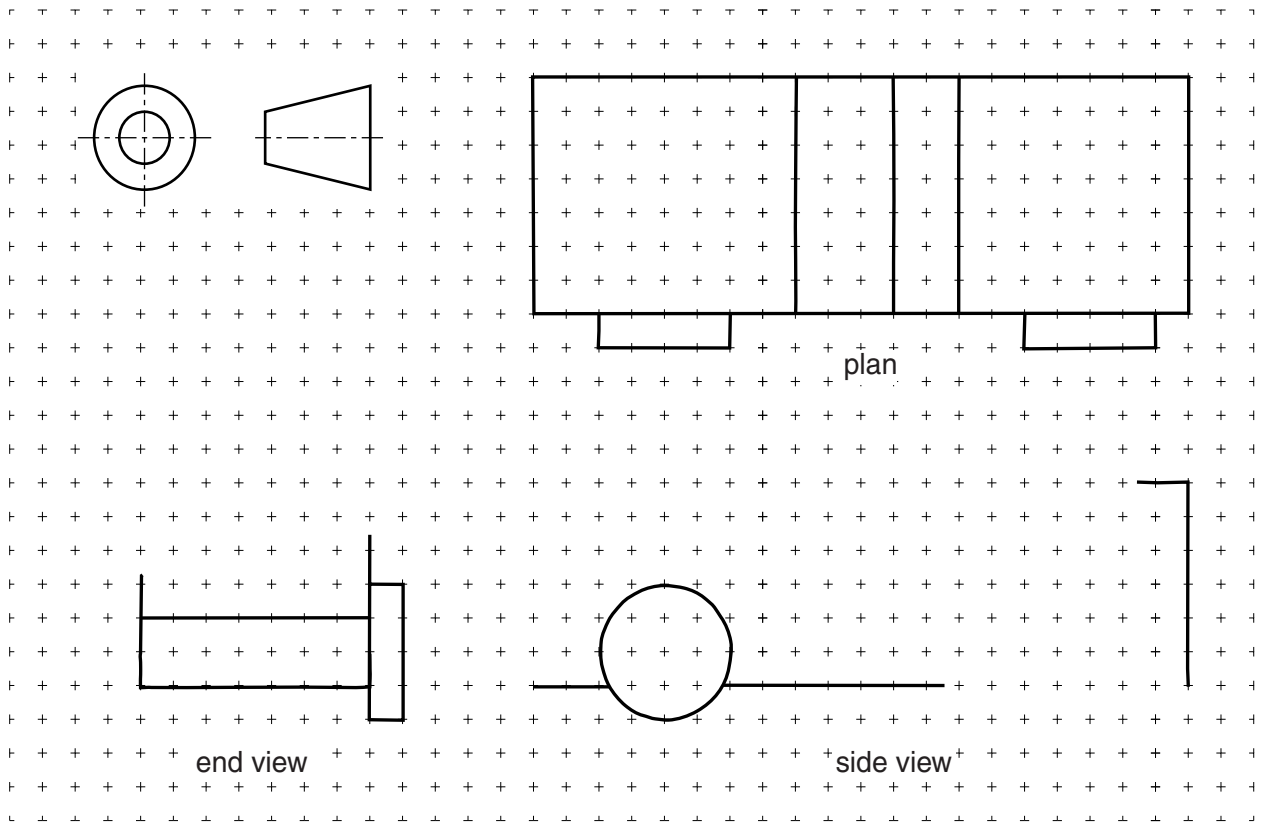


Fig. 5

[4]

(e) The toy car is to be made to a scale 1:50.

(i) State what is meant by the term 'scale 1:50'.

.....
..... [1]

(ii) Tick (✓) to show the size of a 500 mm line that is drawn to a scale 1:50.

10 mm	100 mm	500 mm
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[1]

[Total: 12]

3 Fig. 6 shows a box for drawing pins. The box is made from card.

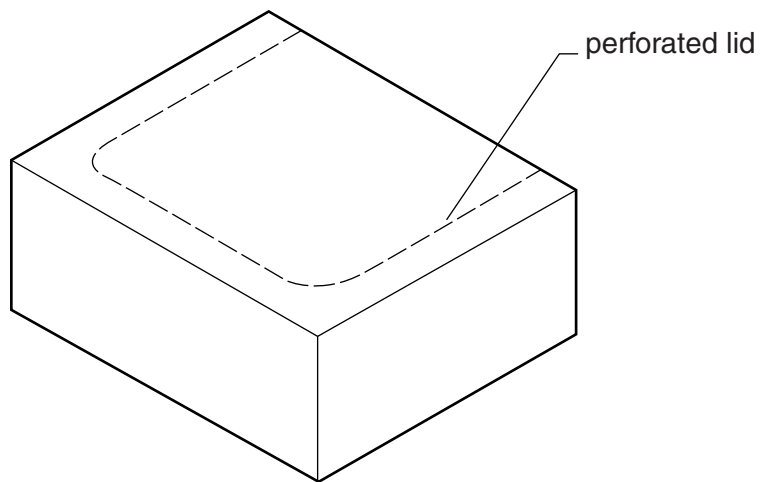
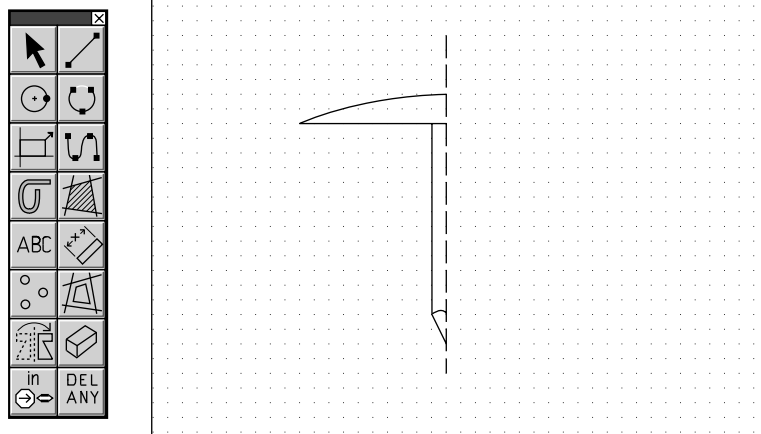


Fig. 6

- (a) Add pencil shading to the box to make it appear more three dimensional (3D). [3]
- (b) The image of a drawing pin is to be printed on the side of the box. The drawing below shows half of the drawing pin design drawn using CAD.



List the **three** key stages to complete the drawing using CAD.

- 1.....
-
- 2.....
-
- 3.....
- [3]

(c)* Fig. 7 shows another design for a drawing pin box. The box is made from thin, clear plastic.

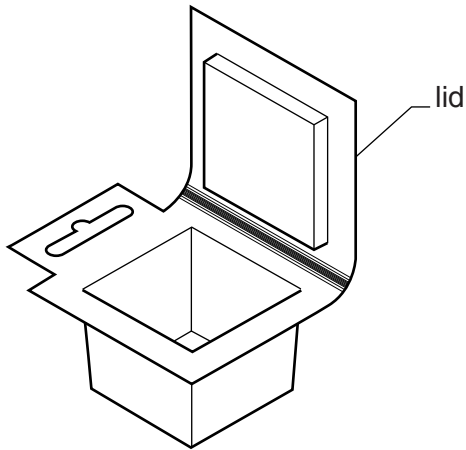


Fig. 7

Compare how well the two different designs in Fig. 6 and Fig. 7 meet the needs of the user.

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..... [6]

[Total: 12]

Section B

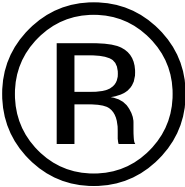

Answer **all** questions.

4 Fig. 8 shows a blister package for a USB flash drive.



Fig. 8

(a) The symbols shown below are printed on the card backing. Name each symbol and give a reason for it being included on the packaging.

	Name Reason [2]
	Name Reason [2]

(b) Name the manufacturing process used to make the 'blister'.

..... [1]

(c) Name a suitable material for the 'blister'.

..... [1]

- 5 The promotional puzzle shown in Fig. 9, is used by a company called 'PHK Chemicals'. The puzzle is made from 5 mm thick foamboard.

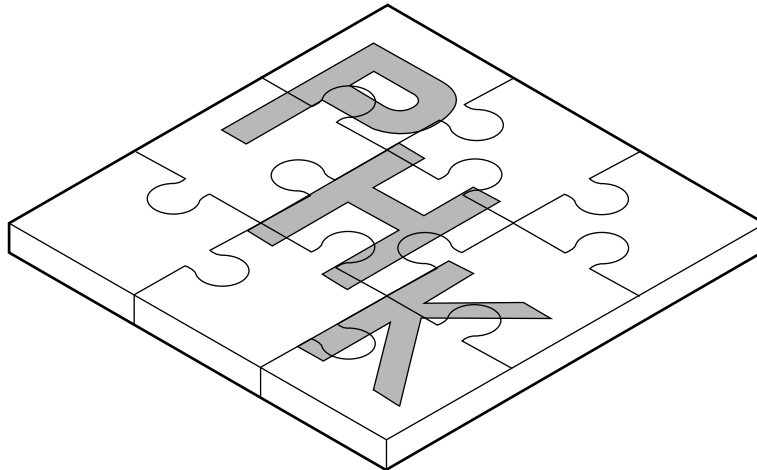


Fig. 9

- (a) CAM is used to manufacture the puzzle in quantity.

(i) State what the letters CAM stand for.

C A M..... [1]

(ii) State **two** benefits of using CAM to manufacture the puzzle.

1

.....

2

..... [2]

- (b) Name a method of printing the surface graphics onto the foamboard.

..... [1]

- (c) Name **two** smart or modern materials that could be used to make the surface graphics on the puzzle more appealing.

1

2

..... [2]

(d) In the space below use sketches and notes to show **one** idea for a promotional pen holder. Specification points for the pen holder are that it must:

- hold **one** pen
- be made from one A5 sheet of 5 mm thick foamboard
- be made from shapes that slot together
- have surface graphics to promote a company called 'PHK Chemicals'.

[6]

[Total: 12]



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