



DESIGN AND TECHNOLOGY

0445/22

Paper 2 Graphic Products

October/November 2018

MARK SCHEME

Maximum Mark: 50

Published

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge International will not enter into discussions about these mark schemes.

Cambridge International is publishing the mark schemes for the October/November 2018 series for most Cambridge IGCSE™, Cambridge International A and AS Level components and some Cambridge O Level components.

This document consists of **7** printed pages.

Generic Marking Principles

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptors for a question. Each question paper and mark scheme will also comply with these marking principles.

GENERIC MARKING PRINCIPLE 1:

Marks must be awarded in line with:

- the specific content of the mark scheme or the generic level descriptors for the question
- the specific skills defined in the mark scheme or in the generic level descriptors for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

GENERIC MARKING PRINCIPLE 2:

Marks awarded are always **whole marks** (not half marks, or other fractions).

GENERIC MARKING PRINCIPLE 3:

Marks must be awarded **positively**:

- marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit is given for valid answers which go beyond the scope of the syllabus and mark scheme, referring to your Team Leader as appropriate
- marks are awarded when candidates clearly demonstrate what they know and can do
- marks are not deducted for errors
- marks are not deducted for omissions
- answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

GENERIC MARKING PRINCIPLE 4:

Rules must be applied consistently e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

GENERIC MARKING PRINCIPLE 5:

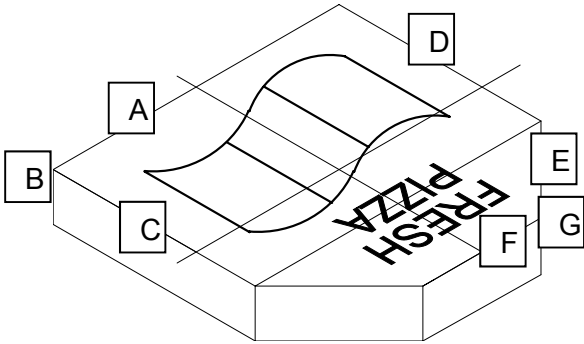
Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).

GENERIC MARKING PRINCIPLE 6:

Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

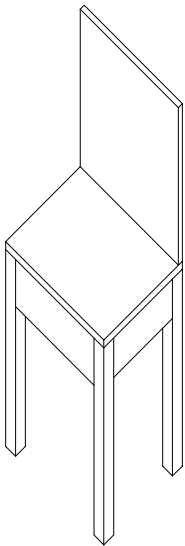
Section A

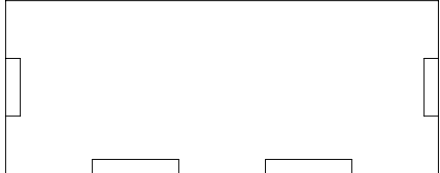
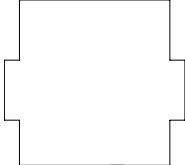
Question	Answer	Marks
A1(a)	Half Octagon: Outside square 300 × 300 or circumscribed circle constructed (1) Four quarter-circles (one from each corner) intersecting in centre / three tangents drawn (1) Half octagon to O/L (1)	3
A1(b)	Vertical line for right end of flag (1) Pairs of small arcs to locate centres of larger arcs for flag edges (1) + (1) TL / BL / TR / BR arcs (flag edges) R 40 passing through end of lines and centre axis (1) + (1) + (1) + (1) Two vertical lines spaced correctly inside flag to candidate solution (1)	8
A1(c)	Lettering: All missing letters added (1) Font / Style and proportion (1) Spacing (1) Height (1)	4

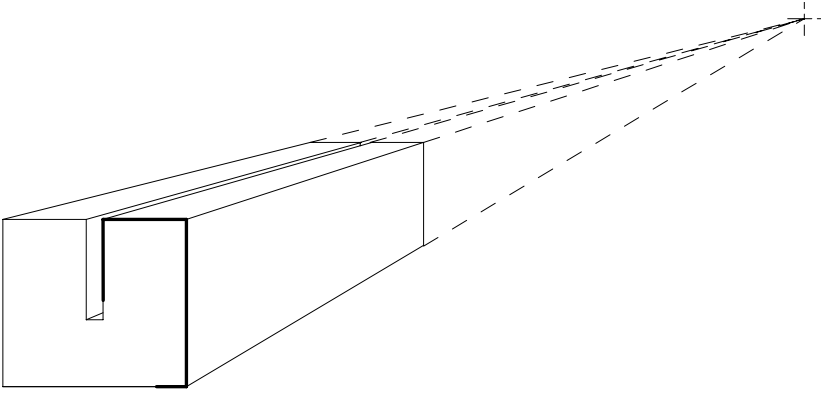
Question	Answer	Marks
A2	 <p>Back long edge of box (1) – A (150 ± 2) Vertical back corner line (1) – B (to candidate solution) Bottom and top side edges extended to meet line B (1) – C Back edge (1) – D Vertical line from corner (1) – E Bottom and top front edges extended to meet line E (1) – F Vertical line between lines F (1) – G</p>	7

Question	Answer	Marks
A3	Any suitable property given (1) <i>One property only</i> Basic explanation of why this is an advantage/ benefit (1) Detailed explanation (1) e.g. High strength to weight ratio (1) – strong enough to hold and support pizza (1) without being too heavy (1) Good insulation properties (1) – will stop heat escaping from the box (1) – therefore the pizza will stay hot longer / be warm when delivered (1)	3

Section B

Question	Answer	Marks
B4(a)	<div style="text-align: center;">  </div> <p style="text-align: center;">Accept isometric and oblique projection</p> <p>Chair design in planometric / isometric / oblique projection (1) Middle leg – 3 lines extended to correct length (1) Right leg – 3 lines of correct length (1) Left leg – 3 lines of correct length (1) Seat base correct width (1) Seat base correct depth (1) Seat base correct thickness (1) Back rest correct width (1) Back rest correct height (1) Back rest correct thickness (1) Left and Right side apron added with correct height (1) Correct seat and back rest overlap (1)</p>	12
B4(b)(i)	<p>Medium and small boxes added onto Hawaiian column (1) + (1) columns in rising/falling order of quantity or order for Hawaiian (1) columns in rising/falling order of quantity or order for Meat (1) columns in rising/falling order of quantity or order for Veg (1) Hawaiian column totals 30 or 150 mm (1) Meat column totals 32 or 160 mm (1) Veg column totals 24 or 120 mm (1)</p>	8
B4(b)(ii)	Numbers added to Y axis (1) 5 mm spacing so correct scale (1)	2
B4(b)(iii)	X axis labelled appropriately (pizza type, pizza flavour, pizza name) (1) Y axis labelled appropriately (number of pizzas sold) (1)	2
B4(b)(iv)	Appropriate title added (Graph/chart) to show sales of pizza on one day / daily pizza sales (1)	1

Question	Answer	Marks
B5(a)	<p>Correct number of each part given:</p> <p>Front/Back: 2 (1)</p> <p>Partitions: 2 (1)</p> <p>Base: 1 (1)</p> <p><u>Front/Back</u></p>  <p>Outline 150 × 60 (1)</p> <p>Side cut outs 20 × 5 (1)</p> <p>Centre cut outs (1)</p> <p>Bottom cut outs 30 × 5 (1)</p> <p>Cut outs in correct positions (1)</p> <p><u>Partitions</u></p> <p>60 × 55 projected from End but 5 mm less for Base (1)</p>  <p><u>Base</u></p> <p>140 × 60 overall size (1)</p> <p>4 × Side tabs 30 × 5 in correct position (1)</p>	11
B5(b)	Laser Cutter / milling machine / CAMM 1 (1)	1
B5(c)	<p>Grain of wood drawn on top faces (1)</p> <p>Grain of wood drawn on inner and outer side faces (1)</p> <p>End grain of wood drawn on front face (1)</p>	3

Question	Answer	Marks
B5(d)	 <p data-bbox="316 638 1348 981"> Outline of front face (1) Five lines from top and right side corners to VP (1) (1) (1) (1) (1) Small line from inside corner (1) Vertical back right edge drawn in proportion / position (1) Horizontal top back edge (1) Small vertical edge line (1) </p>	10