

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

0607 CAMBRIDGE INTERNATIONAL MATHEMATICS

0607/01

Paper 1 (Core), maximum raw mark 40

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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M marks are given for a correct method.

A marks are given for an accurate answer following a correct method.

B marks are given for a correct statement or step.

D marks are given for a clear and appropriately accurate drawing.

P marks are given for accurate plotting of points.

E marks are given for correctly explaining or establishing a given result.

Abbreviations

cao correct answer only

cso correct solution only

ft follow through

oe or equivalent

soi seen or implied

ww without working

www without wrong working

1 (a)	1, 2, 3, 6, 9, 18	B1	
(b)	6	B2	If B0 then award B1 for evidence of at least three factors of 24 [3]
2 (a)	14	B1	
(b)	35°C	B1	
(c)	180	B1	[3]
3 (a)	5 ⁴	B1	
(b)	6x ⁷	B2	B1 for 6 B1 for x ⁷ [3]
4	$\frac{1}{2}$	B2	B1 for $\frac{25}{50}$ or equivalent [2]
5 (a)	A E	B2	Deduct one for each error
(b)	N S	B2	Deduct one for each error [4]
6 (a)	3p(p – 4)	B2	B1 for p(3p – 12) or 3(p ² – 4p)
(b)	6x + 3y – 2x + 6y 4x + 9y	M1 M1ft	Dependent on 4 terms. Not spoiled. [4]
7	2x – 2y = 8 oe or x = y + 4 oe <u>3x + 2y = 17</u> 3(y + 4) + 2y = 17 5x = 25 x = 5, y = 1 x = 5, y = 1	M1 A1A1	M1 for equating coefficients or correct substitution If M0 award SC1 for evidence of elimination or substitution. [3]
8 (a)	22, 27	B1	
(b)	5n – 3	B2	Award B1 for 5n B1 for – 3 [3]

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9	(a)	Translation, $\begin{pmatrix} 4 \\ 3 \end{pmatrix}$	B2	Award B1 for translation B1 for $\begin{pmatrix} 4 \\ 3 \end{pmatrix}$ or equivalent words
	(b)	Reflection in $x = 1$	B2	Award B1 for reflection B1 for $x = 1$ or line indicated
[4]				
10	(a)	100	B1	Accept 19
	(b)	20	B1	
	(c)	90 kg	B1	
[3]				
11	(a)	30	B1	B1 for $180 - (2 \times 70)$ seen or implied
	(b)	40	B2	
	(c)	150	B2	
[5]				
12		$\frac{x}{50} = \frac{10}{25}$ oe $25x = 500$ $x = 20\text{m}$	M1 M1 A1	Dependent for correctly removing fractions. OR M1 for 2.5 or 0.4 or equivalent seen. M1 for multiplying OR M1 for finding angle $\text{invtan} \frac{50}{25}$ M1 for multiplying $10 \times \tan(\text{angle})$ www 3
[3]				