



Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CAMBRIDGE INTERNATIONAL MATHEMATICS

0607/23

Paper 2 (Extended)

October/November 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.

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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	-1	1	
2	64	2	B1 for 20 soi by 10
3 (a)	0.008	1	
(b)	$\frac{15}{28}$	2	M1 for $\frac{3}{7} \times \frac{5}{4}$
4	80	3	M1 for $(5 - 2)180$ oe M1 for $6x + 60 = \textit{their} 540$ or better
5	C, S, S, N	3	B2 for 3 correct or B1 for 2 correct
6 (a)	4	1	
(b)	1	1	
(c)	1.37	2	M1 for Σxf soi by 137
7	$[x =] 1\frac{1}{2}, [y =] -2$	3	M1 for correctly eliminating one variable A1 for either If 0 scored, SC1 for 2 values that satisfy one of the original equations
8 (a)	Negative	1	
(b)	12	2	M1 for $14 = 32 - 1.5x$
9 (a)	40	1	
(b)	115	2	B1 for $\angle AEC$ or $\angle ADC = 65$
10 (a)	2	1	
(b)	1.8 oe	2	M1 for $\log 3^2$ or $\log \frac{a}{5}$

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Question	Answer	Mark	Part Marks
11	$x < 7$	3	M2 for $2 + 12 > 6x - 4x$ oe or B1 for $6x - 12$ If 0 scored, SC1 for 'correct' solution after incorrect expansion
12 (a)	$\frac{1}{2}\mathbf{a}$	1	
(b)	$\frac{5}{8}\mathbf{a} + \frac{3}{8}\mathbf{c}$ or $\frac{5\mathbf{a} + 3\mathbf{c}}{8}$	3	B1 for $\overrightarrow{AC} = -\mathbf{c} + \mathbf{a}$ or $\overrightarrow{CA} = -\mathbf{a} + \mathbf{c}$ M1 for $\overrightarrow{OQ} = \overrightarrow{OC} + \frac{5}{8}\overrightarrow{CA}$ oe
13 (a)	$6\sqrt{2}$	2	M1 for $\times \frac{\sqrt{2}}{\sqrt{2}}$ or B1 for $\sqrt{72}$
(b)	$37 - 20\sqrt{3}$	3	B2 for $a - 20\sqrt{3}$ or $37 - b\sqrt{3}$ or M1 for $25 - 10\sqrt{3} - 10\sqrt{3} + (2\sqrt{3})^2$