CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge International General Certificate of Secondary Education

MARK SCHEME for the May/June 2015 series

0607 CAMBRIDGE INTERNATIONAL MATHEMATICS

0607/22 Paper 2 (Extended), maximum raw mark 40

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.

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CAMBRIDGE
International Examinations

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

1	**(a)**	0.09	**1**	
	(b)	20	**1**	
2	**(a)** **(i)**	1	**1**	
	(ii)	1000	**1**	
	(b)	5^7	**1**	
3		$2\sqrt{13}$	**3**	**M1** for $\sqrt{(-6)^2+4^2}$ oe **A1** for $\sqrt{52}$
4	**(a)**	0.23, 0.3, 0.15, 0.2	**2**	**M1** for at least 2 of $\frac{46}{200}, \frac{12}{40}, \frac{15}{100}, \frac{100}{500}$ soi
	(b)	Dieter, More throws oe	**1**	
	(c)	246	**1**	
5	**(a)**	(4, 4)	**1**	
	(b)	–2	**2**	**M1** for clear evidence of $\frac{\text{rise}}{\text{run}}$
6		$28+10\sqrt{3}$ or $2\left(14+5\sqrt{3}\right)$ final answer	**2**	**M1** for $25+5\sqrt{3}+5\sqrt{3}+\sqrt{3}\times\sqrt{3}$ or better
7		$x \geq 5.5$ or $5\frac{1}{2}$ or $\frac{11}{2}$ final answer	**3**	**M1** for $2x + 3 \leq 4x - 8$ oe **M1 FT** for $3 + 8 \leq 4x - 2x$ oe
8		396π	**3**	**M1** for $\pi \times 6^2 \times 10$ or better **M1** for $\frac{1}{3} \times \pi \times 6^2 \times 3$ or better

9	$x = 3, \quad y = -2$	**4**	**M1** for correctly equating one set of coefficients **M1FT** for correct method to eliminate one variable **A1** for $x = 3$ or $y = -2$ If zero scored **SC1** for correct substitution into one of the original equations and correct evaluation, to find the other variable
10 **(a)**	4	**1**	
(b)	1000	**1**	
(c)	10	**3**	**M1** for correct use of a $a\log x = \log a^x$ **M1** for correct use of $\log a + \log b = \log ab$ or $\log a - \log b = \log \frac{a}{b}$
11 **(a)**	110	**2**	**M1** for angle $DCO = 90 - 55$
(b)	55	**1FT**	**FT** $\frac{1}{2}$ *their* **(a)**
(c)	105	**1**	
12	F E D A	**1** **1** **1** **1**	