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

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