MARK SCHEME for the October/November 2015 series

0444 MATHEMATICS (US)

0444/13	Paper 1 (Core), maximum raw mark 56

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

Question		Answer	Mark	Part marks
1		6054	1	
2		6.7	1	
3		3	1	
4		170 cao	1	
5		4	1	
6		6	1	
7	(a)	12, 15	1	
	(b)	11, 13	1	
8	(a)	5	1	
	(b)	Subtract 4 oe	1	
9		$5 - u$ final answer	2	**B1** for $5 + ku$ or $j - u$, $k \neq 0$ as final answer
10	(a)	2	1	
	(b)	−9	1	
11		$tv - d$ oe	2	**M1** for $tv = s + d$ or $t - \dfrac{d}{v} = \dfrac{s}{v}$
12		$2^3 \times 3^2$ or $2 \times 2 \times 2 \times 3 \times 3$	2	**B1** for 2,2,2,3,3
13	(a)	Correct angle with correct arcs	2	**B1** for correct arcs and no line or correct line and no arcs
	(b)	Correct angle bisector with arcs	2	**B1** for correct bisector with no arcs or for arcs with no bisector drawn
14		10.5	2	**M1** for at least 6 7 9 10 11 or for at least 10 11 15 18 20
15		240 cm^3	2 1	**M1** for $4 \times 10 \times 6$

16		$\dfrac{7}{12}$	3	**M2** for $\dfrac{8}{12} + \dfrac{2}{12} - \dfrac{3}{12}$ oe or **B1** for any 2 correct over a common denominator
17	(a)	$3x + 21$ final answer	1	
	(b)	$2x(1 - 2x)$ final answer	2	**B1** for $2(x - 2x^2)$ or $x(2 - 4x)$ as final answer
18	(a)	230	1	
	(b)	C marked in correct position	2	**B1** for correct distance 8 cm or correct bearing 155°
19	(a)	[0].00017	1	
	(b)	7.5×10^{-4}	2	**B1** for 0.00075 or for 7.5×10^{k} or for $k \times 10^{-4}$, k non-zero
20	(a)	96	2	**M1** for $360 - (66 + 98 + 112)$
	(b)	1800	2	**M1** for $(12 - 2) \times 180$ or $12 \times \left(180 - \dfrac{360}{12}\right)$
21	(a)	12	2	**M1** for $\dfrac{x}{7.2} = \dfrac{10}{6}$ oe
	(b)	4.8	2	**M1** for $\dfrac{y}{8} = \dfrac{6}{10}$ oe
22	(a)	$\dfrac{90}{360}$	1	Accept equivalent fraction
	(b)	50	2	**M1** for $\dfrac{150}{360} \times 120$ oe
23		Correctly equating one set of coefficients	**M1**	eg $10x + 4y = 16$ and $10x - 15y = 130$ or $15x + 6y = 24$ and $4x - 6y = 52$
		Correct method to eliminate one variable	**M1**	eg $19y = k$ or $hx = 114$ or $19x = m$ or $ny = 76$
		$[x =]$ 4	**A1**	
		$[y =]$ −6	**A1**	
				If zero scored **SC1** for correct substitution and evaluation to find other variable **SC1** if no working shown, but 2 correct answers given

24	No because a single value of x results in two different values of y oe	2	**B1** for No with a less complete or more vague reason such as "No it fails the vertical line test"