CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the October/November 2012 series

0607 CAMBRIDGE INTERNATIONAL MATHEMATICS

0607/01 Paper 1 (Core), 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 October/November 2012 series for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.

CAMBRIDGE
International Examinations

1	**(a)**	43 000	**1**	
	(b)	$4.32\ (00) \times 10^4$	**1**	
2	**(a)**	5 o.e.	**1**	
	(b)	14	**1**	
3	**(a)**	121	**2**	**M1** $2 \times 44 + ¾ \times 44$ or better or **SC1** for 33 soi
	(b)(i)	2 (h) 30 (min)	**2**	Accept 2.5 (h) or 2½ (h) or 150 (min)
	(ii)	400	**2 FT**	**M1** 1000 divided by their **(b)(i)**
4	**(a)**	$0 \leqslant f(x) \leqslant 6$	**1**	Accept $0 < f(x) < 6$
	(b)	Correct graph	**1**	
	(c)	Translation $\begin{pmatrix} 0 \\ -3 \end{pmatrix}$	**B1** **B1**	
5	**(a)**	$\frac{6}{10}$ o.e. isw	**2**	**M1** for $1 - (\frac{1}{10} + \frac{3}{10})$ o.e.
	(b)	18	**1**	
6		$r = \sqrt{\frac{2A}{3\pi}}$	**3**	**M1** for $\times 2$ correctly **M1** for $\div 3\pi$ correctly **M1** for taking square root correctly
7	**(a)**	11, 15, 20	**1**	
	(b)(i)	A	**1**	
	(ii)	4	**1**	
	(iii)	11	**1**	
8	**(a)**	–3	**1**	
	(b)	8 **or** –8	**2**	**B1** for either of 3 or 11 seen **or B1** for 16 – 8 seen or 8 – 16 seen nfww

9	**(a)**	$x(3 + 13x)$	**1**	
	(b)	$\frac{12x+5y}{15}$ o.e. final answer	**2**	**M1** both $\frac{3\times 4x}{5\times 3}$ and $\frac{5\times y}{5\times 3}$ o.e. or **SC1** for $(ax + 5y)/15$ or $(12x + by)/15$ where a and b are integers.
	(c)	$-3 \leqslant x \leqslant 5$	**2**	**B1** $-3 \leqslant x$ o.e. **B1** $x \leqslant 5$ o.e. If 0 scored **SC1** $-3 < x < 5$
10	**(a)**	14	**1**	
	(b)	6	**2**	**M1** or $\frac{1.5}{0.5}$ or $\frac{0.5}{1.5}$ or better
	(c)	A and D	**1**	
11	**(a)**	5	**1**	Accept 5/1
	(b)	$y = 5x + 3$	**2**	**B1** $y = 5x + c$ o.e. $c \neq -1$ or $y = ax + 3$ o.e. where $a \neq 0$ If 0 then **SC1** for $5x + 3$
12	**(a)**	3	**1**	accept 3 correct lines drawn if not contradicted by the answer.
	(b)	2	**1**	