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**DESIGN AND TECHNOLOGY**

**0445/23**

Paper 2 Graphic Products

**October/November 2017**

MARK SCHEME

Maximum Mark: 50

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**Published**

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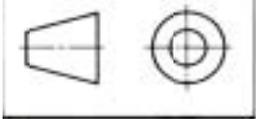
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This document consists of **4** printed pages.

**Section A**

<b>Question</b>	<b>Answer</b>	<b>Marks</b>
A1(a)(i)	<b>Outline shape</b> Horizontal line added [1] Vertical line added [1]	<b>2</b>
A1(a)(ii)	<b>Fold lines</b> 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]	<b>3</b>
A1(a)(iii)	<b>Hexagon</b> Hexagon of any size or orientation drawn [1] Hexagon correct to overlay [1]	<b>2</b>
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]	<b>2</b>
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]	<b>4</b>
A2(b)	Acceptable answers include: Colour coding / pictograms [1] Number sequence [1] Distance (metres or time), Scale [1] Embossing [1] [1] + [1]	<b>Max 2</b>
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]	<b>6</b>
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]	<b>4</b>

**Section B**

Question	Answer	Marks	
B4(a)(i)	<p><b>Front view</b>            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>	<b>5</b>	
B4(a)(ii)	<p><b>End view</b>            Roof added or any design [1]            Roof correct to overlay [1]            Hole added [1]            Elliptical hole [1]</p>	<b>4</b>	
B4(a)(iii)	<p><b>Plan</b>            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>	<b>4</b>	
B4(b)	<p><b>First angle projection symbol</b>            Concentric circles drawn [1]            Truncated cone matches the circles [1]            Correct orientation for first angle projection [1]</p>		<b>3</b>
B4(c)(i)	<p>Top layer drawn [1]            Bottom layer drawn [1]            Corrugations drawn (sine wave) [1]</p>	<b>3</b>	
B4(c)(ii)	<p>Craft knife, Stanley knife or scalpel [1]            Safety rule, steel rule or metal straight edge [1]</p>	<b>Max 2</b>	
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>	<b>4</b>	

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]	<b>8</b>
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]	<b>7</b>
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]	<b>Max 2</b>
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]	<b>8</b>