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CAMBRIDGE INTERNATIONAL MATHEMATICS **0607/22**

Paper 2 (Extended) **May/June 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	$4\frac{5}{6}$	**2**	**M1** for $4+\frac{3}{6}+\frac{2}{6}$ or $\frac{9}{6}+\frac{20}{6}$ oe
2	1 [h] 39 [min]	**2**	**M1** for 90 × 1.1 oe
3	69	**2**	**M1** for $0.5(180-42)$
4	$[\pm]\frac{1}{\sqrt{t}}$ oe	**2**	**M1** for $tp^2=1$ or $\sqrt{t}=\frac{1}{p}$ or better
5 (a)	$\frac{42}{60}$ oe	**1**	
(b)	840	**1FT**	**FT** *their* (a) × 1200
6	$[x=]$ 1 $[y=]-2$	**1** **1**	If 0 scored **SC1** for correct substitution and evaluation of other variable
7	1.6×10^{19}	**2**	**B1** for 1.6×10^{n} or $k\times10^{19}$ or correct answer not in SF
8	$x<1$ or $1>x$	**2**	**M1** for $9-2>x+6x$ oe or answer of 1 with incorrect inequality
9 (a)	-2	**1**	
(b) (i)	8	**1**	
(ii)	2	**2**	**M1** for $8^{\frac{1}{3}}$ or $\frac{1}{\frac{1}{2}}$ oe If 0 scored then **SC1** for answer $\frac{1}{2}$

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Question	Answer	Mark	Part Marks
10	$\begin{pmatrix}9\\6\end{pmatrix}$	**4**	**B3** for (9, 6) or **B1** for (0, 12) soi **B1** for (18, 0) soi **M1** for (0.5 *their* 18, 0.5 *their* 12)
11	$(2p-q)(1+x)$	**2**	**B1** for $2p-q+x(2p-q)$ or $2p(1+x)-q(1+x)$
12	$5(\sqrt{2}-1)$ or $5\sqrt{2}-5$	**2**	**M1** for $\times\dfrac{\sqrt{2}-1}{\sqrt{2}-1}$
13	$8\pi+16$ oe	**3**	**B1** for radius = 8 and **M1** for $\pi\times$ *their* radius or *their* curved length + 2 × *their* radius or if 0 scored **SC2** for final answer $\sqrt{32}(\pi+2)$ oe
14	32 13	**1** **1**	
15	$\dfrac{6}{\sqrt{x}}$ oe	**2**	**M1** for $y=\dfrac{k}{\sqrt{x}}$ or **M1** for $k = 6$ with no correct equation seen
16	12	**3**	**B1** for $2\log 3=\log 9$ or $3\log 2=\log 8$ and **M1** for correct use of $\log a+\log b=\log ab$ or $\log a-\log b=\log\left(\dfrac{a}{b}\right)$
17	Stretch x-axis invariant, factor 3	**1** **1**	

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