

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS International General Certificate of Secondary Education

## **DESIGN AND TECHNOLOGY**

Paper 1 Design

ATIONS 0445/01 October/November 2008 1 hour 15 minutes

Candidates answer on the pre-printed A3 Answer Sheets.

Additional Materials: Standard drawing equipment

To be taken together with the optional paper for which you have been entered in one session of 2 hours and 15 minutes.

## READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name in the spaces on **both** printed Answer Sheets. Write in dark blue or black pen.

You may use a soft pencil for any diagrams, graphs or rough working. Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer one question.

Write/draw your answers in the spaces provided on the Answer Sheets. You may use a calculator.

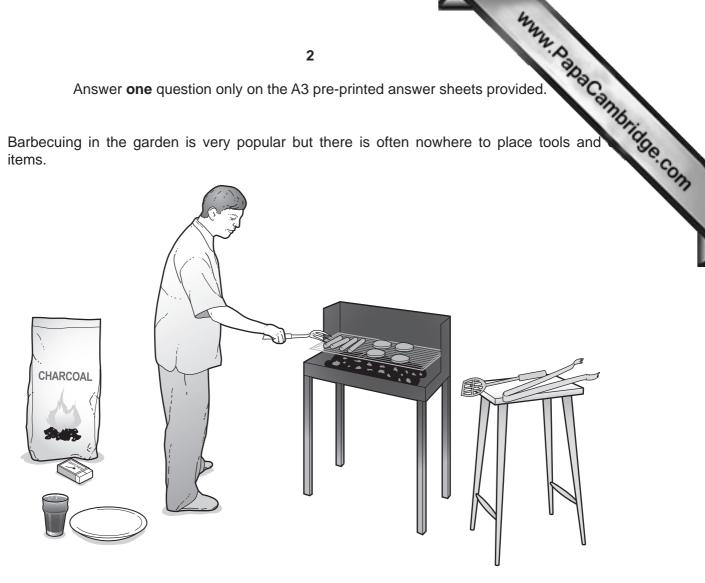
At the end of the examination, fasten all your work securely together. The number of marks is given in brackets [] at the end of each question or part question.

This document consists of 4 printed A4 pages and an Insert.



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

1 Barbecuing in the garden is very popular but there is often nowhere to place tools and items.



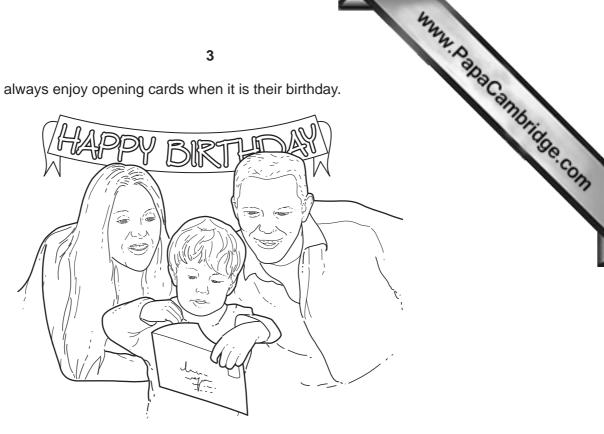
A unit that could hold the cooking tools and equipment shown and be stored indoors when not in use, would be very useful. The unit should include a space to take a plate and a glass while cooking is in progress.

(a) List four additional points about the function of such a unit that you consider to be important.

[4]

(b)	Draw <b>two</b> different fittings that can be used to hold items in storage devices.	[4]
(c)	Develop and sketch ideas for the unit.	[12]
(d)	Evaluate your ideas and justify why you have chosen <b>one</b> idea to develop more fully.	[8]
(e)	Draw, using a method of your own choice, a full solution to your problem. Include constr details and major dimensions.	uction [12]
(f)	Suggest suitable materials for your solution and give reasons for your choice.	[4]

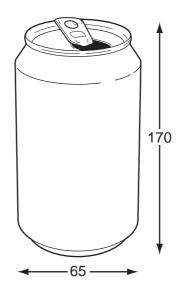
(g) Outline a method used to manufacture **one** part of your solution in the school workshop. [6] 2 Small children always enjoy opening cards when it is their birthday.



Design a birthday card for a five year old child that includes a moving feature.

- (a) List four additional points about the function of such a card that you consider to be important. [4]
- (b) Draw two types of mechanism that could be used to create movement on card or paper. [4]
- (c) Develop and sketch ideas for the birthday card. [12]
- (d) Evaluate your ideas and justify why you have chosen one idea to develop more fully. [8]
- (e) Draw, using a method of your own choice, a full solution to your problem. Include construction details and major dimensions. [12]
- (f) Suggest two methods that could be used to apply colour to the card. [4]
- (g) Outline the method of producing a prototype birthday card in the school graphics studio. [6]

www.papacambridge.com One of the most frequently recycled products is the standard metal drinks can similar 3 shown below.



The Design and Technology department at your school has been asked to produce a collection system that uses movement, light or sound to show when a student deposits a drinks can.

- (a) List four additional points about the function of such a collection system that you consider to be important. [4]
- (b) Use sketches and notes to describe two devices that could be used to sense that a can has been deposited. [4]
- (c) Develop and sketch your ideas for the collection system. [12]
- (d) Evaluate your ideas and justify why you have chosen **one** idea to develop more fully. [8]
- (e) Draw, using a method of your own choice, a full solution to your problem. Include construction details and major dimensions. [12]
- (f) Suggest suitable materials for your solution and give reasons for your choice. [4]
- (g) Outline a method used to manufacture **one** part of your solution in the school workshop. [6]

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