MARK SCHEME for the May/June 2014 series

0444 MATHEMATICS (US)

0444/11   Paper 1, maximum raw mark 56

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)	$\dfrac{5 \times 2}{20}$	1	
(b)	0.5 or $\dfrac{1}{2}$ cao	1	
6	30	2	**M1** for $n - 8 = 22$ **or** $\dfrac{n}{2} = 15$
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			$\dfrac{1}{4}$	3	**M1** for $\dfrac{2}{12} - \dfrac{-6}{72}$ **and M1** for correct conversion to common denominator 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)		$\dfrac{7}{12}$ isw	1	
16			20	3	**M1** for 80×1.5 oe and **M1** for (*their* $120 - 88$) $\div$ 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 $\dfrac{1}{t^3}$	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)		$\dfrac{23}{40}$	2	**M1** for $\dfrac{8\times their\,16}{40}-\dfrac{5\times their\,21}{40}$ oe or $\dfrac{40}{40}+\dfrac{8}{40}-\dfrac{25}{40}$ oe
	(b)		$1\dfrac{12}{23}$ or $\dfrac{35}{23}$	2	**M1** for $\dfrac{7}{8}\times\dfrac{40}{23}$ oe
21	(a)	(i)	119	3	**M2** for $18\times6+11$ 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** $y(10xy+15)$