

CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

MARK SCHEME for the October/November 2013 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.

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Page 2	Mark Scheme	Syllabus	Paper
	IGCSE – October/November 2013	0445	21

- A1 (a) *Head and horizontal arm***
 Ø40 circle (1)
 Bottom line of horizontal arm (1)
 Top line (two parts) to touch raised arm (1) [3]
- (b) *Raised arm***
 upper arm 16 wide touching circle (1)
 lower arm 16 wide touching circle (1)
 90° elbow (1) [3]
- (c) *Front leg***
 Upper leg 60° to centre line (1)
 Lower leg 60° to centre line (1)
 Knee- R10, inner 90° (1) [3]
- [Total 9]**
- A2 (a) *lettering***
 Accuracy and proportion of:
E (1)
R (1)
 Spacing (1)
 Height (1) [4]
- (b) *Signboard outline***
 Border complete (1)
 Symmetrical (1) [2]
- [Total 6]**
- A3 (a) *Isometric trophy***
 70 square base × 20 high (1)
 Ø50 Circle drawn with plots (1)
 Ø50 column to drawn circle (1)
 Column shown 80 high (1)
 Repeat Ø 50 from plots (1)
 Any octagon (1)
 30 Regular octagon centrally placed (1)
 Octagon 20 wide (1) [8]
- (b) *Thick & thin line***
 Thick line outer on octagon (1)
 Thin line inner on octagon (1) [2]
- [Total 10]**

Page 3	Mark Scheme	Syllabus	Paper
	IGCSE – October/November 2013	0445	21

B4 (a) development

- Six connected surfaces (1)
- 5 extra surfaces to O/L incl full lid PR (5)
- three further glue tabs (on 40 edge of 70 long sides) (3)
- glue tabs 8/9 wide (1)
- glue tabs angled ends 45° (1)
- fold line at 35mm to lid (1)
- 4 × Fold lines correct convention PR (4)
- Half ellipse drawn (1)
- Half ellipse to size (1)
- Construction (0–2 Pr) (2)
- 'Prize' orientated on correct half ellipse (1)

[Total 21]

(b) Sketch: – suitable method

- Slot on back, etc. (1)
- Extra tab to tuck-in, etc. (1)

Notes:

- Evident (1)
- Good (1)

[2]

[Total 4]

B5 (a) Full size view

Outer rectangle

- Any regular rectangle on corner A (1)
- Length 240 (1)
- Width 120 (1)

[3]

Semi-circle

- 80 tall (1)
- 10 × 80 space (to L of fold) (1)
- semi-circle R40 on centre line (1)
- 2 fold lines (2 × 1) in correct posn (2)

[5]

Semi-ellipse

- Major axis 120 (60 shown) (1)
- Minor axis 80 (1)
- On centre lines given (1)
- Construction Pr 0–2 (2)
- Accurate outline to construction (1)

[6]

Pool side

- Side of pool shown (1)
- Water level with ellipse (1)
- Step 50 from fold (1)
- Step level with foot (1)

[4]

[Total 18]

Page 4	Mark Scheme	Syllabus	Paper
	IGCSE – October/November 2013	0445	21

(b) *Plan view*

Bends at correct position (2 × 1) (2)

Sides 70 & 70 shown bent back @ 90° (1) [3]

(c) *Joining*

Additional card + joint Pr 0–2 (2)

Notes Pr 0–2 (2) [4]

[Total 7]