CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge International General Certificate of Secondary Education

MARK SCHEME for the October/November 2014 series

0580 MATHEMATICS

0580/13 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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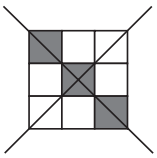
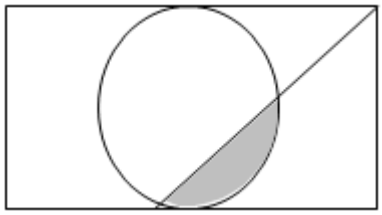
Abbreviations

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

Qu.		Answers	Mark	Part Marks
1		$\frac{13}{100}$ oe	**1**	
2	**(a)**	304 620	**1**	
	(b)	305 000	**1FT**	
3	**(a)**	2	**1**	
	(b)		**1**	
4		9.61	**2**	**B1** for 9.609[1…] or for their answer seen rounded to 2 d.p.
5	**(a)**	5	**1**	
	(b)	0.75 oe	**1**	
6	**(a)**	23.3	**1**	
	(b)	–15.5	**1**	
7	**(a)**	14	**1**	
	(b)	1296	**1**	
8	**(a)**	$\begin{pmatrix}2\\4\end{pmatrix}$	**1**	
	(b)	$\begin{pmatrix}-9\\18\end{pmatrix}$	**1**	
9		$\frac{12-10}{15}$ or $\frac{12}{15}-\frac{10}{15}$ oe	**M1**	
		$\frac{2}{15}$ oe	**A1**	Answer must be a fraction

10	$\frac{y+1}{6}$ oe	**2**	**B1** for $y+1=6x$ or $\frac{y}{6}=x-\frac{1}{6}$ If **B0 SC1** for $\frac{y-1}{6}$ or $\frac{y}{6}+1$
11	0.34 0.7^3 0.6^2 $\sqrt{0.6}$	**2**	**M1** for decimal conversion: 0.7[7…] or 0.8 for $\sqrt{0.6}$ and 0.36 for 0.6^2 and 0.343 for 0.7^3 or **B1** for three in the correct order
12	2.4×10^8	**2**	**B1** for 240 000 000 oe or **B1** for $k\times10^8$ or 2.4×10^k
13	30	**2**	**M1** for $2x+3x+4x+90=360$ oe
14	48	**2**	**M1** for 52 ÷ 65 [× 60] oe implied by 0.8
15 (a)	1440	**2**	**M1** for 18 × 10 × 8
(b)	1700	**1**	
16 (a)	$6j-k$	**2**	**B1** for $6j\pm ak$ or $bj-k$ (a and $b\neq0$)
(b)	$5(p+2)$	**1**	
17 (a)	12	**1**	
(b)	60	**1**	
(c)	Irrational number between 1 and 2	**1**	
18	9.5 or $\frac{19}{2}$	**3**	**M2** for $2x=(8\times3)-5$ or better oe or **M1** for $2x+5=8\times3$ or better
19 (a)	16 [kg]	**1**	
(b)	Positive	**1**	
(c) (i)	Ruled line of best fit	**1**	
(ii)	Correct reading from ruled line	**1FT**	

20	**(a)**	Complete circle centre E radius 3 cm	**1**	
	(b)	Correct ruled bisector with two pairs of correct arcs	**2**	**B1** for correct bisector with no/wrong arcs
	(c)		**1**	dep on attempt at bisector of C and enclosed region
21	**(a)**	58	**2**	**B1** for $ACB = 90^{o}$ soi as angle at C or **M1** for $\tan\frac{8}{5}$
	(b)	9.43 to 9.44	**2**	**M1** for $\left[AB^2 =\right] 8^2 + 5^2$ or $\sin 32 = \frac{5}{AB}$ or $\cos 32 = \frac{8}{AB}$ oe
22	**(a)**	Trapezium	**1**	
	(b)	55^{o}	**1**	
	(c)	21.4 or 19.55 to 23.37 **nfww**	**3**	**B1** for [AB =] 7.2, [DC =] 4.7, and [height =] 3.6 seen and **M1** for $0.5 \times \textit{their} 3.6 \times \textit{their}(4.7 + 7.2)$