Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CAMBRIDGE INTERNATIONAL MATHEMATICS **0607/53**

Paper 5 (Core) **October/November 2016**

MARK SCHEME

Maximum Mark: 24

Published

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the October/November 2016 series for most Cambridge IGCSE®, Cambridge International A and AS Level components and some Cambridge O Level components.

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 13th term in the sequence oe	1 1	

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		