



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS  
International General Certificate of Secondary Education

**DESIGN AND TECHNOLOGY**

**0445/01**

Paper 1 Design

**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.



\* 6 8 2 4 1 9 3 0 1 5 \*

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 other 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 **two** 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 **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]

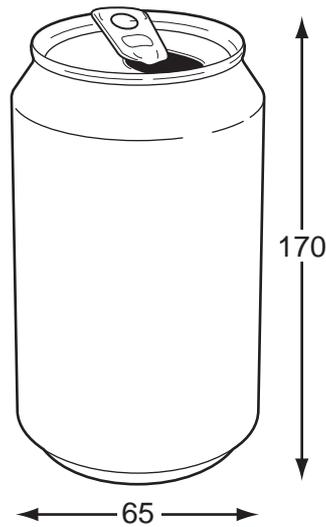
- 2 Small children always enjoy opening cards when it is their birthday.



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]

- 3 One of the most frequently recycled products is the standard metal drinks can similar to the one 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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