Cambridge International Examinations
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CAMBRIDGE INTERNATIONAL MATHEMATICS **0607/52**

Paper 5 (Core) **October/November 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	Marks	Part Marks
1	(a)	*PQBA* / *PQDC* / *PQRS* *ABDC* / ***ABRS*** / ***CDRS*** / /	**2**	**B1** for each
	(b)	*PQBA* / ***PQDC*** / ***PQFE*** / *PQRS* *ABDC* / ***ABFE*** / *ABRS* / ***CDFE*** / *CDRS* / / ***EFRS*** / / /	**3**	**B2** for 3 or 4 correct or **B1** for 2 correct
	(c)	15	**1**	C opportunity
	(d)	Number of lines: 0 1 2 3 4 5 6 7 Number of rectangles: **1** 3 6 10 15 **21** **28** 36	**3**	**B1** each cell C opportunity
	(e)	Triangle [numbers]	**1**	
	(f)	66	**1**	C opportunity
2	(a)	6	**1**	
	(b)	Number of lines: 0 1 2 3 4 5 6 7 Number of rectangles: **1** 3 6 **10** **15** **21** **28** **36**	**1**	Allow one error
	(c)	same	**1**	
3		91 shown as answer to calculation 91 shown as 13^{th} term in the sequence oe	**1** **1**	

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Question	Answer	Marks	Part Marks
4 (a)	[*a*=] $\frac{3}{2}$ oe [*b*=] 1	**3**	**B2** for either *a* or *b* correct If 0 scored **SC2** for $\frac{n^2+3n+2}{2}$ seen or **M1** for one correct substitution of *T* and *n* C opportunity
(b)	Substitution of 7 in *their* formula	**1**	**FT**
(c)	20	**2**	**M1** for $n^2 + 3n + 2 = 462$ or for sketch or for correct sequence to 15th term or further
5	496	**1**	**FT** from *their* formula in 4(a) C opportunity
Communication: Seen in one of the following questions		**1**	
1 (c)	Method of counting (implied addition), e.g. drawing or 5 + 4 + 3 + 2 + 1 Or listing rectangles		
1 (d)	Differences shown		
1 (f)	Working shown, e.g. sequence continued – 45, 55, 66		
4 (a)	Working shown e.g. difference method or substitution to give two equations		
5	Working shown e.g. substitution		

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