



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education



DESIGN AND TECHNOLOGY

0445/12

Paper 1 Design

May/June 2013

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 **2** A3 Inserts.



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

- 1 Outdoor boots become untidy and can leave dirt and water on the floor when there is nowhere to store them.



Design a storage unit that could store up to four pairs of outdoor boots.

- (a) List **four** additional points about the function of such a storage unit that you consider to be important. [4]
- (b) Use sketches and notes to show **two** ways in which boots could be held in place. [4]
- (c) Develop and sketch **three** ideas for the storage 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 the problem. Include construction details and major dimensions. [12]
- (f) Suggest suitable specific 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]

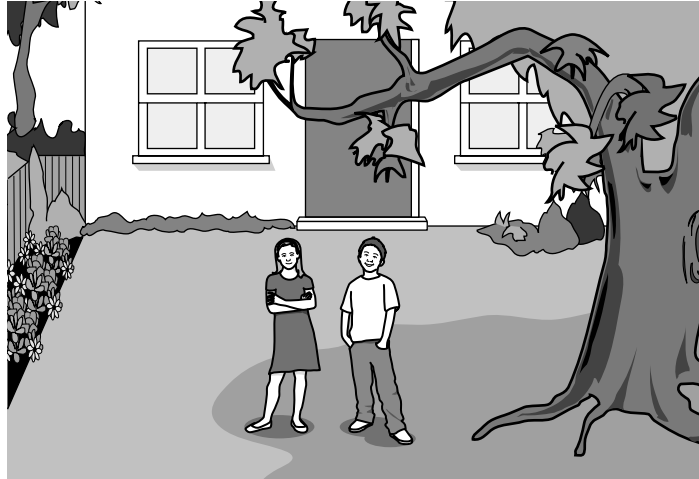
- 2 Very young children enjoy looking at books when there is some form of movement to attract their attention.



Design a feature for a child's book that has some form of movement.

- (a) List **four** additional points about the function of such a feature that you consider to be important. [4]
- (b) Use sketches and notes to show **two** types of movement that could be produced using card or paper. [4]
- (c) Develop and sketch **three** different moving features suitable for a book. [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 the problem. Include construction details and major dimensions. [12]
- (f) Suggest suitable specific materials for your solution and give reasons for your choice. [4]
- (g) Outline a method of producing a prototype of your solution in the school graphics studio. [6]

3 Children of all ages enjoy playing outdoors.



Design a piece of garden play equipment that would provide at least two different activities.

- (a) List **four** additional points, other than safety, about the function of such play equipment that you consider to be important. [4]
- (b) Use sketches and notes to show **two** examples of where safety needs to be considered in play equipment. [4]
- (c) Develop and sketch **three** ideas for the play equipment. [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 the 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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