

**MARK SCHEME for the May/June 2010 question paper
for the guidance of teachers**

0445 DESIGN AND TECHNOLOGY

0445/21

Paper 21 (Graphic Products), maximum raw mark 50

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- A1** Rectangular body 50×80 (2)
 Radius to top corners (1)
 R10 radius (1)
 Square column 20 side (1)
 Hexagonal top [any size/irregular] (1)
 Hexagonal top 30 side regular (1)
 Second pump handle (1)
 2 triangles $45^\circ \times 90^\circ$ (1)

[9]

[Total: 9]

A2 Accuracy and proportion of:

- T** (1)
I (1)
O (1)
N (1)
 Spacing (1)
 Height (1)

[6]

[Total: 6]

A3 (a) Development [net]

- 4 sides (1)
 88×54 rectangle (1)
 2 semi-circles R27 (2)
 2 semi-circles R44 (2)

[6]

(b) Plan

- Correct end folded next (1)
 Top folded down last (1)
 Slot determined (1)
 Straight line slot drawn to size (1)

[4]

[Total: 10]

B4 (a) Division by construction [evident] (2)

- Verticals 93/94 spacing (1)

[3]

(b) 75×70 rectangle (2)

- $\varnothing 20$ for head and body (2)
 Body correct height 35 (1)
 $\varnothing 8$ on hand [1] correct position [1] (2×1)
 Shoulder position (1)
 Arm [two parts at an angle] (2)
 Pump same height as man (1)
 Hexagon top to pump (2)
 Pump handle (1)
 Pump handle aligned with hand (1)

[15]

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- (c) (i) Suitable chart/graph type 0–2 (2)
 Data represented accurately 0–2 (2)
- (ii) Suitable chart/graph type 0–2 (2)
 Data represented correctly (1) [3]

[Total: 25]

- B5 (a) (i) Front View**
 Length of stand 150 (1)
 Height of stand 20 (1)
 Top of stand to C Line of Ellipse 32 +/-2 (1)
 Major axis correct size 40 (1)
 Minor axis correct size 24 (half12) (1)
 Construction for ellipse (0–2pr) (2)
 Curve line quality (0–2pr) (2)
 Car body 24 high +/-2 (1)
 Rear tail in line with end of stand (1)
 Tail fin R30 (1)
 R 20 to horizontal evident (1) [13]

- (ii) *Plan*
 In projection from *Front View* (1)
 Width of stand 60 (1)
 Thickness of foamboard 2mm (1)
 Wing 20 wide each side (1)
 Wing 70 from nose (1)
 2 Wings 30 long (1+1) (2) [7]

- (b) *Symbol*
 Symbol matching projection (1)
 Quality drawing (1) [2]

- (c) *Joint at A*
 Slot (1)
 Shouldered tab (0–2 pr) (2) [3]

[Total: 25]