CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge International General Certificate of Secondary Education

MARK SCHEME for the October/November 2015 series
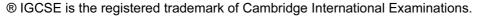
0444 MATHEMATICS (US)

0444/13   Paper 1 (Core), 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.

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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 $4 \times 10 \times 6$

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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

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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"