



CAMBRIDGE INTERNATIONAL MATHEMATICS

0607/51

Paper 5 (Core)

May/June 2016

MARK SCHEME

Maximum Mark: 24

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 (a)	3	1	
(b)	2	1	
(c)	40	1	
(d)	15	1	C opportunity
2 (a)	$\frac{9}{3}$ [= 3] and $\frac{3}{1}$ [= 3] oe seen	1	
(b)	$\frac{3}{2}$ or 1.5 and $\frac{2}{1}$ or 2 oe and No oe	1	
(c) (i)	147	1	C opportunity
(ii)	21 by 150 or 150 by 21	1	FT <i>their(i)</i>
(d) (i)	15	1	C opportunity
(ii)	15 by 78 or 78 by 15	1	FT <i>their(i)</i>
3 (a) (i)	12	1	C opportunity
(ii)	72	1	C opportunity
(iii)	36	1	FT $\frac{their(ii)}{2}$
(iv)	n^2 oe	1	
(b) (i)	3	1	C opportunity
(ii)	6 by 20 or 20 by 6	1	C opportunity

Question	Answer	Mark	Part Marks																																			
(c)	<table border="1"> <thead> <tr> <th>n</th> <th>x</th> <th>y</th> <th>z</th> <th>Dimensions</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>2</td> <td>4</td> <td>8</td> <td>4 by 10</td> </tr> <tr> <td>6</td> <td>2</td> <td><i>their</i> 12</td> <td><i>their</i> 72</td> <td>12* by 74*</td> </tr> <tr> <td><i>their</i> 3</td> <td>2</td> <td><i>their</i> 6</td> <td>18</td> <td><i>their</i> y by 20</td> </tr> <tr> <td>5</td> <td>7</td> <td>35</td> <td>175</td> <td>35* by 182*</td> </tr> <tr> <td>4</td> <td>1</td> <td>4</td> <td>16</td> <td>4 by 17</td> </tr> <tr> <td>2</td> <td>5</td> <td>10</td> <td>20</td> <td>10* by 25</td> </tr> </tbody> </table>	n	x	y	z	Dimensions	2	2	4	8	4 by 10	6	2	<i>their</i> 12	<i>their</i> 72	12* by 74*	<i>their</i> 3	2	<i>their</i> 6	18	<i>their</i> y by 20	5	7	35	175	35* by 182*	4	1	4	16	4 by 17	2	5	10	20	10* by 25	3	<p>3 for all 8 cells</p> <p>*FT <i>their</i> y by (<i>their</i> $z + 2$)</p> <p>*FT <i>their</i> y by (<i>their</i> $z + 7$)</p> <p>*FT <i>their</i> y by 25</p> <p>B2 for 6 or 7 cells correct or B1 for 4 or 5 cells correct</p>
n	x	y	z	Dimensions																																		
2	2	4	8	4 by 10																																		
6	2	<i>their</i> 12	<i>their</i> 72	12* by 74*																																		
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5	7	35	175	35* by 182*																																		
4	1	4	16	4 by 17																																		
2	5	10	20	10* by 25																																		
4 (a)	nx [by] $n^2x + x$ oe	2	B1 for each C opportunity																																			
(b)	$nx : (n^2 + 1)x$ oe seen	1																																				
Communication seen in at least 3 of 1(d), 2(c)(i), 2(d)(i), 3(a)(i), 3(a)(ii), 3(b)(i), 3(b)(ii) or 4(a)		2	C1 if seen in 2 of these																																			