

**UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS**  
International General Certificate of Secondary Education

**MARK SCHEME for the May/June 2009 question paper**  
**for the guidance of teachers**

<b>0625 PHYSICS</b>	
<b>0625/06</b>	Paper 6 (Alternative to Practical), maximum raw mark 40

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- 1 (a)  $d$  2.5 (cm)  
 $x$  14.5 (cm)  
 diagram showing blocks correctly placed across the ends  
 rule position (or distance) shown correctly
- (b) (i)  $V_e$  71.1 - 71.2 (cm<sup>3</sup>) ecf allowed [1]
- (ii) measuring cylinder reading 56 (cm<sup>3</sup>) [1]
- (iii)  $\rho$  2.05–2.08 (or 2.1) ecf allowed [1]  
 g/cm<sup>3</sup> and 2 or 3 significant figures [1]
- [Total: 8]**
- 2 (a) 87 (°C) [1]
- (b) s, °C, °C [1]
- (c) **A** ecf allowed [1]  
 justified by reference to readings (up to 90s) with comparison of drops in temperatures (with numbers) given (ecf allowed) [1]
- (d) Any two from:  
 starting temperature  
 room temperature  
 carry out at same time  
 same thermometer (words to that effect)  
 same position of thermometers  
 same time intervals [2]
- [Total: 6]**
- 3 (a)  $R$  values 0.553, 1.55, 2.74, 3.74, 4.92 [1]  
 (2,3,4 or more significant figures) [1]  
 Consistent 3 or consistent 4 significant figures for final four entries
- (b) Graph:  
 Axes labelled and scales suitable (must include origin) [1]  
 Plots correct to ½ square (–1 each error or omission) [2]  
 Well judged str. line taking account of all points and reaching an axis [1]  
 Thin line [1]
- (c) Statement proportional (wtte) or as  $x$  increases,  $R$  increases [1]  
 Justification straight line through origin [1]
- (d) Clear indication of method on graph [1]  
 Correct value to ½ square [1]

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- (e) low current/switch off between readings  
or add (variable) resistor/lamp  
or reduce voltage/power

[Total: 12]

- 4 (a) 4.0 (cm) [1]  
6.0 (cm) [1]

- (b) 20, 30 ecf allowed [1]  
 $f$  values 11.88 (11.9), 12.00 (12.0) [1]  
 $f$  consistent 3 or more significant figures [1]

- (c) average  $f$  11.9, 11.94, 11.95, 12.0, 12 (cm) ecf allowed [1]  
2/3 significant figures [1]

- (h) Any two from [2]  
use of darkened room  
slowly moving lens back and forth to get good image  
clamp rule or place on bench  
avoid parallax action given  
object/lens/screen perpendicular to bench  
object and lens same height from bench  
repeats

[Total: 9]

- 5 (a) Q correct position with suitable number(s) [1]  
Rule correctly tilted, and on bench (or arrow to indicate) [1]

- (b) Any two from: [2]  
Readings taken at either side/diameter of cylinder  
Position of mid point found  
Mark position of centre

- (c) 34.5 cm [1]

[Total: 5]