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

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Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

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International Examinations

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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) × 180 or $25 \times \left(180 - \frac{360}{25}\right)$
21 (a)	12 nfww	**2**	**M1** for $\frac{x}{7.5} = \frac{10}{6.25}$ oe
(b)	3.75 cao	**2**	**M1** for $\frac{y}{6} = \frac{6.25}{10}$ 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)	$\frac{90}{360}$ oe	**1**	
(iii)	46	**2**	**M1** for $\frac{138}{360} \times 120$
(b)	2.4 nfww	**3**	**M1** for (0 × 3)+ (1 × 3) + (2 × 8) + (3 × 5) + (4 × 4) + (5 × 2) implied by 60 **M1dep** for *their* 60 ÷ 25