CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge International General Certificate of Secondary Education

MARK SCHEME for the October/November 2015 series

0607 CAMBRIDGE INTERNATIONAL MATHEMATICS

0607/61 Paper 6 (Extended), maximum raw mark 40

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

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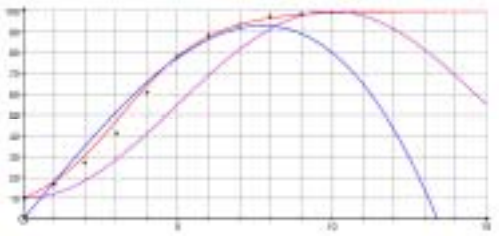
Abbreviations

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

A INVESTIGATION SUMS OF TWO SQUARES

Question	Answer	Mark	Part Marks
1 (a)	13 17	**1**	
(b)	$13 = 2^2 + 3^2$ $17 = 1^2 + 4^2$	**1**	
(c)	[101 =] $1^2 + 10^2$	**1**	
2 (a)	$49 + 576 = 625$ oe	**2**	**B1** for two correct squares
(b)	41 61 84 85 15 112	**3**	**B1** for each column In third column **FT** *their* 84 either by pattern (+1) or by Pythagoras (correct to at least 1 dp)
(c)	equal sum oe	**1**	**C** opportunity
(d) (i)	29, 420	**1**	**C** opportunity
(ii)	5100, 5101	**1**	**C** opportunity
3 (a)	Each bracket correctly squared $4xy = 4mn$	**1** **1**	
(b)	$13^2 + 4^2 = 11^2 + 8^2$ $8^2 + 1^2 = 4^2 + 7^2$ $13^2 + 1^2 = 11^2 + 7^2$	**4**	**B2** for one correct statement **B1** for each further correct statement If 0 scored then **B1** for one solution
(c)	[9^2 +] 13^2 [= 5^2 +] 15^2	**2**	**M1** for $x = 7$, $y = 2$ soi **C** opportunity
Communication seen in one of **2(c)**, **2(d)(i)**, **2(d)(ii)** or **3(c)**		**1**	

B MODELLING POPULATION GROWTH			
Question	**Answer**	**Mark**	**Part Marks**
1 (a)	Any correct statement implying why it is correct to do so	**1**	
(b)	Any correct statement about size or change of rate	**1**	
2 (a) (i)	$a + b = 18$ oe	**1**	
(ii)	$125a + 5b = 78$ oe	**1**	
(b)	$y = -0.1x^3 + 18.1x$	**2FT**	**B1FT** for $[a =] -0.1$ **B1FT** for $[b =] 18.1$ If 0 scored **B1FT** for two inaccurate answers **C** opportunity
3 (a) (i)	$a + b = 10$ oe	**1**	
(ii)	$a - b = 100$ oe	**1**	
(b)	$y = 55 - 45\cos(18x)°$	**2FT**	**B1FT** for $[a =] 55$ **B1FT** for $[b =] -45$ **C** opportunity
4 (a)	$[k =] 9$ nfww	**2**	**M1** for $\frac{100}{1+k} = 10$
(b)	Accurate oe dependent on k	**1FT**	**FT** *their k*
5 (a)		**4FT**	**B1FT** for each correct shape **B1FT** for all 3 y-intercepts correct **C** opportunity
(b)	Accurate oe Levels out after 10 years oe	**2**	**B1** for each
Communication seen in one of **2(b)**, **3(b)** or **5(a)**		**1**	