

# Cambridge O Level

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**CDT: DESIGN & COMMUNICATION****7048/01**

Paper 1

**October/November 2024**

MARK SCHEME

Maximum Mark: 80

**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 2024 series for most Cambridge IGCSE, Cambridge International A and AS Level components, and some Cambridge O Level components.

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This document consists of **11** printed pages.

**PUBLISHED****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 descriptions 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
<b>Section A1</b>			
1(a)(i)	<p>Any size base added [1] <b>or</b> base the correct size <b>and</b> position (60 mm × 60 mm) [2]</p> <p>Any size back added [1] <b>or</b> back the correct size (75 mm × 60 mm) [2]</p> <p>Fold line correctly shown (dashes or labelled) between base and back (correct to overlay <b>or</b> candidate solution) [1]</p>	<b>5</b>	<p>If only one surface drawn, mark as the base. If surface/s drawn of the <b>correct size</b> but not touching each other, or the given surface, award 1 mark.</p> <p>The fold line mark can only be awarded if at least two connected surfaces added.</p>
1(a)(ii)	<p>Any <b>two</b> cut outs completed/added [1]</p> <p>Top cut out the correct size (22 mm × 20 mm) [1]</p> <p>Second cut out the correct size <b>and</b> position [1]</p>	<b>3</b>	
1(a)(iii)	<p>Glue tab drawn in the correct position [1]</p>	<b>1</b>	<p>Accept reasonable size glue tabs (4 mm–10 mm) but ends <b>must</b> be angled for the mark.</p>
1(b)(i)	<p>Any size second cut out added to the plan [1] <b>or</b> second cut out the correct size [1] <b>or</b> second cut out the correct size <b>and</b> position [3]</p>	<b>3</b>	

Question	Answer	Marks	Guidance
1(b)(ii)	<p><b>Construction</b> Lines projected vertically from the cut out/s on the plan to the front view [1]</p> <p>Correct use of a 45-degree line (or constructed with a compass/set square) [1]</p> <p>Horizontal lines projected across from the plan to the 45-degree line, vertically to the sloping surface on the end view and horizontally across to the front view (or alternative construction with compass/set square) [1]</p> <p><b>Cut outs</b> At least one cut out of any size added to the front view [1] <b>or</b> two cut outs added to the correct surface on the front view [2] <b>or</b> two cut outs added to the front view of the correct size (20 mm × 7.5–10 mm) <b>and</b> position [3]</p>	6	<p>Award mark if only projected from the given cut out.</p> <p>The third construction mark can be awarded if the construction is inaccurate.</p>
1(c)	<p>Isometric projection used (30-degree lines) [1]</p> <p><b>Bottle</b> Width (right side) (40 mm) [1] Depth (left side) (40 mm) [1] Height (80 mm) [1]</p> <p>Bottle drawn (two sides <b>and</b> a top) to overlay <b>or</b> candidate solution [1]</p> <p><b>Cap</b> Any size tube added for the cap [1] <b>or</b> isometric cap correct to overlay [2]</p> <p>Drawing correctly lined in, must include the bottle <b>and</b> tube as a cap, to overlay <b>or</b> candidate solution [1]</p>	8	<p>If the drawing is not isometric but another form of 3D drawing, potentially award 0, 1, 1, 1, 0, 1, 0.</p> <p>If one or more of the three dimensions is incorrect, this mark can still be awarded.</p> <p>Drawing must be isometric for the award of the final mark but could be the incorrect size.</p>

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Question	Answer	Marks	Guidance
1(d)(i)	Some shading added that represents shiny plastic [1] <b>or</b> high-quality shading added that emphasises the spherical nature of a shiny plastic cap [2]	2	
1(d)(ii)	Any finger grips added [1] <b>or</b> high-quality clear representation of appropriate finger grips [2]	2	For the award of two marks look for 'depth' to the grips rather than just lines drawn on the surface.

Question	Answer	Marks	Guidance
<b>Section B2</b>			
2(a)(i)	SUNNY added in similar size <b>and</b> style to given lettering [1]	1	
2(a)(ii)	<p><b>Cloudy</b> Any CLOUDY symbol added [1] <b>or</b> CLOUDY symbol in a similar style/size to that given [2] <b>or</b> high-quality CLOUDY symbol in a similar style/size to that given that clearly communicates the weather condition [3]</p> <p><b>Lightning</b> Any LIGHTNING symbol added [1] <b>or</b> LIGHTNING symbol in a similar style/size to that given [2] <b>or</b> high-quality LIGHTNING symbol in a similar style/size to that given that clearly communicates the weather condition [3]</p>	6	For the award of the third mark, look for a high-quality symbol that is centrally positioned in the box.
2(a)(iii)	Exemplar answers: Visually communicates a message [1] Easy to understand/read (as no writing) [1] Avoids language issues [1] Easy to reproduce [1] Visually appealing/attractive [1]	2	AOVR

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Question	Answer	Marks	Guidance
2(b)(i)	<p><b>Method</b> Appropriate <b>temporary</b> method of attachment e.g. blue tac, magnets, pins, low tac adhesive, ... [1]</p> <p><b>Communication</b> Sketches and notes show the method [1] <b>or</b> high-quality sketches and notes clearly communicate the method of attachment [2]</p>	<b>3</b>	<p>The method <b>must</b> be temporary and suitable for attaching card shapes to foamboard for award of the 'method' mark. Do <b>not</b> accept double-sided tape.</p> <p>Award a maximum of one mark for communication of an inappropriate method (0, 1).</p>
2(b)(ii)	<p><b>Method</b> Appropriate method of making paper waterproof e.g. varnish, laminating... [1]</p> <p><b>Communication</b> Sketches and notes show the method [1] <b>or</b> high-quality sketches and notes clearly communicate the method of making the card waterproof [2]</p>	<b>3</b>	<p>Award a maximum of one mark for communication of an inappropriate method (0, 1).</p>
2(c)	<p>Right vertical edge completed [1] <b>or</b> right edge correct to overlay (60 mm height) and including thickness [2]</p> <p>Back inner edge added (must be at a 45-degree angle) [1]</p> <p>Correct width (35 mm) [1]</p> <p>Outer left edge completed [1] <b>or</b> left edge <b>and</b> top correct to overlay (height, position and thickness) [2]</p> <p>Opening added correctly to overlay (does <b>not</b> need thickness of material) [1]</p> <p>Any fold out flap drawn [1] <b>or</b> fold out flap of the correct size <b>and</b> with thickness [2]</p> <p>Drawing lined in to overlay <b>or</b> candidate solution (must include a fold out flap and inner thickness) [1]</p>	<b>10</b>	<p>The first mark is just for the left edge. The second mark it is the left edge <b>and</b> top.</p> <p>The angle of the fold out flap is not given, so accept variations</p>

Question	Answer	Marks	Guidance
<b>Section B3</b>			
3(a)(i)	Fixed pivot labelled correctly [1]	<b>1</b>	
3(a)(ii)	<p><b>Left swing</b> 30-degree line (must be centre line for the seat, even if seat incorrect) [1] Any seat drawn (must be a ‘box’, not just a line) [1] <b>or</b> seat correct to overlay (size <b>and</b> position) [2] Chains drawn (dashed or solid lines) from seat to pivot, correct to overlay <b>or</b> candidate solution [1]</p> <p><b>Right swing</b> Use the same marking criteria as shown above (maximum mark 1, 2, 1).</p>	<b>8</b>	Please note: if the 30-degree line is incorrect, the candidate could score 0, 1, 1.
3(b)	<p>Bar chart drawn [1] <b>or</b> 3D bar chart drawn [2] Some use of a scale for the sales [1] <b>or</b> all sales figures correctly plotted on a 3D bar chart [2] Colour used and labels (sales and years) correctly added to a 3D bar chart [1]</p>	<b>5</b>	If a 2D bar chart drawn, a candidate could score 1, 1, 1. If a pie chart is drawn the candidate could score 0, 0, 1.
3(c)(i)	Any circle drawn [1] <b>or</b> circle correct size [2] <b>or</b> circle the correct size <b>and</b> position [3]	<b>3</b>	
3(c)(ii)	Any triangle drawn [1] <b>or</b> triangle correct to overlay (size <b>and</b> position) [2]	<b>2</b>	
3(c)(iii)	Similar style S added [1] <b>or</b> high-quality S correct in style <b>and</b> size as G [2]	<b>2</b>	



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Question	Answer	Marks	Guidance
3(c)(iv)	<p>Exemplar answers:            Bottom line of the triangle turned into an arc with arrows to show swinging            Two sides of the triangle thickened to represent the frame of the swing and then swinging motion indicated on the letters</p> <p>Award one mark if the modification to the logo suggests a swinging motion [1] <b>or</b> two marks if the modification to the logo is high-quality <b>and</b> clearly represents a swinging motion. [2]</p>	<b>4</b>	<p>2 × 2 marks            The modification must be to the <b>logo or a part of the logo</b>.            Do <b>not</b> award marks for just adding just words.</p>

Question	Answer	Marks	Guidance
<b>Section B4</b>			
4(a)(i)	<p>Exemplar answers:            Available in large blocks [1]            Easy to cut and shape [1]            Relatively inexpensive (cheap) [1]            Lightweight material [1]            Easy to join [1]</p>	<b>2</b>	<p>AOVR            Do <b>not</b> accept generic reasons, such as strong or safe, that might apply to any material.</p>
4(a)(ii)	<p>Exemplar answers:            Any specific named type of saw e.g. hacksaw, coping saw, hot wire cutter, knife, file, craft knife... [1]</p>	<b>2</b>	<p>Do <b>not</b> award a mark for ruler, cutter or saw.</p>
4(a)(iii)	<p>Exemplar answer:            Double-sided tape, PVA, ...</p>	<b>1</b>	<p>Do <b>not</b> accept solvent based adhesives, glue gun or glue.</p>

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Question	Answer	Marks	Guidance
4(b)	<p>Any perspective drawing, using the two VPs [1]</p> <p><b>Base</b> Length (60 mm) [1], width (30 mm) [1] and height (40 mm) of base [1] = <b>score out of 3</b></p> <p>Perspective base correctly lined in to overlay <b>or</b> candidate solution [1]</p> <p><b>Roof</b> Length (57 mm) [1], width (28 mm) [1] and height (15 mm) of roof [1] = <b>score out of 3</b></p> <p>Slope to sides of roof correct to overlay <b>or</b> candidate solution [1]</p> <p>Slope to ends of roof correct to overlay <b>or</b> candidate solution [1]</p> <p>Perspective drawing (base <b>and</b> roof) correctly lined in to overlay <b>or</b> candidate solution [1]</p>	<b>11</b>	<p>Please note: potentially award full marks to solutions drawn in either orientation (long side to left or right).</p> <p>The length and width of the roof should be slightly smaller than the base dimensions.</p>
4(c)(i)	<p><b>Method</b> Suitable method shown e.g. stickers, use of a stencil, draw on with marker pen, cut outs... [1]</p> <p><b>Communication</b> Sketches and notes communicate the method [1] <b>or</b> high-quality sketches and notes clearly communicate the method [2]</p>	<b>3</b>	
4(c)(ii)	<p>Some grain lines added [1] <b>or</b> high-quality shading that makes the door look like wood [2] Some reflection lines added [1] <b>or</b> high-quality shading that makes the window look like glass [2]</p>	<b>4</b>	

<b>Question</b>	<b>Answer</b>	<b>Marks</b>	<b>Guidance</b>
4(d)	Exemplar answers: To check how it looks in three dimensions/proportions [1] Cheaper than using actual materials [1] Can make a scale model, so it is much smaller and cheaper to make [1] To check if the design will work [1] Quicker to make than using the actual materials [1]	<b>2</b>	AOVR