



Cambridge International AS & A Level

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DESIGN & TECHNOLOGY

9705/12

Paper 1 AS Level Written Paper

October/November 2025

2 hours 15 minutes

You must answer on the question paper.

You will need: Standard drawing equipment
Coloured pencils
Calculator

INSTRUCTIONS

- Answer **all** questions.
- Use a black or dark blue pen.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do **not** use an erasable pen or correction fluid.
- Do **not** write on any bar codes.
- You may use a pencil or coloured pencils for any sketches, drawings or rough working.

INFORMATION

- The total mark for this paper is 100.
- The number of marks for each question or part question is shown in brackets [].
- All dimensions are in millimetres, unless otherwise stated.

This document has **20** pages. Any blank pages are indicated.

Answer **all** questions.

- 1 Fig. 1.1 shows a garden wheelbarrow.

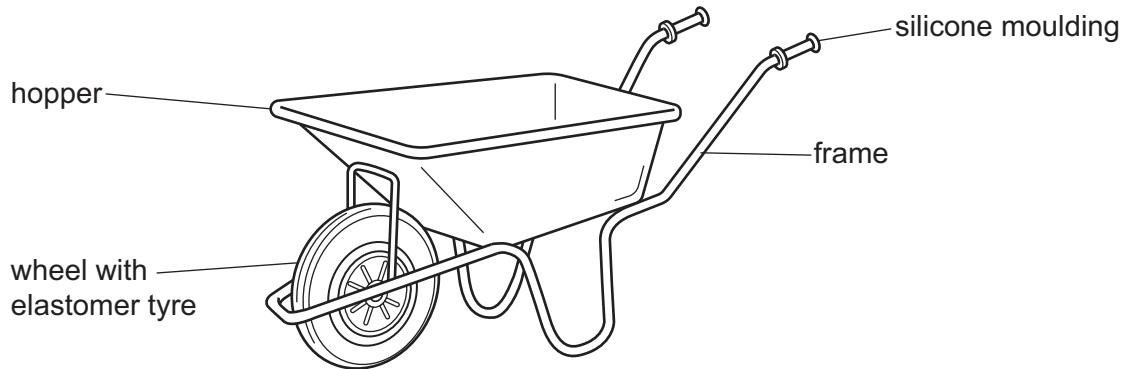


Fig. 1.1

- (a) (i) Name **one** thermoplastic that could be used to make the hopper of the wheelbarrow.

..... [1]

- (ii) Name **one** ferrous metal that could be used to make the frame of the wheelbarrow.

..... [1]

- (iii) Explain why a silicone moulding has been added to the frame of the wheelbarrow.

.....

 [2]

- (b) (i) Describe **one** method of attaching the wheelbarrow wheel to the frame. The wheel must rotate.

.....

 [2]

- (ii) Explain why an elastomer has been chosen for the wheelbarrow tyre.

.....

 [2]



2 Designers use different graphical techniques to communicate design proposals.

(a) (i) Identify the presentation technique shown in Fig. 2.1.

..... [1]

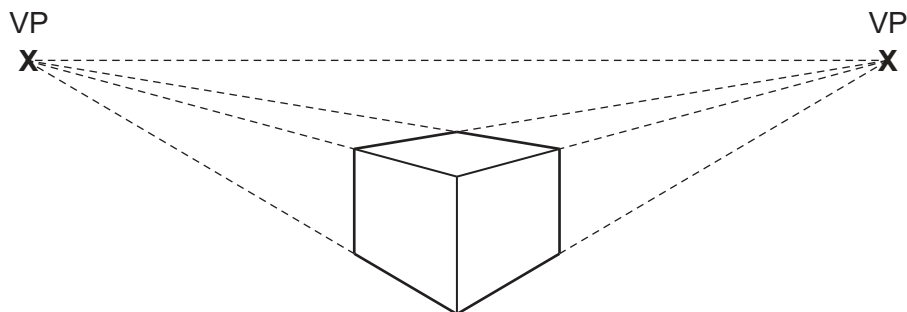


Fig. 2.1

(ii) Name **one** other presentation technique that could be used by a designer.

Explain why this presentation technique would be used by a designer.

presentation technique

explanation

.....
.....
.....

[3]

(b) Explain **two** advantages for designers of using tone and colour to show a design proposal to a client.

1
.....
.....
.....

2
.....
.....
.....

[4]



3 Fig. 3.1 shows details of a point-of-sale display for cosmetics.

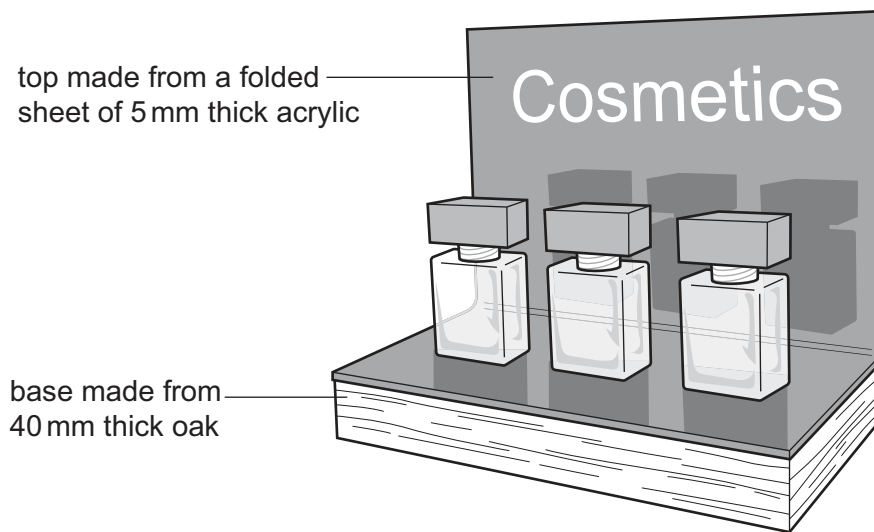


Fig. 3.1

(a) Explain **two** reasons why the use of a softwood for the point-of-sale display would be considered more sustainable than acrylic and oak.

- 1
-
-
-
-
- 2
-
-
-

[4]



(b) Use sketches and notes to show:

(i) a method of folding the 5 mm thick acrylic sheet at a right angle

[4]

(ii) a temporary method of attaching the acrylic sheet to the oak base.

[4]





(c) Describe **two** safe working practices that should be followed when cutting the oak base to size and preparing for a finish.

1

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.....

.....

.....

2

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.....

.....

[4]

(d) Identify a suitable finish for the oak base. Justify your choice of finish.

finish

justification

.....

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.....

[4]





Question 4 starts on page 8.



4 Fig. 4.1 shows details of a wall shelf.

melamine-faced
chipboard shelf

shelf
1000 × 200 × 30

wall bracket
made by joining two
diameter 12 mm mild steel
tubes to a 25 mm × 3 mm
mild steel strip

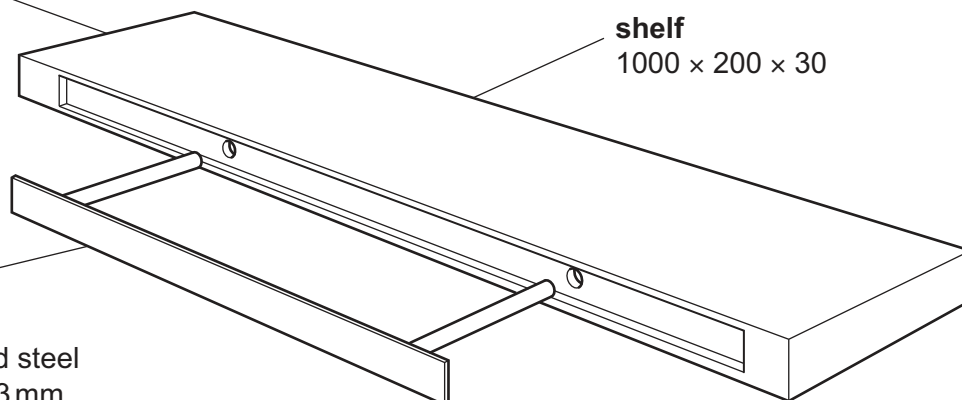


Fig. 4.1

(a) Give **two** reasons why melamine-faced chipboard has been chosen for the shelf.

- 1
-
-
- 2
-
-
- [2]

(b) Explain **one** reason why the wall shelf is sold with an instruction leaflet.

-
-
-
-
- [2]



- (c) (i) Use sketches and notes to describe a method of making the wall bracket.

In your response, you should give details of any tools, equipment and processes involved and the safety precautions undertaken.





- (ii) Use sketches and notes to describe a method of attaching the wall bracket to a wall. The method must allow the bracket to be easily removed from the wall if required.

In your response, you should give details of any tools, equipment and processes involved and the safety precautions undertaken.

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Question 5 starts on page 12.



5 Fig. 5.1 shows a food ordering terminal in a fast-food restaurant.

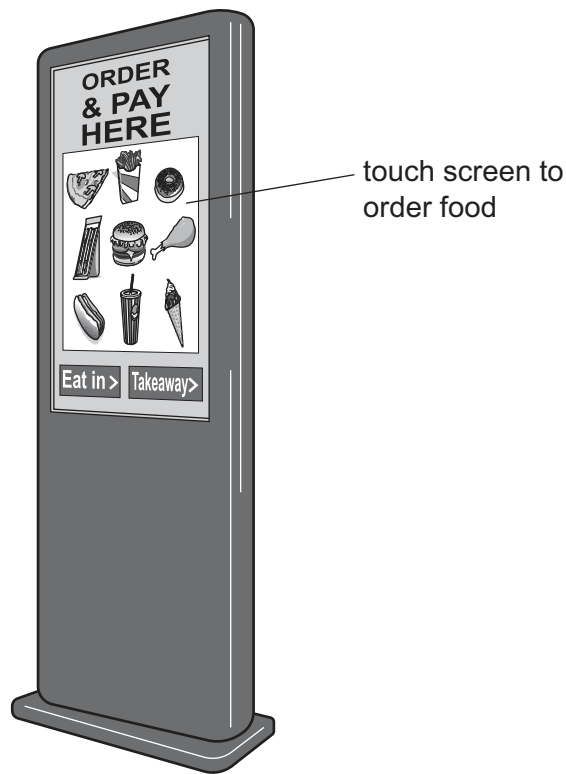


Fig. 5.1

(a) Explain how the food ordering terminal:

(i) attracts customers to purchase food

.....

.....

..... [2]

(ii) impacts on employees who work in the restaurant

.....

.....

..... [2]

(iii) monitors the sales of food.

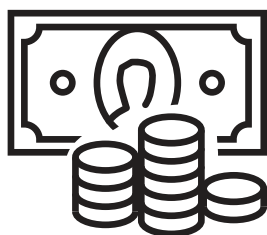
.....

.....

..... [2]



(b) Fig. 5.2 shows the payment option symbols that appear when ordering food.



cash symbol



debit/credit card symbol

Fig. 5.2

(i) Explain **one** advantage of using symbols to show the payment options.

.....

.....

.....

..... [2]

(ii) Explain why many restaurant owners prefer customers to pay by debit or credit card.

.....

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.....

..... [2]



(c) Fig. 5.3 shows a child's play area in the fast-food restaurant.

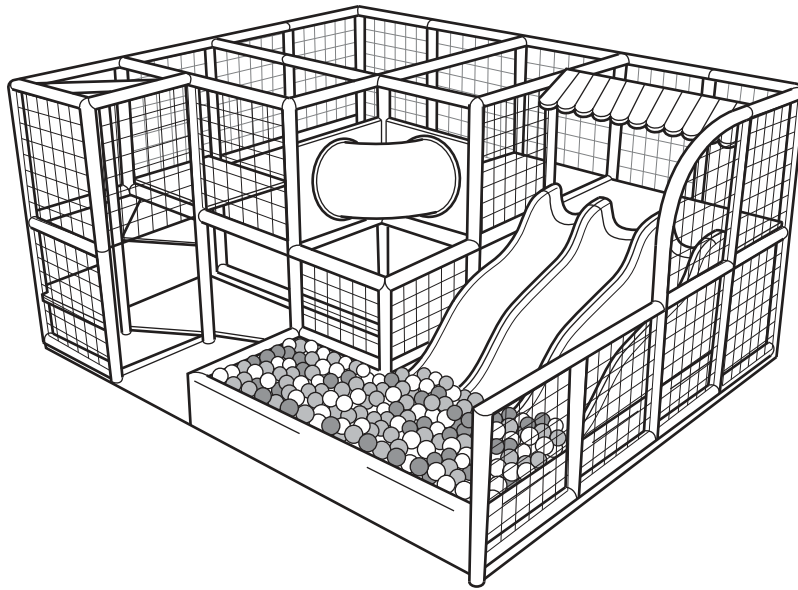


Fig. 5.3

When designing the child's play area, the designer needs to consider ergonomics and the use of standardised components.

Use sketches and notes to show **one** example of:

- (i) ergonomics

[3]





(ii) the use of standardised components.

[3]

(d) Describe **two** ways in which the designer considered the safety of the user when selecting materials for the child's play area.

1

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2

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[4]



- 6 Fig. 6.1 shows a device that is designed to assist people with limited hand movement to lift a bottle.

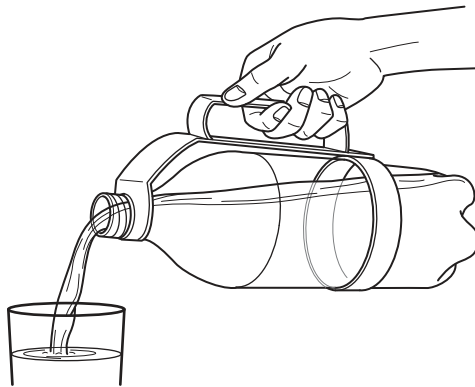


Fig. 6.1

Use sketches and notes to show how the design of **one other product** could be modified to be more inclusive, allowing a person with limited hand movement to be able to use the product.

Your answer should:

- identify the product you propose to modify
- use sketches and notes, including appropriate conventions and specialist vocabulary, to show how you propose to modify the product to be more inclusive
- include an analysis of how the modification meets the needs of a person with limited hand movement.

You may use the space on the next page for more sketches.





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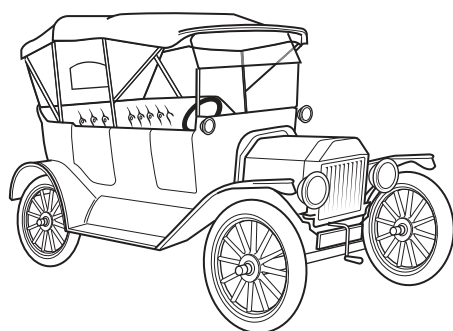
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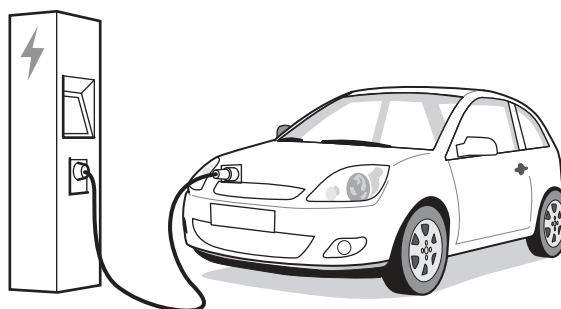
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7 Fig. 7.1 shows two cars from different periods in time.



petrol car
(1920)



electric car
(2024)

Fig. 7.1

Discuss how emerging technologies have impacted on the designing and making of products.

Your answer should:

- include examples of emerging technologies
- evaluate the impact of emerging technologies on the development of products
- discuss the impact of emerging technologies on the wider issues in design and technology (including cultural, economic, environmental and social factors).

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[12]



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