

**MARK SCHEME for the October/November 2010 question paper
for the guidance of teachers**

0445 DESIGN AND TECHNOLOGY

0445/21

Paper 2 (Graphic Products), maximum raw mark 50

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 must be read in conjunction with the question papers and the report on the examination.

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A1	Accuracy and proportion of:		
	V	(1)	
	A	(1)	
	L	(1)	
	S	(1)	
	Spacing	(1)	
	Height	(1)	[6]
			[Total: 6]
A2 (a)	Octagon		
	Outline (8 sides)	(1)	
	Regular	(1)	[2]
(b)	Triangle – correct size	(1)	
	Fuselage (width 1 – O/L 1)	(2)	
	Nose R10	(1)	
	Quadrant R30 (height 1- arc 1)	(2)	
	Angle on fuselage 30°	(1)	[7]
			[Total: 9]
A3 (a)	66 centres	(1)	
	Ø56 equidistant apart	(1)	
	Ø56 part circle drawn ×2	(2)	
	R 68 arc drawn from Ø56 centre ×2	(2)	
	Arc R40 drawn ×2	(2)	[8]
(b)	Suitable cut / triangular slit / insert		[2]
			[Total: 10]
B4 (a)	<i>Plan and F. E</i>		
	Plan length 95	(1)	
	Plan width 95	(1)	
	Thickness top 2	(1)	
	Thickness sides 2	(1)	
	Thickness bottom 2	(1)	[5]
(b)	<i>Centre positions of 4 holes</i>		
	2 verticals – correct 4 spaces	(4)	
	2 horizontals – correct 4 spaces	(4)	
	<i>Cup in position on plan</i>		
	A circle representing top of cup	(1)	
	Ø80 to scale	(1)	
	A circle representing bottom of cup	(1)	
	Ø36 circle (Ø40 – thickness) to scale	(1)	
	Correct position on plan	(1)	[13]

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- (c) *Cup in position on front elevation*
- Ø80 projected (1)
 - Ø40 projected (1)
 - Height 100 from inside of base (50) (1)
- (d) *The correct size hole needed in top*
- Size Ø30 +/- 1 mm (1)
 - In one of 3 spare positions (1)
 - Evidence of projection 0–2 pr (2) [4]

[Total: 25]

- B5 (a) *Pie chart***
- Circle drawn (1)
 - Divided into 5 (1)
 - Correct divisions 75/90/45/120/30 (4)
 - 2 largest sectors – clear labels (2)
 - Pie chart label 2006 (1) [9]
- (b) *Two dimensional chart*
- Appropriate method (e.g. bar) (1)
 - Suitable scale selected (1)
 - Information correctly plotted ×5 (5)
 - Labels evident (1)
 - Colour enhancement (1) [9]
- (c) *2009 figures for annual report*
- Symbol to match freight pr 1–2 (2)
 - Symbol to match private pr 1–2 (2)
 - Freight larger than private (1)
 - Freight approx 2.5 × larger than private (1)
 - Colour enhancement (1) [7]

[Total: 25]