



Cambridge International AS & A Level

CANDIDATE
NAME

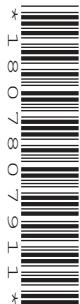


CENTRE
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DESIGN & TECHNOLOGY

9705/31

Paper 3 A Level Written Paper

May/June 2025

2 hours 30 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.
- You may use $30^\circ/60^\circ$ and 45° set squares, a pencil compass and templates/guides if appropriate for any sketches or drawings.

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 **16** pages. Any blank pages are indicated.



Answer all questions.

1 Fig. 1.1 shows details of a tile holder for a game.

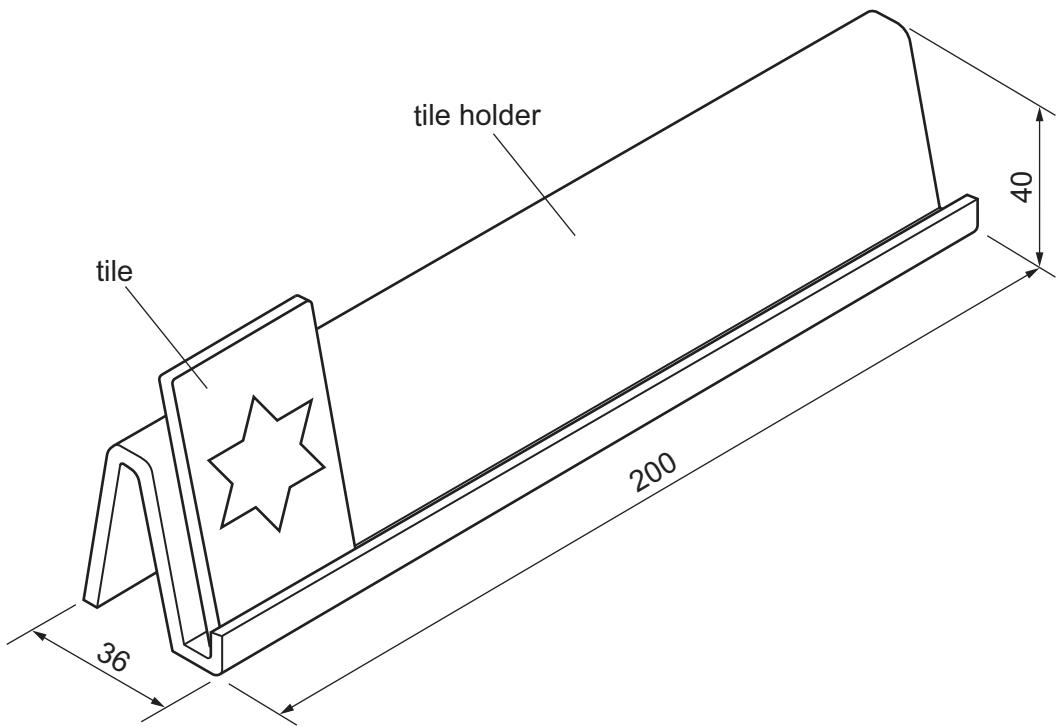


Fig. 1.1

(a) State a suitable material for the tile holder shown in Fig. 1.1.

Give **two** reasons to justify your choice.

Material

Reason 1

Reason 2

[3]





(b) Use sketches and notes to show how you would make **one** tile holder as shown in Fig. 1.1 in a school workshop.

In your response, you should give details of any tools and equipment you would use.

DO NOT WRITE IN THIS MARGIN

[9]

[Turn over]





(c) Use sketches and notes to describe the changes which may be necessary to the design, manufacturing method and the material selected to produce 10 000 identical tile holders.

[8]





2 (a) Explain **one** benefit of using 3D printing when modelling ideas.

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[2]

(b) Describe **two** ways in which dimensional checks are used when manufacturing products.

1

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2

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[4]

(c) Use sketches and notes to show the process of press forming.



[4]

[Turn over]



3 (a) Explain what is meant by the term demographics with reference to business and commercial practices.

[3]

[3]

(b) Explain **one** disadvantage to a company of using discounting as a product extension strategy.

[3]

[3]

(c) Explain **two** ways, other than discounting, a company can create more demand for a product.

1

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[4]





4 A company is considering implementing a new manufacturing system.

(a) Explain **one** benefit of a just in time (JIT) manufacturing system.

[2]

[2]

(b) Discuss the disadvantages of implementing an automated manufacturing system for the company.

[6]

(c) Explain **one** strategy that could be used to evaluate the effectiveness of a manufacturing system.

[2]

[2]





5 (a) Describe **one** process that can be used to enhance the property of a metal.

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[2]

(b) Explain **one** disadvantage of applying a finish to a material.

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[2]

(c) Discuss the importance to manufacturers and consumers of using standard components when manufacturing products.

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[6]

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6 A games company wants to develop a storage unit for gaming equipment.

The design specification states that the storage unit must:

- hold a pair of headphones, a controller and up to four games
- be assembled by the consumer
- be manufactured as a batch of 1000.

Details of items to be stored in the unit are given in Fig. 6.1.

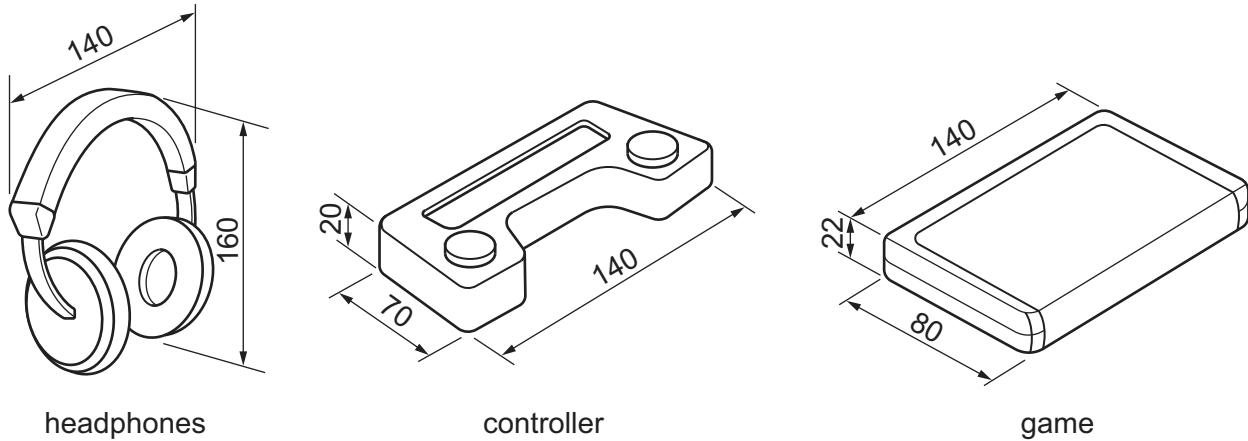


Fig. 6.1

Question 6 continues on Page 10.





(a) Use sketches and notes to produce **two** different innovative ideas for the storage unit for gaming equipment.

(i) Idea 1

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[6]





(ii) Idea 2

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[6]

[Turn over]





(b) Evaluate your **two** ideas for the storage unit to select a final proposal for development. Justify your selection.

[3]





(c) Use sketches and notes to develop your chosen idea to show details of functions, materials, construction and finishes.

DO NOT WRITE IN THIS MARGIN

[10]

[Turn over





(d) Use a method of your own choice to draw the complete design solution.

Include key details and dimensions.

DO NOT WRITE IN THIS MARGIN

[8]





Your answer should include at least **four** different manufacturing specification points.

[5]

(f) Explain **one** benefit of designing the storage unit to be assembled by a consumer.

[2]

[2]





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