



Cambridge IGCSE™ (9–1)

DESIGN & TECHNOLOGY**0979/12**

Paper 1 Product Design

May/June 2020**1 hour 15 minutes**

You must answer on the two pre-printed A3 answer sheets.

You will need: Two A3 pre-printed answer sheets (enclosed)
Standard drawing equipment
Coloured pencils

INSTRUCTIONS

- Answer **one** question.
- Use an HB pencil for any drawings and a black or dark blue pen for any writing.
- Write your name, centre number and candidate number in the space on **both** pre-printed answer sheets.
- Answer in the space provided on the answer sheets.
- Do **not** use an erasable pen, staples, paper clips, glue or correction fluid.
- Do **not** write on any bar codes.
- You may use a calculator.
- You may use standard drawing equipment, including coloured pencils.
- At the end of the examination, hand in your named A3 answer sheets. Do **not** fasten them together and do **not** punch holes in the sheets or tie with string.

INFORMATION

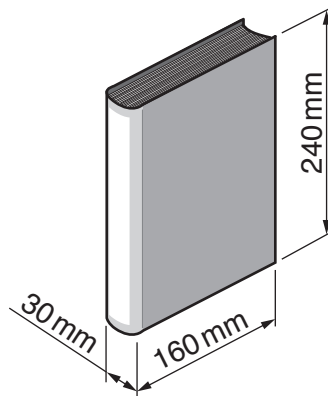
- The total mark for this paper is 50.
- The number of marks for each question or part question is shown in brackets [].
- All dimensions are in millimetres.

This document has 4 pages. Blank pages are indicated.

Answer **ONE** question only on the A3 pre-printed answer sheets provided.

1 Problem:

A library wishes to display a set of six books.



Design a unit to display the set of six books. The unit should display the **front cover** of each book.

- (a) List **four** additional points about the function of such a unit that you consider to be important. [4]
- (b) Use sketches and notes to show **two** methods that would stop books falling off such a unit. [4]
- (c) Develop and sketch **three** ideas for the unit. [12]
- (d) Evaluate your three ideas. Choose **one** idea to develop further and justify your choice. [8]
- (e) Draw, using a method of your own choice, a full solution to the design problem. Include construction details and important dimensions. [12]
- (f) Suggest **two** suitable specific materials for the solution you have drawn in part (e) and give reasons for your choice. [4]
- (g) Outline a method that could be used to manufacture **one** part of your solution drawn in part (e). Include the names of the tools used. [6]

2 Problem:

A library wishes to display a children's adventure book called 'Island of Treasure'.

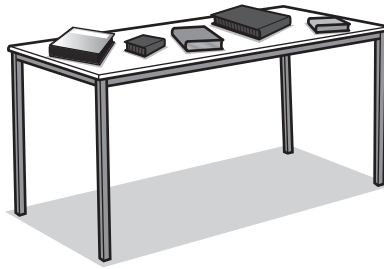


Design a counter-top display which will feature the 'Island of Treasure' book. Your design should include some form of movement to attract children.

- (a) List **four** additional points about the function of such a counter-top display that you consider to be important. [4]
- (b) Use sketches and notes to show **two** methods that can be used to create movement in such a counter-top display. [4]
- (c) Develop and sketch **three** ideas for the counter-top display. [12]
- (d) Evaluate your three ideas. Choose **one** idea to develop further and justify your choice. [8]
- (e) Draw, using a method of your own choice, a full solution to the design problem. Include construction details and important dimensions. [12]
- (f) Suggest **two** suitable specific materials for the solution you have drawn in part (e) and give reasons for your choice. [4]
- (g) Outline a method that could be used to manufacture **one** part of your solution drawn in part (e). Include the names of the tools used. [6]

3 Problem:

A library wishes to display books on a rotating book stand.



Design a book stand that automatically rotates to display the books.

- (a) List **four** additional points about the function of such a rotating book stand that you consider to be important. [4]
- (b) Use sketches and notes to show **two** methods which could be used to reduce the speed of a rotating shaft. [4]
- (c) Develop and sketch **three** ideas for the rotating book stand. [12]
- (d) Evaluate your three ideas. Choose **one** idea to develop further and justify your choice. [8]
- (e) Draw, using a method of your own choice, a full solution to the design problem. Include construction details and important dimensions. [12]
- (f) Suggest **two** suitable specific materials for the solution you have drawn in part (e) and give reasons for your choice. [4]
- (g) Outline a method that could be used to manufacture **one** part of your solution drawn in part (e). Include the names of the tools used. [6]

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced online in the Cambridge Assessment International Education Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download at www.cambridgeinternational.org after the live examination series.

Cambridge Assessment International Education is part of the Cambridge Assessment Group. Cambridge Assessment is the brand name of the University of Cambridge Local Examinations Syndicate (UCLES), which itself is a department of the University of Cambridge.