



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

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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 $6x + 60 = \text{their } 540$ 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 $25 - 10\sqrt{3} - 10\sqrt{3} + (2\sqrt{3})^2$