## **CAMBRIDGE INTERNATIONAL EXAMINATIONS**

**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		7 -4	1	
2	(a)	15.1 cao	1	
	(b)	20 cao	1	
3	(a)	ЕВА сао	1	
	(b)	Z cao	1	
4		113	2	<b>M1</b> for $360 - (98 + 90 + 105)$ or better
5		137	2	M1 for attempt at ordering to at least 7 <sup>th</sup> term or 132 and 142 indicated
6		$3 \ 3.14 \ \pi \ 3.142 \ \frac{22}{7}$	2	<b>B1</b> for 3.141[5] to 3.1416 <b>and</b> 3.1428 to 3.1429 or 3.143 seen or <b>SC1</b> for 4 in correct order
7		$\frac{3}{12}$ and $\frac{2}{12}$	M1	Equivalent denominators can be used, working <b>must</b> be shown.
		$\frac{5}{12}$ cao	<b>A1</b>	
8		4w(2wx-3y) Final answer	2	<b>B1</b> for $4(2w^2x - 3wy)$ or $w(8wx - 12y)$ or $2w(4wx - 6y)$
9		651 to 652	2	<b>M1</b> 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	<b>B1</b> 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 <sup>6</sup>	2	<b>B1</b> for 5 000 000 oe or <b>B1</b> for answer $k \times 10^6$ or $5 \times 10^k$
14	(a)	4 [days]	2	M1 for $(39-15) \div 6$ or $15+6+6+6+6$
	(b)	[ <i>C</i> =] 15 + 6 <i>d</i> Final answer	1	
15		9 [sides]	3	<b>M2</b> for 360 ÷ (180 – 140) or <b>M1</b> 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 $850 \times 1.035^3$ oe or M1 for $850 \times 1.035 \times 1.035$ oe or SC2 for answer of interest only
18		0.29 cao	3	<b>M2</b> for 30 – 24×1.2378 or 24×1.2378 – 30 or <b>M1</b> 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 $5 \times 4^2$ 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 2 <sup>nd</sup> step after incorrect 1 <sup>st</sup> step seen
22	(a)	18.4	2	<b>M1</b> for $[PQ^2 = ]16^2 + 9^2$ or better
	(b)	[0]60.4 to [0]60.73	2	M1 for $tan[=]\frac{16}{9}$ or better or $sin[=]\frac{16}{their(\mathbf{a})}$ or better or $cos[=]\frac{9}{their(\mathbf{a})}$ or better
				If zero scored, SC1 for answer [0]29.3 to [0]29.4