UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2011 question paper

for the guidance of teachers

0607 CAMBRIDGE INTERNATIONAL MATHEMATICS

0607/12 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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International Examinations

1	**(a)**	2000	B1	Allow 2×10^3
	(b)	$3.56(000) \times 10^5$	B1	**[2]**
2	**(a)**	$5x = 15$ $x = 3$ www 2	M1 A1	
	(b)	$4x + 3$ (final answer)	B2	If B0 award B1 for $4x + k$ or $kx + 3$ **[4]**
3	**(a)**	120°	B2	If B0 award B1 for angle (BCA =) 60° seen. May be seen on diagram.
	(b)	(0)60°	B2	If B0 award B1 for angle (BAC =) 70° seen. May be seen on diagram. **[4]**
4	**(a)**	16 cao	B3	If B0 award B1 for 4×3 or 4×5 M1 for $\frac{1}{2}\times4\times2$ seen
	(b)	12	B2	If B0 award B1 for $\frac{5}{15}=\frac{4}{h}$ soi **[5]**
5	**(a)**	$\frac{1}{9}$	B1	
	(b)	$4q(2p - q)$	B2	Accept $4q(2p - 1q)$ If B0 award B1 for $q(8p - 4q)$ or $4(2pq - q^2)$ or $2(4pq - 2q^2)$ or $2q(4p - 2q)$ seen
	(c)	x^3	B1	**[4]**
6		78	B3	If B0 award M1 for 5h soi, M1 for distance divided by time **[3]**
7	**(a)**	Parallelogram drawn with C at (6, 4)	P1	
	(b)	(6, 4)	B1ft	Ft their C
	(c)	0	B1	**[3]**
8	**(a)**	$p = 13$, $q = 7$	B1B1	
	(b)	4, 13, 19	B1ft	Ft their value of p **[3]**
9	**(a)**	−3	B1	
	(b)	115	B1	**[2]**

10 (a)	Translation $\begin{pmatrix} -3 \\ -4 \end{pmatrix}$	B2	B1 for Translation, B1 for correct vector, accept words. Mention of a second transformation scores 0.
(b)	Rotation, 90° anticlockwise, centre (0, 0)	B3	B1 for rotation, B1 for 90° anticlockwise (accept +90°), B1 for centre (0, 0). Mention of a second transformation scores 0.
(c)	Correct reflection, points (5, 1), (5, 3) (4, 2)	B2	If B0 award B1 for reflection in $y = 3$ or 3 points correct and none incorrect. **[7]**
11 (a)	Negative oe	B1	
(b)	**(i)** Correct point plotted	P1	
	(ii) Line drawn	L1	L1 for line through (22, 65) crossing vertical line when temperature is 26 between 30 and 45 **[3]**