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

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 $3x + 2y = 17$ $3(y + 4) + 2y = 17$ $5x = 25$ $x = 5,\ y = 1$ $x = 5, y = 1$	**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]**

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**	
	(b)	20	**B1**	Accept 19
	(c)	90 kg	**B1**	**[3]**
11	**(a)**	30	**B1**	
	(b)	40	**B2**	**B1** for $180 - (2 \times 70)$ seen or implied
	(c)	150	**B2**	**B1** for 720 or 330 seen **[5]**
12		$\frac{x}{50} = \frac{10}{25}$ oe $25x = 500$ $x = 20$ 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 invtan $\frac{50}{25}$ **M1** for multiplying $10 \times \tan(\text{angle})$ www 3 **[3]**