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Centre number						Candidate number				
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**OXFORD CAMBRIDGE AND RSA EXAMINATIONS
GENERAL CERTIFICATE OF SECONDARY EDUCATION**

A534

DESIGN AND TECHNOLOGY

Graphics

Technical Aspects of Designing and Making

FRIDAY 10 JUNE 2011: Afternoon

DURATION: 1 hour 15 minutes

SUITABLE FOR VISUALLY IMPAIRED CANDIDATES

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. 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 sections A AND 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 60.**
- **Your quality of written communication is assessed in questions marked with an asterisk (*).**

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SECTION A

Answer ALL questions.

1 Fig. 1 shows an invitation for a birthday party.



Fig. 1

(a) Name ONE suitable material for the invitation.

_____ [1]

(b) The invitations are to be sold in packs.

(i) Tick (✓) the most appropriate method of printing 4000 invitations.

Lithography	Photocopying	Screen printing
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[1]

(ii) Describe ONE quality control check that would be carried out BEFORE the print run begins.

[2]

(c) The images on the invitations are to be ‘spot’ coated with UV varnish.

(i) State what the letters UV stand for.

U _____ **V** _____

[1]

(ii) State what is meant by ‘spot’ coating.

[1]

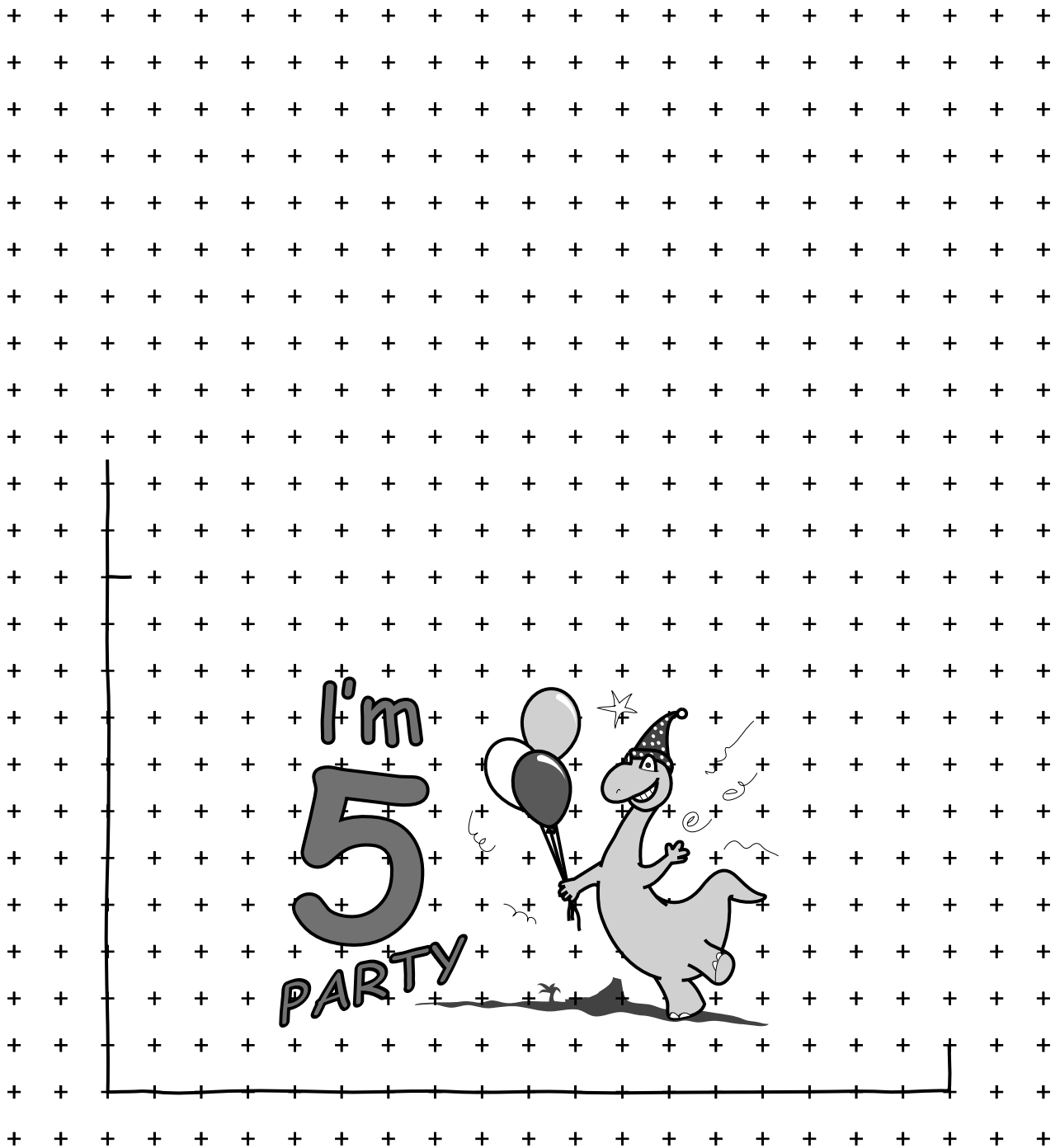
(iii) Give TWO reasons why UV varnish has been used on the invitations.

1 _____

2 _____

[2]

(d) Complete the sketch in Fig. 2 to show the development (net) required to make ONE invitation.



[2]

Fig. 2

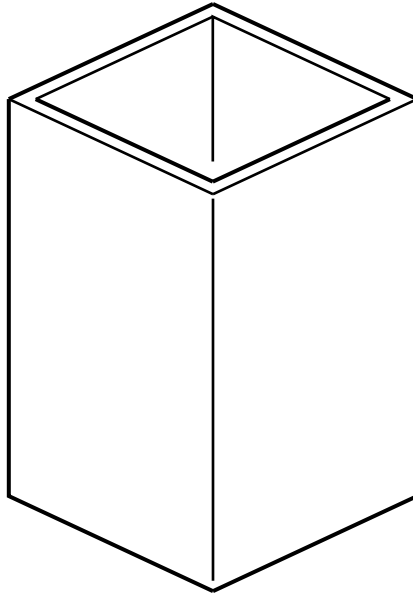
(e) Photochromic inks will be used on the inside of the invitation. Explain how photochromic inks work.

[2]

[Total: 12]

2 Fig. 3 shows a desk tidy.

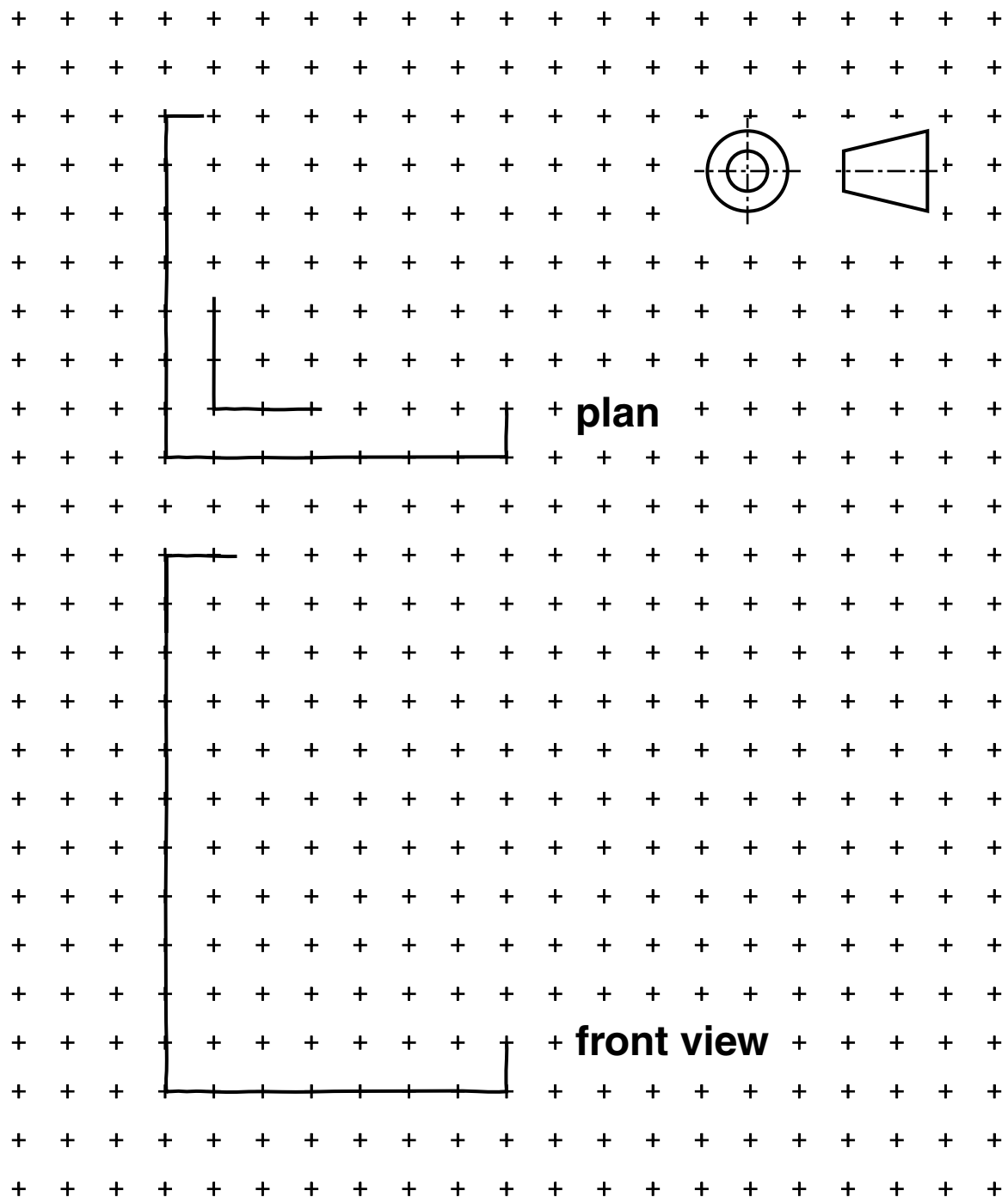
(a) Use different tones of pencil shading to enhance the 3D appearance of the desk tidy.



[3]

Fig. 3

(b) Complete the freehand orthographic views of the desk tidy shown in Fig. 4. Include hidden detail.



[3]

Fig. 4

(c) A model of the desk tidy is to be made from a single piece of 5 mm thick foam board. Use a sketch to show a method of cutting the foam board so that it can be folded to form ONE corner.

[2]

(d) Market testing has shown that the model of the desk tidy falls over during use. Use a sketch to show how this problem could be overcome.

[2]

(e) Explain why the use of foam board might NOT be considered environmentally friendly.

[2]

[Total: 12]

3 Fig. 5 shows a former for a vacuum formed tray.

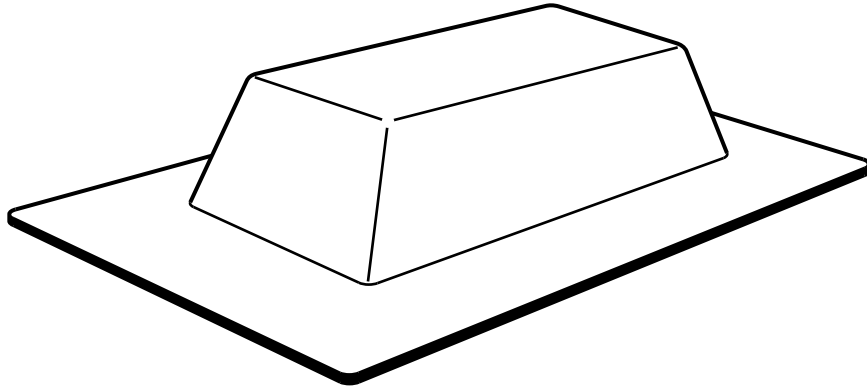


Fig. 5

(a) Sketch a sectional view of the vacuum formed tray.

[3]

(b) Fig. 6 shows a symbol found on the vacuum formed tray.

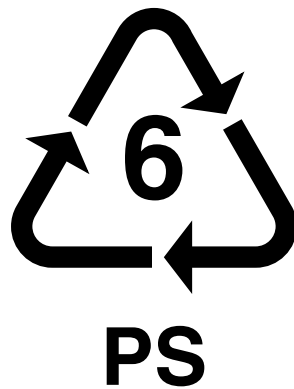


Fig. 6

(i) Name the specific material that this symbol identifies.

_____ [1]

(ii) Describe the most suitable method of 'including' the symbol on the vacuum formed tray.

_____ [2]

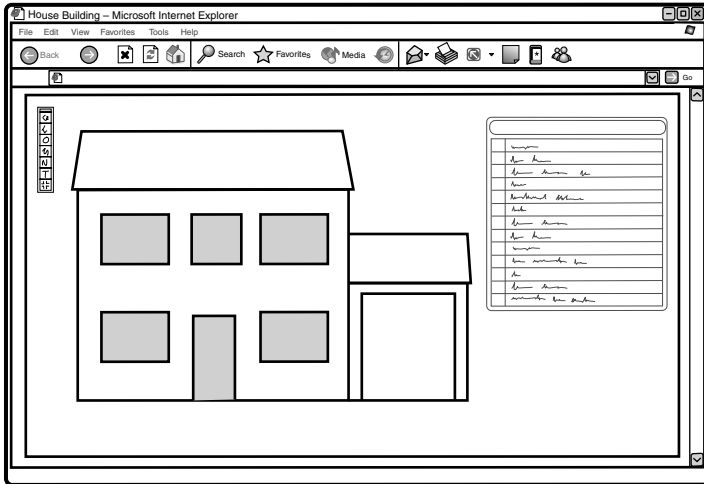
[6]

[Total: 12]

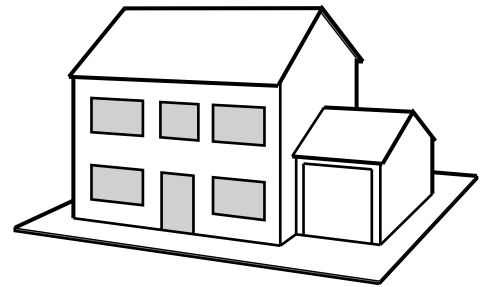
SECTION B

Answer ALL questions.

4 Fig. 7 shows two methods of communicating a design for a house.



CAD drawing



card model

Fig. 7

(a) State what the letters CAD stand for.

C _____

A _____

D _____

[1]

(b) Explain ONE way in which a CAD drawing can be manipulated on-screen.

[2]

(c) State TWO safety precautions that should be observed when using a craft knife to cut out the pieces of the card model.

1 _____

2 _____ [2]

(d) Name ONE specific adhesive that could be used to join the pieces of the card model together.

_____ [1]

[6]

[Total: 12]

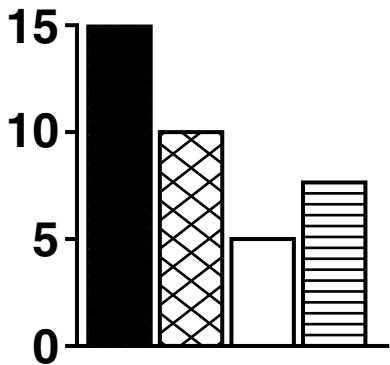
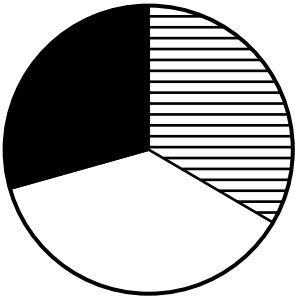
5 Data is used at many stages in a design project.

(a) Name TWO methods of gathering data.

1 _____

2 _____ [2]

(b) Name the TWO methods of presenting data shown below.

	<p>_____</p>
	<p>_____</p>

[2]

(c) Explain how anthropometric data could be used in the design of a product.

[2]

(d) A school needs to raise £1000 to build an eco-friendly garden. The money will be raised at several different events. The first three events raised £100, £200 and £50.

In the space below use sketches and notes to show ONE idea for a display.

Specification points for the display are that it:

- **is made from an environmentally friendly material**
- **is freestanding**
- **reflects the purpose of the fundraising**
- **is easily updated and shows PROGRESS towards the total of £1000.**

[6]

[Total: 12]

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