



DESIGN AND TECHNOLOGY

0445/23

Paper 2 Graphic Products

October/November 2017

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.

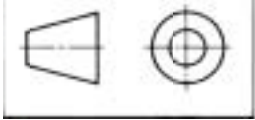
Cambridge International will not enter into discussions about these mark schemes.

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Section A

Question	Answer	Marks
A1(a)(i)	Outline shape Horizontal line added [1] Vertical line added [1]	2
A1(a)(ii)	Fold lines Horizontal and vertical fold lines added [1] Horizontal and vertical lines correct to overlay [1] Correct convention for a fold line used or labelled as a fold [1]	3
A1(a)(iii)	Hexagon Hexagon of any size or orientation drawn [1] Hexagon correct to overlay [1]	2
A1(b)	Sketch shows the shape being cut out of the paper [1] Notes or labels clearly show there is a hole in the paper [1]	2
A2(a)	Four more arrows added [1] Flowers, Picnic area and Lake added [1] All names in capitals and horizontal [1] Route forms a complete loop with places in the correct order [1]	4
A2(b)	Acceptable answers include: Colour coding / pictograms [1] Number sequence [1] Distance (metres or time), Scale [1] Embossing [1] [1] + [1]	Max 2
A3(a)	Square completed with fold lines correct [1] Two further triangles in the correct positions [1] Triangles (or regular polygons) meet or overlap [1] Fourth triangle longer [1] Two slits shown in the bottom triangle [1] Correct position and large slit nearest apex [1]	6
A3(b)	Vertical and horizontal axis drawn [1] Scale applied to the vertical axis [1] Years applied to the horizontal axis [1] Values correctly plotted and joined with a line [1]	4

Section B

Question	Answer	Marks	
B4(a)(i)	<p>Front view Right side of play house correct to overlay: Two horizontal lines (1) and (2) [1] Vertical line (3) in the correct position [1]</p> <p>Right side window completed [1] Right side window correct to overlay [1]</p> <p>Right side of roof correct to overlay (horizontal and a sloping line) [1]</p>	5	
B4(a)(ii)	<p>End view Roof added or any design [1] Roof correct to overlay [1] Hole added [1] Elliptical hole [1]</p>	4	
B4(a)(iii)	<p>Plan Horizontal centre line added to roof [1] Two triangles added [1] Right triangle projected from front view/candidate solution [1] Left triangle correct to side view or candidate solution [1]</p>	4	
B4(b)	<p>First angle projection symbol Concentric circles drawn [1] Truncated cone matches the circles [1] Correct orientation for first angle projection [1]</p>		3
B4(c)(i)	<p>Top layer drawn [1] Bottom layer drawn [1] Corrugations drawn (sine wave) [1]</p>	3	
B4(c)(ii)	<p>Craft knife, Stanley knife or scalpel [1] Safety rule, steel rule or metal straight edge [1]</p>	Max 2	
B4(c)(iii)	<p>Cut out window shown [1] Rectangle of card used to strengthen the bottom of the window [1] Strengthening method explained with notes [1] Strengthening method will prevent tearing with corrugations at 90° [1]</p>	4	

Question	Answer	Marks
B5(a)	Square completed with a vertical and horizontal line [1] Three lines projected back to the VP [1] + [1] + [1] Back horizontal line and vertical line added [1] In proportion [1] Circle added to the front [1] Division between top and bottom added with a vertical and horizontal line [1]	8
B5(b)	Inside of outer casing (1) added [1] Top line of inner casing (2) added [1] Top right corner (3) of outer casing [1] Vertical (4) of inner casing [1] Any line across back of hole (5) [1] Any hatching added [1] Parts hatched correctly (only the walls, not the hole) in opposite directions [1]	7
B5(c)	Acceptable answers include: The material can be easily moulded [1] It can be warmed and shaped in the hand [1] It can be recycled [1] [1] + [1]	Max 2
B5(d)	Four vertical lines drawn down from the square [1] + [1] Bottom of sharpener added (four lines) [1] + [1] Bottom circle drawn in good proportion [1] Bottom circle in correct position (middle of square) [1] Sloping sides drawn [1] All hidden detail shown correctly [1]	8