



Cambridge International Examinations
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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) $\times 1200$
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 $k \times 10^{19}$ 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 <i>their</i> 18, 0.5 <i>their</i> 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 $\times \frac{\sqrt{2} - 1}{\sqrt{2} - 1}$
13	$8\pi + 16$ oe	3	B1 for radius = 8 and M1 for $\pi \times$ <i>their</i> radius or <i>their</i> curved length + $2 \times$ <i>their</i> radius or if 0 scored SC2 for final answer $\sqrt{32}(\pi + 2)$ oe
14	32 13	1 1	
15	$\frac{6}{\sqrt{x}}$ oe	2	M1 for $y = \frac{k}{\sqrt{x}}$ 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 $\log a - \log b = \log \left(\frac{a}{b} \right)$
17	Stretch x -axis invariant, factor 3	1 1	