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**CDT: DESIGN AND COMMUNICATION**

**7048/01**

Paper 1

**October/November 2019**

MARK SCHEME

Maximum Mark: 80

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**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 2019 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 **5** 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
A1(a)(i)	Any attempt at a FE drawn in the correct space [1] Evidence of projection lines from EE to FE [1] FE correct width 47/48 [1] Top to overlay (2×) inner horizontals to O/L [1] (2×) inner verticals to O/L [1] (4×) sloping lines to Cand soln [1]	<b>6</b>
A1(a)(ii)	<b>Plan</b> Any octagon [1] Octagon aligns with FE [1] Evidence of Projected from EE [1] Octagon conforms to overlay/candidate soln [1] Hole Ø30 in centre [1]	<b>5</b>
A1(b)	Any net [1] Any 8 equal elements [1] Heights taken from EE/FE [1] Overall Length of net – 160 (+flap) [1] Top lines to overlay LHS [1] Top lines to overlay RHS [1] Glue tab added [1] Glue tab appropriate width [1] Fold lines shown not solid [1]	<b>9</b>
A1(c)(i)	Any octagon [1] Regular octagon [1] Octagon to overlay (± 2 mm) [1]	<b>3</b>
A1(c)(ii)	Glue tabs adequate size [1] Fold lines shown not solid [1]	<b>2</b>
A1(d)	Tape [1] Double sided tape (or any similar method) [1]	<b>2</b>
A1(e)	Any two concentric circles [1] Two concentric circles correct size [1] Two concentric circles on the RHS of cone with vertical centre line [1]	<b>3</b>

Question	Answer	Marks
B2(a)	Corner 'A' used [1] Width 70 mm and depth 50 mm [1] Overall height 120 mm (to O/L) [1] Upstand 60 mm wide in centre of base [1] Finger hole 40 × 20 [1] Finger hole position to chamfer [1] Internal lines to finger hole [1] Middle divider to centre of upstand [1] Thickness of material correct [1]	<b>9</b>
B2(b)(i)	Any pie chart/ line drawn from centre [1] 2 sectors correct [1] 4 sectors correct [1] All sectors correct [1]	<b>4</b>
B2(b)(ii)	Key evident [1] Key refers to sectors [1]	<b>2</b>
B2(c)(i)	Paper/card top and bottom [1] Foam in the middle [1]	<b>2</b>
B2(c)(ii)	Any 'v' cut [1] Sketch shows a wide 'v' cut [1] V cut equal each side [1] Second layer of card not cut through [1]	<b>4</b>
B2(c)(iii)	Marker pen/pencil, straight edge, rule, safety rule, Square craft knife/scalpel	any 4x [1] <b>4</b>
B3(a)	Given centres used [1] R35 [1] R15 [1] Centre of R10, 10 up from horizontal line [1] R10 on R25 from centre [1] R10 to overlay [1] Square 70 × 70 [1] Centres of R15 evidence of construction [1] R15's to correct size [1]	<b>9</b>
B3(b)(i)	Any shape drawn, no evidence of thick / thin [1] Outside lines thick (one side of edge visible) [1] Internal lines thin (both sides of edge visible) [1] Change from thick to thin (inner lines of H) [1]	<b>4</b>
B3(b)(ii)	Some attempt at rendering (anything) [1] Correct attempt at tonal rendering [1] Correct attempt at reflective rendering [1] Correct use of rendering techniques [1]	<b>4</b>

Question	Answer	Marks
B3(c)	Base circle drawn [1] Circle correct to size [1] Any seat circle drawn [1] Any top circle drawn [1] Vertical sides tangential to base and seat circles [1] Back 10 mm thick [1] Sides of the back inset from seat cylinder [1] Solution correct height [1]	<b>8</b>

Question	Answer	Marks
B4(a)(i)	Dot used [1] Any lines to VP's [1] End view on RHS with lines to VP2 [1] Any sloping lines on end view [1] Sloping lines on end view in proportion [1] End view in proportion [1] Front view length in proportion [1] 4× top lines drawn [1] Top lines to VPs [1] L/H end to match R/H end [1]	<b>10</b>
B4(a)(ii)	Any two concentric circles [1] Two concentric circles to correct size [1] Two circles on the LHS with vertical centre line [1]	<b>3</b>
B4(b)(i)	Days of week in columns [1] 7 elements drawn any size [1] 7 elements drawn to correct size/scale [1] Guest number labelled on correct axis / column [1]	<b>4</b>
B4(b)(ii)	Depth added (oblique or isometric) [1] Enhancement used (colour/shading) [1]	<b>2</b>
B4(c)	Any construction method for ellipse evident [1] Construction method correctly uses major and minor axes [1] 4 or more points correctly plotted [1] 8 or more points accurately plotted [1] Ellipse drawn to candidate's solution [1] Ellipse to overlay [1]	<b>6</b>