UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2012 question paper

for the guidance of teachers

0607 CAMBRIDGE INTERNATIONAL MATHEMATICS

0607/05 Paper 5 (Core), maximum raw mark 24

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.

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Qu.	Answer	Mark	Notes	Comments
1	(1, 2, 3) (1, 3, 4) (1, 4, 5) (2, 3, 5) (1, 5, 6) (2, 4, 6) (1, 6, 7) (2, 5, 7)	3	**B1** for 4 or 5 **B2** for 6 or 7	First two numbers can be swapped
2	(1, 2, 3) (1, 3, 4)	1	cao	
	(1, 2, 3) (1, 3, 4) (1, 4, 5) (2, 3, 5)	2	cao **B1** for any 3	
	(1, 2, 3) (1, 3, 4) (1, 4, 5) (2, 3, 5) (1, 5, 6) (2, 4, 6)	2	cao **B1** for any 5	
	(1, 2, 3) (1, 3, 4) (1, 4, 5) (2, 3, 5) (1, 5, 6) (2, 4, 6) (1, 6, 7) (2, 5, 7) (3, 4, 7) (1, 7, 8) (2, 6, 8) (3, 5, 8)	2	**B1** for any 10	Communication for systematic setting: ascending order within each triple **and** first or last numbers in order (after repeating previous set)
3	4 5 6 7 8 9 10 11 12 13 14 15 2 4 6 9 12 16 20 25 30 36 42 49	2	**B1** for 3	ft the numbers from their table unless wrongly counted.
4	3 5 7 9 11 13 15 17 $1 = 1^2$ [4=] 2^2 3^2 4^2 [25=]5^2 $36 = 6^2$ [49=]7^2 [64=]8^2	2	**B1** for 3	
5	21	2	**B1** 10^2 soi	Communication: Table extension OR $\sqrt{100} = 10$ oe **and** $10 \times 2 = 20$ OR $10 + 11 = 21$

6 (a)	Yes, $15^2 = 225$ soi	**1**		Accept Yes, 31 [integers] OR Yes, √225 is a whole number OR Yes, 225 is a square
(b)	Is not a square		**M1** 948.6...	
		2	**SC1** √900000 does not exist OR does not have a square root oe	Accept √900 000 is a not whole number OR 900 000 is not 300^2 and not 3000^2 OR does not have an exact square root OR is a decimal OR 900000 is in between $898704 = 948^2$ and $900601 = 949^2$
7 (a)	2401	**2**		Accept 49^2
			M1 for 49 or 49.5 soi	Communication: 98/2 = 49 or 99/2 = 49.5 **and** $49^2 = 2401$ OR correct table extension!
(b)	2450 cao	**2**	**M1** $50^2 - 50$ oe soi OR $49^2 + 49$ OR their 2401 + 49	
	Communication	**1**		Communication seen in questions **2**, **5** or **7(a)**