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Cambridge International General Certificate of Secondary Education

MARK SCHEME for the October/November 2014 series

0580 MATHEMATICS

0580/11 Paper 1 (Core), maximum raw mark 56

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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	$\begin{pmatrix} 7 \\ -4 \end{pmatrix}$	**1**	
2 (a)	15.1 cao	**1**	
(b)	20 cao	**1**	
3 (a)	E B A cao	**1**	
(b)	Z cao	**1**	
4	113	**2**	**M1** for 360 – (98 + 90 + 105) or better
5	137	**2**	**M1** for attempt at ordering to at least 7th term or 132 **and** 142 indicated
6	3 3.14 π 3.142 $\frac{22}{7}$	**2**	**B1** for 3.141[5...] to 3.1416 **and** 3.1428 to 3.1429 or 3.143 seen or **SC1** for 4 in correct order
7	$\frac{3}{12}$ **and** $\frac{2}{12}$ $\frac{5}{12}$ cao	**M1** **A1**	Equivalent denominators can be used, working **must** be shown.
8	$4w(2wx-3y)$ Final answer	**2**	**B1** for $4(2w^2x-3wy)$ or $w(8wx-12y)$ or $2w(4wx-6y)$
9	651 to 652	**2**	**M1** for $\pi \times 3.6^2 \times 16$ or better
10 (a)	–3	**1**	
(b)	4	**1FT**	FT their numerical mode
11	$4x-7$ Final answer	**2**	**B1** for answer $4x + k$ or answer $jx - 7$ where $j \neq 0$ or correct answer seen then spoilt

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12 **(a)**	91 or 13	**1**	
(b)	2, 7 **and** 13	**2**	**B1** for correct products of primes method or correct factor tree or ladder or 2 correct and 0 wrong or 3 correct and 1 extra
13 **(a)**	280	**1**	
(b)	5×10^6	**2**	**B1** for 5 000 000 oe or **B1** for answer $k\times10^6$ or 5×10^k
14 **(a)**	4 [days]	**2**	**M1** for $(39-15)\div6$ or $15+6+6+6+6$
(b)	[C=] 15 + 6d Final answer	**1**	
15	9 [sides]	**3**	**M2** for $360\div(180-140)$ or **M1** for $180-140$
16 **(a)**	66	**1**	
(b)	42	**2FT**	**FT** *their* **(a)** – 24, only if *their* **(a)** > 24 or **B1** for either of these, may be on diagram, angle OAC = 24 **or** angle BAC = *their* **(a)**
17	[$] 942.41	**3**	**M2** for 850×1.035^3 oe or **M1** for $850\times1.035\times1.035$ oe or **SC2** for answer of interest only
18	0.29 cao	**3**	**M2** for $30-24\times1.2378$ or $24\times1.2378-30$ or **M1** for 24×1.2378
19	Correct ruled net drawn	**3**	**B1** for rectangles, even if incorrect or not joined, drawn one on each side of the given one **and** two triangles opposite sides and **B1** for 2 correct **ruled** rectangles and **B1** for 2 correct **ruled equilateral** triangles
20	[x =] 3, [y =] 0.5	**3**	**M1** for correct method to eliminate one variable **A1** for [x =] 3 **A1** for [y =] 0.5 If zero scored, **SC1** for correct substitution **and** evaluation to find the other variable

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21	**(a)**	80	**2**	**M1** for $5\times(-4)^2$ or 5×4^2 or better
	(b)	$[\pm]\sqrt{\frac{y}{5}}$ or $\frac{\sqrt{y}}{\sqrt{5}}$ Final answer	**2**	**M1** for correct first step i.e. $\frac{y}{5}=x^2$ or $\sqrt{y}=\sqrt{5}x$ or correct 2nd step after incorrect 1st step seen
22	**(a)**	18.4	**2**	**M1** for $[PQ^2=]16^2+9^2$ or better
	(b)	[0]60.4 to [0]60.73	**2**	**M1** for $\tan[\ldots=]\frac{16}{9}$ or better or $\sin[\ldots=]\frac{16}{\textit{their}\textbf{(a)}}$ or better or $\cos[\ldots=]\frac{9}{\textit{their}\textbf{(a)}}$ or better If zero scored, **SC1** for answer [0]29.3 to [0]29.4

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