

**MARK SCHEME for the October/November 2012 series**

**7048 CDT: DESIGN AND COMMUNICATION**

**7048/01**

Paper 1, maximum raw mark 80

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 will not enter into discussions about these mark schemes.

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1	(a)	500	1
		660/700	1
		2	1
			[3]
	(b)	(i) <b>Front view</b>	
		Stand Height 100 mm (accept 115)	1
		Width 70 mm (accept 66)	1
		Three horizontal shelves [1] or one complete width shelf + two half width shelves showing 2 mm thick [2]	2
		One vertical information board to O/L [1] or 50mm high from the top shelf showing 2 mm thick [2]	2
			[6]
		(ii) <b>End view</b>	
		Height to candidate FE	1
		Width at base 50 mm	1
		Triangle at base (30 mm high x 50 mm)	1
		Three horizontal shelves (15 mm wide) projected from candidate FE (accept protrusion)	1
		Information board (50 mm x 30 mm)	1
			[5]
		(iii) <b>Plan view</b>	
		Base (70 mm x 50 mm) or to candidate solution	1
		Information board central	1
		Shelf along length of base (15 mm wide)	1
		30 mm wide Information board	1
			[4]
	(c)	60 mm x 100 mm rectangle	1
		Centre triangle [1] and two outer triangles [1] (to overlay) <u>or</u> 1 mark if triangles added incorrectly	2
		30 mm diameter circle	1
		Ellipse 50 mm x 30 mm [1] and profile to overlay/ candidate solution [1]	2
		Slot to overlay (15 mm x 4 mm)	1
			[7]

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(d) (i)	One piece development (net) (at least 5 surfaces – two triangles and three rectangles) or workable solution	1
	4 x Fold lines shown -- · · -- or - - - -	1
	Slot evident in top	1
		[3]
(ii)	Sectional view of foam board (two lines + hatching)	1
	'V' slot	1
		[2]
		[30]

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2	(a)	Front view completed - eaves line to VP2 [1] and the corner vertical [1]	2
		End completed by adding one line to VP1 [1] and one vertical line [1] to determine back	2
		Roof completed by adding triangular end [1] ridge of roof line to VP2 [1] and R/H end of roof [1]	3
		Details at least one window [1]	1
			[8]
	(b)	One piece development (net) with six <u>or</u> seven surfaces if base included	1
		Workable development (net) to make the display stand	1
		Indication of windows (at least two – front and end)	1
		Sufficient glue tabs to hold development together	1
		Minimum 4× fold lines shown -- · · -- or - - - -	1
			[5]
	(c)	Four further process boxes added	1
		Finish box added	1
		Appropriate simplified text added [1] and stages in the correct order [1] (score and cut out can be reversed)	2
		Arrows added between boxes	1
			[5]
	(d)	Planometric 30/60 (accept 45/45) base drawn	1
		Exhibition stands shown [1] or exhibition stands shown three dimensionally [2] or all six exhibition stands, including pitched roofs, as shown in arrangement given [3]	3
		Position of 'Sun King' stand shown/located	1
		Position of information Tower shown	1
		Planometric cylinder drawn	1
		Entrance and Exit shown	1
			[8]
	(e)	Sketches [1] and notes [1] show a mechanism	2
		Allows the words 'Sun King' to be displayed in three colours [1] <u>or</u> mechanism will clearly allow the words 'Sun King' to displayed in three different colours [2]	2
			[4]
			[30]

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- 3 (a) Do not award marks when the sentences are used to convey the message. Single words and arrows are acceptable.
- |   |            |
|---|------------|
| Luggage receipt torn from label                               | 1          |
| Luggage label shown with backing paper being peeled off [1]   | 1          |
| Suitcase with label being applied or label already applied    | 1          |
| Overall quality of sketches - High [3], Medium [2] or Low [1] | 3          |
|   | <b>[6]</b> |
- 
- (b) Pentagon
- |                                  |            |
|----------------------------------|------------|
| Equilateral [1] triangle [1]     | 2          |
| Octagon [1] regular [1]          | 2          |
| Rhombus [1] or Parallelogram [1] | 1          |
|                                  | <b>[6]</b> |
- 
- (c) (i) 15 mm circle drawn on centre line (to overlay)
- |   |            |
|---|------------|
| 25 mm diameter semi-circle (to overlay)                       | 1          |
| 90 mm rectangle to right                                      | 1          |
| 20 mm 'gap'   | 1          |
| R10 semi-circle to gap [1] leaving at least 5 mm of card [1]  | 2          |
| 80 mm x 40 mm rectangle to left [1] with radii to corners [1] | 2          |
| 5 mm slot at least 25 mm in length from circle                | 1          |
|   | <b>[9]</b> |
- 
- (ii) Label drawn attached to the handle
- |   |            |
|---|------------|
| Label threads around the handle                       | 1          |
| Clear understanding of how the label 'slots' together | 1          |
| Shape of label clearly communicated                   | 1          |
|   | <b>[4]</b> |
- [25]**

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<b>4</b>	<b>(a)</b>	<b>(i)</b> Rendering along the length of the pencil highlight shown [1],	1
		along length of pencil [1]	1
			[2]
	<b>(ii)</b>	Hexagon drawn around (inside or outside) given	1
		Lines projected parallel along the pencil	1
		At least three lines	1
		Consideration of how hexagonal pencil meets sharpened end with curves	1
			[4]
	<b>(b)</b>	Clear evidence of method of division	1
		Flag divided into three	1
		Two diagonals drawn	1
		Left hand triangle lined in to diagonals	1
		Method of bisection clearly shown (accept diagonals)	1
		Left hand quadrant lined in	1
			[6]
	<b>(c)</b>	<b>(i)</b> Three dimensional sketch	1
		Sleeve drawn in good proportion	1
		Tray drawn	1
		Tray half way out of the sleeve	1
		Inner detail of tray shown	1
			[5]
	<b>(ii)</b>	Three dimensional view of a ring (will fit on a finger)	1
		Two sloping sides	1
		Flat to top	1
		Cylindrical shape on top of ring	1
		Side view of ring drawn (bottom half and hole)	1
		Correct shaped top	1
		Plan view rectangular in shape	1
		Plan view has two triangles and a line in the centre	1
			[8]
			[25]

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<b>5 (a)</b>	Hatching not required for the marks	
	Tray X – ‘U’ shaped sectional view with flat lip to top	1
	Tray Y– Two ‘U’ shaped chambers with double thickness to centre [1] with horizontal line to top [1]	2
	Tray Z – Three chambers wide [1]	
	Troughs for multiple pockets shown [1]	
	Internal end curves evident [1]	3
		[6]
<b>(b)</b>	Tick (✓) clearly identifies true or false ( <b>1. GIVEN</b> )	
	2. True	1
	3. True	1
	4. True	1
	5. False	1
	6. True	1
	7. False	1
		[6]
<b>(c) (i)</b>	Surface added to the top	1
	Two side curves added to top surface	1
	Window added to the centre of the top surface	1
	Window with three curved corners	1
	Fourth corner of window added	1
	Side strip added to the side	1
	Side strip tapered	1
		[7]
<b>(ii)</b>	Grey or blue colour used (could be pencil)	1
	Rendering added to the surface in an attempt to make it look like plastic [1] or high quality rendering with reflections [2]	2
		[3]
<b>(iii)</b>	Indicates the way up of the text	1
	Fold line	1
	Glue area	1
		[3]
		<b>[25]</b>

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<b>6 (a)</b>	Must be a Bar Chart for marks to be awarded	
	Any bar chart	1
	2 bars correct and to proportion	1
	4 bars correct and to proportion	1
	Label to destinations & number of people (in 1,000)	1
		[4]
<b>(b)</b>	Circle used	1
	One [1], two [2] or three [3] correct sized sectors	3
	Colour added to identify sectors	1
	Labels added to identify means of transport	1
		[6]
<b>(c)</b>	Any Aeroplane shape drawn	1
	Recognisable Aeroplane a silhouette	1
	Any Boat shape drawn	1
	Recognisable Boat a silhouette	1
		[4]
<b>(d)</b>	Any isometric circle on given axis (accept base)	1
	Length of axis to overlay	1
	Evidence of construction of isometric top circle	1
	Top circle correct to overlay	1
	Bottom circle 20 mm below	1
	Bottom circle parallel with top	1
	90° Quadrant evident	1
	Quadrant 20 mm deep	1
	Quadrant exploded (above / below / to RHS)	1
	Exploded quadrant to size (O/L)	1
	Inside edges of remaining part drawn	1
		[11]
		[25]