

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

**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 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.

Cambridge is publishing the mark schemes for the October/November 2012 series for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.

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- A1 (a) Equilateral triangle**  
 Length of side (1)  
 Sides at 60° (1)
- (b) Hexagon**  
 Projected A/F from triangle (1)  
 Centre located (1)  
 Hexagon shape (1)  
 Regular hexagon (1)  
 Length of side to O/L (1) [5]
- (c) D shape**  
 Straight line and arc (1+1) [2]
- [Total: 9]**
- A2 (a) Accuracy and proportion of:**  
**B** (1)  
**K** (1)  
 Spacing (1)  
 Height (1) [4]
- (b) Border complete** (1)  
 Symmetrical (1) [2]
- [Total: 6]**
- A3 (a) Height of rectangular base 20** (1)  
 Width of rectangular base 60 (1)  
 Height of D & V 60 (1)  
 60 ° triangle drawn flat and plotted onto on end of rect base (1)  
 Semi circle plots evident (1)  
 Semi circle drawn to cand plots (1)  
 Repeat curve constructed (1)  
 Base evident below curve or angle (1) [8]
- (b) Printed line for V at correct angle** (1) [1]
- (c) Coin slot 30 × 5 central to 60 base** (1) [1]
- [Total: 10]**

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<b>B4</b> Suitable graphical method used (1)	
Accuracy of spacing (1)	
Head square (1)	
Head correct size to O/L (20) (1)	[2]
Upper body evident (1)	
Shoulder length 32 (1)	
Triangle sides (1)	
60° lower angle (1)	[4]
Back leg evident (1)	
Long side correct 30 (1)	
Short side correct 21 (1)	
60° angle (1)	
Alignment to body (1)	[5]
Back foot evident (1)	
90° back angle (1)	
60°/30° remaining angles (1)	
Alignment to ball (1)	[4]
Front upper leg evident (1)	
90° front angle (1)	
45° remaining angles (1)	
Alignment to back leg (1)	[4]
Front foot evident (1)	
90° back angle (1)	
45° remaining angles (1)	
Alignment to ball (1)	[4]
	<b>[Total: 25]</b>

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- B5 (a) Pie chart**  
Circle drawn (1)  
Divided into 6 (1)  
Correct divisions 120/90/60/45/30/15  
2 correct (1) 3 correct (2) 4/5 correct (3)  
Clear labels to correct sector (1)  
Correct quantity (1) [1]
- (b) Two dimensional chart**  
Suitable scale selected (1)  
Information correctly plotted (x5) (1)  
Labels evident (1) [3]
- (c) Three dimensional chart**  
3D chart (1)  
Suitable scale selected (1)  
Vertical scale labelled 'customers' (1)  
Two rows of columns (1)  
Business data at the front (1)  
'Individuals' data plotted to scale 5x1 (5)  
'Business' data plotted to scale 5x1 (5) [15]

**[Total : 25]**