CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge International General Certificate of Secondary Education

MARK SCHEME for the October/November 2015 series

0607 CAMBRIDGE INTERNATIONAL MATHEMATICS

0607/62 Paper 6 (Extended), maximum raw mark 40

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Abbreviations

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

A INVESTIGATION STARS

Question	Answer	Mark	Part Marks
1 (a)	$360 \div 7$ oe	**1**	
(b)	$[A =] \frac{360}{n}$ oe	**1**	
2 (a)	102.85… to 102.9 or 103	**2**	**M1** for $\frac{720}{7}$ oe
(b) (i)	3	**1**	
(ii)	3 revolutions oe **and** 7 angles oe	**1**	
(iii)	$\frac{4\times360}{7} > 180$ oe	**1**	
3	$\frac{2\times360}{5}$ or equivalent calculation	**1**	
4 (a)	3 | 1 | $\frac{1}{3}\times360$ | 120 5 | 2 | $\frac{2}{5}\times360$ | 144 7 | 3 | $\frac{3}{7}\times360$ | 154.3 9 | 4 | $\frac{4}{9}\times360$ | 160 11 | 5 | $\frac{5}{11}\times360$ | 163.6	**2**	**B1** for 5 correct cells
(b)	$[A =]\frac{360n}{2n+1}$ oe	**1**	

Question	Answer	Mark	Part Marks
(c)	25	3	**B2** for [n=] 12 soi or **M1FT** for *their* $\frac{360n}{2n+1} = 172.8$ **C** opportunities
5 (a)	[1], 2, 3, 4, 5	2	Accept in suitable calculations e.g. $\frac{2}{11} \times 360$ Deduct 1 for extras and 1 for each omission If 0 scored **SC1** for 4 or 5 with no working
(b)	$\frac{6}{15} = \frac{2}{5}$ soi	1	
(c)	48, 96, 168 cao	2	**B1** for two correct values of A only or **B1** for three correct values plus extras less than 180° or **B1** for 2, 4 and 7 [revolutions] soi **C** opportunity
Communication seen in one of **4(c)** (two possible places) or **5(c)**		1	

B MODELLING BODY MASS

Question	Answer	Mark	Part Marks
1 (a)	80[kg]	**1**	
(b)	1.5[m] or 150cm	**1**	
(c)	$[M =]\ 100h - 100$ oe seen	**1**	
(d)	Straight line with positive gradient	**1**	
	approx through (1.5, 50) and (2, 100)	**1**	**C** opportunity
2 (a)	$M = kh^2$ or $M \propto h^2$ $88 = k \times (2^2$ or 4)	**1** **1**	If 0 scored **SC1** for $88 = 22 \times 4$ oe **C** opportunity
(b)	22×1.5^2 [= 49.5] oe	**1**	
(c)	1.87[m] or 187cm	**1**	Condone 1.9[m] but not 190cm **C** opportunity
3 (a)	1.485 to 1.49 [m] or 148.5 to 149 cm	**1**	Condone 3.06 as a second answer
(b)	Simple $(100h - 100)$ **and** correct conclusion	**1**	**C** opportunity
4 (a)	$78 = k\ 1.84^n$ isw $50 = k\ 1.54^n$ isw	**1**	
(b)	$\frac{78}{50} = \frac{k1.84^n}{k1.54^n}$	**1**	
(c)	$\frac{\log 1.56}{\log 1.195}$ or $\log_{1.195} 1.56$	**1**	
(d)	17	**2**	**M1** for $78 = k \times 1.84^{2.5}$ or $50 = k \times 1.54^{2.5}$ or **B1** for 16.98 to 16.99 **C** opportunity
(e)	exponential curve	**1**	**C** opportunity
5	1.67[…] or 1.68 [m]	**1FT**	**FT** *their* 17 rot to at least 2dp **C** opportunity
Communication seen in four of **1(d)**, **2(a)**, **2(c)**, **3(a)**, **4(d)**, **4(e)** or **5**		**2**	**1** mark if seen in two