CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2014 series

0607 CAMBRIDGE INTERNATIONAL MATHEMATICS

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

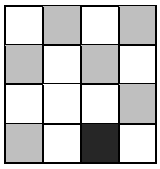
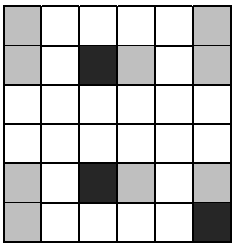
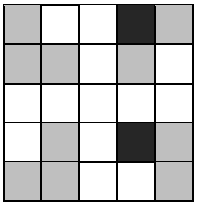
This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began,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

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the May/June 2014 series for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.

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1	**(a)**	*C* plotted at (5, –1)	**1**	
	(b)	$\begin{pmatrix}0\\7\end{pmatrix}$	**2**	**B1** for each component
2	**(a)**		**1**	
	(b)		**2**	**B1** for any shape with exactly 2 lines of symmetry
	(c)		**2**	**B1** for any shape with rotation symmetry of order 4 but not all square or all 4 squares in each corner shaded
3		Labelled pie chart with angles 170, 100, 90	**3**	Tolerance ± 2° **B1** for 1 angle drawn correctly **B1** for 170, 100, 90 seen
4	**(a)**	0.29, 0.3, 33%, $\frac{1}{3}$ $\sqrt{0.3}$	**2**	**B1** for 1 in wrong place
	(b)	$\frac{\sqrt{5}}{2}$, $\frac{5}{\sqrt{5}}$, $2\sqrt{5}$, $(\sqrt{5})^3$	**2**	**B1** for 1 in wrong place
5	**(a)**	$6x^3 + 10x^3y$	**2**	**B1** for each term
	(b)	$2a^2 - 7ab + 6b^2$	**3**	**B2** for $2a^2 - 4ab - 3ab + 6b^2$ **B1** for above with 1 wrong / omitted term
6	**(a)** **(i)**	45	**1**	Accept in factor form
	(ii)	$\frac{4}{3}$	**1**	Accept $\frac{2^2}{3}$
	(b) **(i)**	$3^2 \times 5^2$	**1**	
	(ii)	$2^2 \times 3^3 \times 5^3 \times 7$	**2**	**B1** for 3 of 4 factors or **B1** for 94 500

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7	**(a)**	0.3 0.25 0.3 0.4	**2**	**M1** for dividing frequencies by number of trials, or **B1** for 3 correct
	(b)	More throws oe	**1**	
	(c)	640	**1**	
8	**(a)**	$y=\frac{5\sqrt{x}}{2}$ oe	**2**	**M1** for $y = k\sqrt{x}$
	(b)	$\frac{4}{25}$ oe	**2**	**M1** for substituting $y = 1$ in *their* $y = k\sqrt{x}$
9	**(a)**	4.9×10^{-5}	**2**	**M1** for 0.000046 + 0.000003 or 46×10^{-6} or 0.3×10^{-5}
	(b)	1.38×10^{-10}	**2**	**B1** for 13.8×10^{-11}
10		$\frac{x-1}{(x+2)(2x+3)}$	**3**	**M2** for $\frac{3(2x+3)-5(x+2)}{(x+2)(2x+3)}$ or **M1** for common denominator $(x + 2)(2x + 3)$

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