

Cambridge International Examinations

Cambridge International General Certificate of Secondary Education

DESIGN AND TECHNOLOGY

0445/12

Paper 1 Product Design

October/November 2015

1 hour 15 minutes

Candidates answer on the pre-printed A3 Answer Sheets.

Additional Materials:

Standard drawing equipment and coloured pencils.

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 an HB pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, glue or correction fluid.

DO NOT WRITE IN ANY BARCODES.

Answer **one** question.

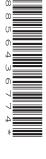
Write/draw your answers in the spaces provided on the Answer Sheets.

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.

The total of the marks for this paper is 50.



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

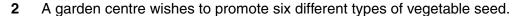
1 Some people find it difficult to kneel when gardening.

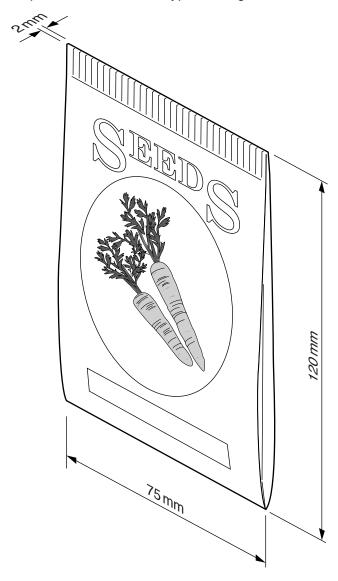


Design a kneeling aid which will allow people to tend their plants.

- (a) List four additional points about the function of such a kneeling aid that you consider to be important. [4]
- (b) Use sketches and notes to show two additional features that the kneeling aid could include. [4]
- (c) Develop and sketch three ideas for the kneeling aid. [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 two 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. [6]

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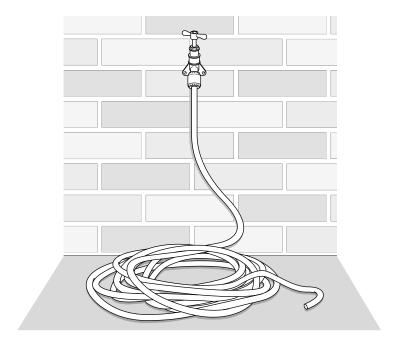




Design a point of sale stand which will display and allow access to ten packets of each type of seed.

- (a) List **four** additional points about the function of such a display stand that you consider important. [4]
- (b) Use sketches and notes to show **two** different methods that could be used to make a point of sale display stand waterproof. [4]
- (c) Develop and sketch three ideas for the display stand. [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 two 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. [6]

3 Hosepipes can be untidy.



Design a hose pipe storage system that will allow a hose pipe to be used and stored whilst connected to a tap.

- (a) List four additional points about the function of such a hosepipe storage system that you consider important. [4]
- (b) Use sketches and notes to show **two** methods that would allow two pieces of hosepipe to be joined and separated quickly and easily. [4]
- (c) Develop and sketch three ideas for the hosepipe storage 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 the problem. Include construction details and major dimensions. [12]
- (f) Suggest two 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. [6]

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