Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CAMBRIDGE INTERNATIONAL MATHEMATICS **0607/53**

Paper 5 (Core) **May/June 2017**

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 May/June 2017 series for most Cambridge IGCSE®, Cambridge International A and AS Level and Cambridge Pre-U components, and some Cambridge O Level components.

MARK SCHEME NOTES

The following notes are intended to aid interpretation of mark schemes in general, but individual mark schemes may include marks awarded for specific reasons outside the scope of these notes.

Types of mark

M Method marks, awarded for a valid method applied to the problem.

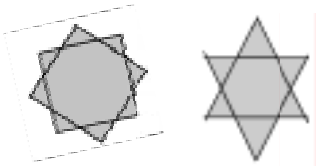
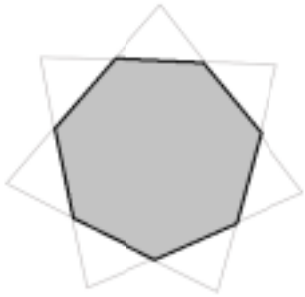
A Accuracy mark, awarded for a correct answer or intermediate step correctly obtained. For accuracy marks to be given, the associated Method mark must be earned or implied.

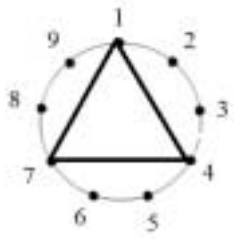
B Mark for a correct result or statement independent of Method marks.

When a part of a question has two or more 'method' steps, the M marks are in principle independent unless the scheme specifically says otherwise; and similarly where there are several B marks allocated. The notation '**dep**' is used to indicate that a particular M or B mark is dependent on an earlier mark in the scheme.

Abbreviations

awrt	answers which round to
cao	correct answer only
dep	dependent
FT	follow through after error
isw	ignore subsequent working
nfww	not from wrong working
oe	or equivalent
rot	rounded or truncated
SC	Special Case
soi	seen or implied

Question	Answer	Marks	Partial Marks
1(a)		**1**	Allow one incorrect extension
1(b)		**1**	
1(c)(i)	Number of sides (P) of the starting polygon / Number of sides (S) of the star 5 – 10 6 – **12** 7 – **14** 8 – **16** 9 – **18**	**1**	
1(c)(ii)	$S = 2P$ oe	**1**	
1(d)(i)	900	**1**	C opportunity
1(d)(ii)	No oe and 1450 is not a multiple of 180 oe	**1**	
1(e)(i)	540 ÷ 5 or 108 or 72 seen	**1**	
	36	**1**	**B0** if from 180 ÷ 5 C opportunity
1(e)(ii)	$2b - a = 180$ oe	**3**	**M2** for $2(180 - b) + a = 180$ oe or **M1**[either of the other angles in triangle =] $180 - b$ or $\frac{1}{2}(180 - a)$
2(a)	Number of sides of the polygon (P) / Number of points the star has / Number of sides (S) of the star 3 – **6** – **12** 4 – **8** – **16** 5 – 10 – 20 6 – **12** – **24**	**1**	

Question	Answer	Marks	Partial Marks
2(b)	$P = \frac{S}{4}$ oe	**1**	
3(a)		**2**	**B1** for 4 or 5 cells correct If 0 scored B1 for 4 correct diagrams.
3(b)	185	**1**	C opportunity
4(a)(i)		**1**	
4(a)(ii)	Correct code	**1**	
4(b)(i)	Number of numbers [in the code] – 1 = number of points [of the star] oe	**1**	
4(b)(ii)	Number of dots round the circle is a multiple of the number of numbers[in the code] – 1 oe	**1**	
4(c)		**1**	
4(d)	3 correct codes	**2**	**B1** for two correct codes
Communication: Seen in two of the following questions		**1**	
1(d)(i)	Difference shown or e.g. 720 + 180		
1(e)(i)	At least two of 180 – 108 = 72 180 – 2 × 72 = 36 oe or 180 – 144 = 36 108 −72 = 36 2 × 72 = 144 oe		
3(b)	370 ÷ 2 or 370 is even		