CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2014 series

0444 MATHEMATICS (US)

0444/11 Paper 1, maximum raw mark 56

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.

Abbreviations
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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

Question Part	Answers	Mark	Part Marks
1	4	**1**	
2	23 29	**1**	
3 (a)	138	**1**	
(b)	Obtuse	**1**	
4 (a)	506 000	**1**	
(b)	5.06×10^5	**1FT**	Follow through *their* part (a)
5 (a)	$\frac{5 \times 2}{20}$	**1**	
(b)	0.5 or $\frac{1}{2}$ cao	**1**	
6	30	**2**	**M1** for $n - 8 = 22$ **or** $\frac{n}{2} = 15$
7	–4, –3, –2, –1, 0, 1, 2	**2**	**M1** for all correct with an extra integer e.g. 3 or for one integer omitted and no extras
8	120	**2**	**B1** for any other common multiple of 120
9	$35n + 60s$ Final answer	**2**	**B1** for $35n$ **or** $60s$ If zero, **SC1** for $3.5n + 6s$ **cm**

10	$\frac{1}{4}$	**3**	**M1** for $\frac{2}{12} - \frac{-6}{72}$ **and M1** for correct conversion to common den and dealing with the sign
11	Domain should be discrete not continuous	**1**	Any sensible comment e.g. you cannot buy half a bottle of cleaner
12	6	**2**	**M1** for $720 = 8 \times 15 \times h$ or better
13 (a)	Negative	**1**	
(b)	More rain [suggests] lower temperature oe	**1**	
14	114 to 117	**2**	**B1** for 38 to 39 seen or 72[mph]
15 (a) (i)	40.3	**1**	
(ii)	August	**1**	
(b)	$\frac{7}{12}$ isw	**1**	
16	20	**3**	**M1** for 80×1.5 oe and **M1** for (*their* $120 - 88$) ÷ 1.6 oe
17 (a)	74	**2**	**M1** Angle $B = 180 - 127$
(b)	53	**1FT**	$127 -$ *their part* ***(a)***
18 (a) (i)	p^{10}	**1**	
(ii)	t^{-3} or $\frac{1}{t^3}$	**1**	
(b)	4	**1**	
19	$[x =] -1 \quad [y =] 2$	**4**	**M1** for multiplication of both equations for same coefficients of x or y **and M1** for appropriate subtract or add. **and A1** for correct x or y If zero, **SC1** for 2 values satisfying one of the original equations

20	**(a)**	$\frac{23}{40}$	**2**	**M1** for $\frac{8\times their16}{40}-\frac{5\times their21}{40}$ oe or $\frac{4}{40}$ oe
	(b)	$1\frac{12}{23}$ or $\frac{35}{23}$	**2**	**M1** for $\frac{7}{8}\times\frac{40}{23}$ oe
21	**(a) (i)**	119	**3**	**M2** for 18 × 6 + 11 oe or **B1** for 18 or 11 or 108
	(ii)	[0]1 [00] pm cao	**1**	
	(b)	2 [days] 15 [hours]	**1, 1**	
22	**(a)**	$x - 13y$ Final answer	**2**	**B1** for x **or** $-13y$ **or** $15x - 5y$ **or** $-14x - 8y$
	(b)	$5y(2xy + 3)$ Final answer	**2**	**B1** for $5(2xy^2 + 3y)$ **or** $y(10xy + 15)$