CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge International General Certificate of Secondary Education

MARK SCHEME for the May/June 2015 series

0580 MATHEMATICS

0580/12 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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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	Answer	Mark	Part marks
1*	9 [h] 30 [min] cao	**1**	
2*	5.34×10^7	**1**	
3	−3	**1**	
4	5	**1**	
5	Negative	**1**	
6 (a)	[0].64	**1**	
(b)	$\frac{16}{25}$ cao	**1**	
7	$2x$ Final answer	**2**	**B1** for $2x + j$ **or** kx [+0] as final answer **or** either $5x - 15$ **or** $-3x + 15$ in working
8	$\sqrt{0.011}$ 0.11 3^{-2} $\frac{2}{17}$	**2**	**M1** for correct change to decimals (or %) **or B1** for 3 in correct order.
9*	0.2 oe	**2**	**M1** for 1 – (0.15 + 0.3 + 0.35)
10	$xy(3x - 5z)$ final answer	**2**	**B1** for $x(3xy - 5yz)$ or $y(3x^2 - 5xz)$
11*	Parallel	**1**	
	Same length	**1**	
12*	$\frac{8}{3}$	**B1**	or $\frac{40}{15}$ accept $\frac{3}{8}$ or $\frac{15}{40}$
	$\frac{4}{5} \times \textit{their}\,\frac{3}{8}$ oe	**M1**	or $\frac{12}{15} \div \textit{their}\,\frac{40}{15}$ or equivalent division with fractions with common denominators
	$\frac{3}{10}$ cao	**A1**	

Qu	Answer	Mark	Part marks
13* **(a)**	11	**1**	
(b)	8	**2FT**	**FT** 30 – 2 × *their (a)* or **M1** for $4 \times 7 = 2(x - 1) + FG$ oe or $4(x - 4) = 2(x - 1) + FG$ oe or $2 \times 7 + 2(x - 4) = 2(x - 1) + FG$ oe Allow x to be *their* (a) in each case
14	548 or 547.8 or 547.75 to 547.76	**3**	**M2** for $480\left(1+\frac{4.5}{100}\right)^3$ oe or **M1** for correct method for amount for 2 years. **SC2** for [interest = \$]68 or 67.8 or 67.75 to 67.76
15 **(a)**	$\frac{73}{200}$ oe	**1**	
(b)	1971	**2FT**	**M1** for *their* (a) × 5400 ($0 <$ *their* (a) <1) or $5400 \div 200 \times 73$
16 **(a)**	$\begin{pmatrix} 3 \\ 7 \end{pmatrix}$	**1**	
(b) **(i)**	*C* marked at (−4, 0)	**1**	
(ii)	(−4, 0)	**1FT**	Co-ordinates of *their* point *C*
17 **(a)**	[x =] 37	**1**	
(b)	[y =] 53	**1FT**	Follow through 90 – *their* (a)
(c)	[z =] 74	**2FT**	**M1** for eg 180 – 2× *their* angle *BDC* or 180 – 2× *their* (b) or 2 × *their* (a)
18 **(a)**	45, 38	**1, 1FT**	Follow through *their* 45 – 7
(b)	80 – 7n oe	**2**	**B1** for – 7n
19* **(a)**	78	**3**	**M2** for $5 \times 12 + \frac{1}{2} \times 12 \times (8 - 5)$ **or** $\frac{1}{2} \times 6 \times (5 + 8) \times 2$ oe or **M1** for 5×12, $\frac{1}{2} \times 12 \times (8 - 5)$, $\frac{1}{2} \times 6 \times (5 + 8)$ or $12 \times 8 - (\ldots)$
(b)	1170	**1FT**	15 × *their (a)*

Qu	Answer	Mark	Part marks
20 (a)	3×180	**1**	
(b)	51, 153 204	**4**	**M1** for $540 - (79 + 53)$ [= 408] **M1 dependent** for *their* $408 \div (1 + 3 + 4)$ **A1** for 1 correct angle If zero, **SC2** for 67.5, 202.5 and 270 or **SC1** for 67.5
21 (a)	Jan	**1**	
(b)	9	**1**	
(c)	9.5	**2**	**M1** for correctly ordering at least 7 months from one end **or** identifying the middle two, 8 and 11
(d)	8.8	**3**	**M1** for attempt to add the temperatures ÷ 12 **A1** for 8.83[3.....] After **M1 A0**, award **SC1** for their mean correct to 2 sf