UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2010 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.

Mark schemes must be read in conjunction with the question papers and the report on the examination.

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CIE is publishing the mark schemes for the May/June 2010 question papers for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.

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.
C marks are given for clear communication.

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

Question	Answer	Mark	Notes	Comments
1 (a)	3	2	B2 OR M1 for 9 × 6 or 54 seen	
(b)	7	2	B2 OR M1 for 44 × 13 or 572 seen	
(c)	4	2	B2 OR M1 for 4 × 7 or 28 seen	Communication mark possible for a complete method for one of these
(d)	2	2	B2 OR M1 for 30 × 17 or 510 seen	
2	Prime / Division / Remainder / Division / Remainder / Division / Remainder 3 / $2^2 \div 3$ / 1 5 / $2^4 \div 5$ / 1 / $3^4 \div 5$ / 1 / $4^4 \div 5$ / 1 7 / $2^6 \div 7$ / 1 / $3^6 \div 7$ / 1 / $4^6 \div 7$ / 1 11 / $2^{10} \div 11$ / 1 / $3^{10} \div 11$ / 1 / $4^{10} \div 11$ / 1 13 / $2^{12} \div 13$ / 1 / $3^{12} \div 13$ / 1 / $4^{12} \div 13$ / 1			
		6	B6 Deduct $\frac{1}{2}$ for each error or omission and round down If 0, SC1 for $3^{12} \div 13$ or $4^{12} \div 13$	Ignore extra entries
3 (a)	13 1	1	B1	
(b)	17 1	1	B1	
4 (a)	$7^{12} \div 13$ 1 $7^{12} - 1$ 13	2	B1 B1	
(b)	17	1	B1	Accept 2, 5, 41 or 193
5	p	1	B1	Accept $(p - 1) + 1$ or $p - 1 + 1$
6	$3^{28} - 1$ has a prime factor of 29	2	B2 B1 for a prime bigger than 25 seen	Other examples possible
7	23	1	B1	Accept 89 or 683
		1	C1	Communication seen in question 1