Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CAMBRIDGE INTERNATIONAL MATHEMATICS **0607/23**

Paper 2 (Extended) **May/June 2016**

MARK SCHEME

Maximum Mark: 40

Published

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 should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge will not enter into discussions about these mark schemes.

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Abbreviations

awrt answers which round to
cao correct answer only
dep dependent
FT follow through after error
isw ignore subsequent working
oe or equivalent
SC Special Case
nfww not from wrong working
soi seen or implied

Question	Answer	Mark	Part Marks
1	[0]8 33	**3**	**M2** for $\frac{40}{50}\times 60$ oe or **M1** for $\frac{40}{50}$ soi
2	60	**2**	**M1** for $\frac{36}{3}$
3	11.5	**2**	**M1** for re-ordering list of at least 6
4 (a)	1800	**2**	**M1** for $180-\frac{360}{12}$ or for $(12-2)\times 180$ soi
(b)	24	**2**	**B1** for $\frac{360}{180-165}$
5	3	**3**	**M2** for $\frac{9.7-2\times 2.6}{1.5}$ or **M1** for $9.70-2\times 2.6$
6 (a)	51	**1**	
(b)	–96	**1**	
(c)	0.5 oe	**1**	
7 (a)	7.54×10^{-4}	**2**	**M1** for $0.000\,75+0.000\,004$ or 750×10^{-6} or 0.04×10^{-4} or figs 754
(b)	3×10^{-9}	**2**	**B1** for 30×10^{-10} or answer $0.000\,000\,003$
8	x^5-7x^2 final answer	**2**	**B1** for each
9	$0.069\ \ 0.6^2\ \ 65\%\ \ \frac{2}{3}\ \ \sqrt{0.7}$	**2**	**B1** for one in wrong place
10	1	**2**	**B1** for $6x-8$ or $-6x+9$ If 0 scored **SC1** for $kx+1$

Question	Answer	Mark	Part Marks
11 (a)	3	**2**	**B1** for $4\sqrt{36}$ oe or $7\sqrt{9}$ oe soi
(b)	$3+\sqrt{2}$ final answer	**2**	**M1** for $\times\dfrac{3+\sqrt{2}}{3+\sqrt{2}}$
12	Correctly equating one set of coefficients Correct method to eliminate one variable $x=-1$ $y=-1$	**M1** **M1** **B1** **B1**	Equation $x=$ or $y=$ from one equation Correct substitution into other equation If 0 scored **SC1** for correct substitution into one of original equations and evaluation to find other variable
13 (a)	Correct graph	**2**	**B1** for $y=x^3$ shape **B1** for cubic graph through (0, 2), with 2 marked or (0, 2) on answer line
(b)	Correct graph	**3**	**B1** for cos graph, max at (0, k) approx **B1** for graph through (0, 2), with 2 marked or (0, 2) on answer line **B1** for range as 2 to –2 approx