CAMBRIDGE INTERNATIONAL EXAMINATIONS
Cambridge International General Certificate of Secondary Education

MARK SCHEME for the October/November 2015 series

0580 MATHEMATICS

| 0580/13 | Paper 1 (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.

Cambridge will not enter into discussions about these mark schemes.

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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		[0].101 or [0].1005 to [0].1006	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		23.6 or 23.57 to 23.58	2	**M1** for sin [=] $\frac{2}{5}$ oe
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		31.6 [2....]	2	**M1** for $\sqrt{18^2 + 26^2}$
14		Correct triangle with correct arcs	2	**B1** for correct triangle without arcs or 1 correct side with arcs
15		562.5 cm^3	2 1	**M1** for $5 \times 12.5 \times 9$
16		Any two of $\frac{8}{12}$, $\frac{2}{12}$ or $\frac{3}{12}$ oe $\frac{8}{12} + \frac{2}{12} - \frac{3}{12}$ oe $\frac{7}{12}$	M1 M1 A1	**M1** for any 2 correct over a common denominator, eg $\frac{4}{6}$ and $\frac{1}{6}$ or **SC2** for final answer $\frac{13}{12}$ or $1\frac{1}{12}$ with full working
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

Question	Answer	Mark	Part marks
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)	1.026×10^{-3}	2	**B1** for 10.26×10^{-4} oe
20 (a)	96	2	**M1** for $360 - (66 + 98 + 112)$
(b)	4140	2	**M1** for $(25 - 2) \times 180$ or $25 \times \left(180 - \dfrac{360}{25}\right)$
21 (a)	12 nfww	2	**M1** for $\dfrac{x}{7.5} = \dfrac{10}{6.25}$ oe
(b)	3.75 cao	2	**M1** for $\dfrac{y}{6} = \dfrac{6.25}{10}$ oe
22	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 2 values satisfying one of the original equations. **SC1** if no working shown, but 2 correct answers given
23 (a) (i)	60	1	
(ii)	$\dfrac{90}{360}$ oe	1	
(iii)	46	2	**M1** for $\dfrac{138}{360} \times 120$
(b)	2.4 nfww	3	**M1** for $(0 \times 3) + (1 \times 3) + (2 \times 8) + (3 \times 5) + (4 \times 4) + (5 \times 2)$ implied by 60 **M1dep** for *their* $60 \div 25$