



Cambridge IGCSE™

DESIGN AND TECHNOLOGY

0445/51

Paper 5 Graphic Products

May/June 2023

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 May/June 2023 series for most Cambridge IGCSE, Cambridge International A and AS Level and Cambridge Pre-U components, and some Cambridge O Level components.

This document consists of **9** 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.

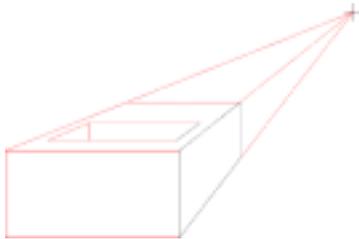
GENERIC MARKING PRINCIPLE 5:

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).

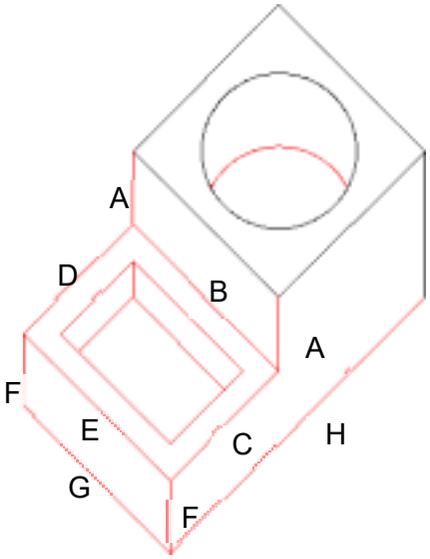
GENERIC MARKING PRINCIPLE 6:

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.

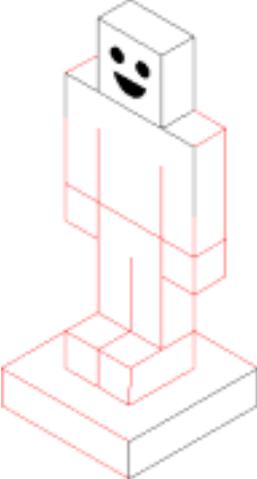
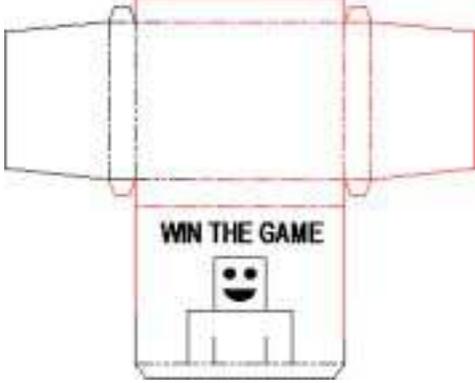
Question	Answer	Marks	Guidance
A1(a)(i)	Circle correct to overlay [1]	1	
A1(a)(ii)	Any hexagon [1] Any regular hexagon [1] Hexagon correct to overlay [1]	3	
A1(a)(iii)	Any pentagon [1] Any regular pentagon [1] Pentagon correct to overlay [1]	3	
A1(b)(i)	Rectangular border correct size and position [1]	1	
A1(b)(ii)	Square 20 × 20 [1] In correct position [1]	2	
A1(b)(iii)	Any isosceles triangle [1] Equilateral triangle correct to overlay [1]	2	
A1(b)(iv)	Missing letters added [1] Correct size and in proportion [1]	2	

Question	Answer	Marks	Guidance
A2	Front face 100 wide × 50 high in correct position [1] Left hand top edge to VP [1] Back horizontal top edge in correct position [1] Left hand edge of top hole correct to overlay [1] Front and back horizontal top edges of hole [1] Vertical internal corner of hole [1]	6	 <p>Front face, and all horizontal edges must be drawn horizontal to achieve the marks.</p>

Question	Answer	Marks	Guidance
A3(a)	Some texture added [1] Texture looks like wood grain / knots added [1] End grain shown appropriately [1]	3	
A3(b)(i)	Laser cutter / engraving machine [1]	1	Allow trade names e.g. CAMM 2
A3(b)(ii)	Size / colour / spacing / font / emboldened / italic [1]	1	Or AOVR

Question	Answer	Marks	Guidance
B4(a)	 <p>Two vertical edges 'A' correct to overlay [1] Corner edge 'B' between lines 'A' [1] Right side top edge of bottom platform 'C' correct to overlay [1] Left side top edge of bottom platform 'D' same as 'C' [1] Front top edge 'E' [1]</p> <p>Two front corner edges 'F' correct to candidate solution [1] Front bottom edge 'G' [1] Bottom side edge 'H' correct to candidate solution [1]</p> <p>Rectangular hole to correct size [1] Rectangular hole to correct depth [1] All internal lines of hole added [1] Internal line of circular hole correct to overlay [1]</p>	12	
B4(b)(i)	Craft knife / hacksaw / bandsaw / hot wire cutter or AOVR [1] Sandpaper / sanding block / file [1] PVA glue / double sided tape [1]	3	Allow any suitable saw or knife

Question	Answer	Marks	Guidance
B4(b)(ii)	Lightweight [1] Soft (won't damage pieces) [1] Easy to cut and shape [1] Or AOVR	1	
B4(c)(i)	 Base correct to overlay [1] Left end piece correct to overlay [1] Right end piece correct to overlay [1] Centre divider correct size and position to overlay [1] Top horizontal back edge line added [1] Hatching added correctly [1]	6	
B4(c)(ii)	Separate divider shown [1] Method of holding in place that allows removal e.g. slots [1] High quality communication [1]	3	

Question	Answer	Marks	Guidance
B5(a)	<p>Outline of body front 40×30 with two vertical lines [1] Left hand added 10×10 [1] Right hand added 10×10 [1] Legs outline 30×20 to candidate solution [1] Central line [1] Top face of feet 20×10 with centre line [1] Front face of feet 20×10 with centre line [1]</p> <p>Side of feet and legs [1] Side of arms and hands [1] Both shoulder lines [1]</p> <p>Front of base 40×10 [1] Back edges of base [1]</p>	12	
B5(b)(i)	<p>Lid of box 40×30 [1] Back side 40×5 [1] Base 40×30 [1] Front side 40×5 [1] Right hand side and large flap mirrors left one [1] Three small flaps in correct places [1] Correct line conventions used on folds [1]</p>	7	
B5(b)(ii)	Die cutter / box cutter [1]	1	
B5(c)(i)	<p>Sketch shows scissors/knife and card [1] 3D sketch similar convention to existing [1]</p>	2	
B5(c)(ii)	<p>Sketch shows glue being applied to flaps [1] 3D sketch similar convention to existing [1]</p>	2	

Question	Answer	Marks	Guidance
B5(d)	Not suitable for children younger than 3 years old [1]	1	