

Cambridge International Examinations Cambridge International General Certificate of Secondary Education

MATHEMATICS

0580/13 May/June 2016

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Paper 1 (Core) MARK SCHEME Maximum Mark: 56

Published

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Abbrev cao dep	iations correct answer only dependent		^{scloud.com}
uep ET	fallow through offer error		

Abbreviations

cao	correct ans	wer only

- dep dependent
- \mathbf{FT} follow through after error
- ignore subsequent working isw
- oe or equivalent
- SC Special Case
- not from wrong working nfww
- seen or implied soi

Question	Answer	Mark	Part marks
1	9 082 507	1	
2	71 000 cao	1	
3	17	1	
4	Negative	1	
5	1.72	1	
6 (a)	2 -6 -8	1	
(b)	3 -8	1	
7	0.5 or $\frac{1}{2}$	2	M1 for correct first step e.g. $6y + 6 = 9$ or $y + 1 = \frac{9}{6}$
8 (a)	$\begin{pmatrix} -6\\ 3 \end{pmatrix}$	1	
(b)	Point <i>B</i> at (-3, 2)	1	
9	10.3 oe	2	M1 for $5x = 51.5$ oe
10	4.95 5.05	1, 1	SC1 for both correct but reversed
11	$\frac{1}{12} \times \frac{6}{5}$ oe	M1	Must be shown
	$\frac{1}{10}$ final answer cao	A1	
12	22.1	2	M1 for $\cos 16 = \frac{AC}{23}$ soi
13	128	3	M1 for 800 ÷ 6.24 A1 for 128.2

Mark Scheme Cambridge IGCSE – May/June 2016

Syllabus 0580

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Page 3		Mark Schen Cambridge IGCSE – M	ne av/.lune	Syllabus P. Man
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Questio	on	Answer	Mark	Part marks
14		4990 or 4989 or 4989.2 or 4989.23	3	M2 for $4500\left(1+\frac{3.5}{100}\right)^3$ oe
				or M1 for $4500 \left(1 + \frac{3.5}{100} \right)^2$ oe
15 (a)		72	1	
(b)		123	2FT	FT dep. on answer being obtuse M1 for $(360 - their(a) - 42)$ [÷2]
16		For correctly eliminating one variable	M1	Or correctly rearranging one equation and substituting into the other
		[x =] 3.5	A1	
		[<i>y</i> =] -4.5	A1	
				If zero scored SC1 for 2 values satisfying one of the original equations or if no working shown but 2 correct answers given
17 (a)		$\frac{24}{100}$ oe	1	
(b)		$\frac{78}{100}$ oe	2	M1 for $\frac{18+36+24}{100}$ or $1-\frac{22}{100}$
(c)		0	1	
18 (a)		2 cao	2	M1 for rise/run attempted e.g. 4/2 or other correct method for finding gradient or SC1 for $y = 2x - 1$ as answer
(b)		y = 2x + 6 oe	2FT	FT for $y = their(a)x + 6$ B1 for $y = mx + 6$ ($m \neq 0$ or 2) or $y = 2x$ [+ k] or $y = their(a)x$ [+ k] ($k \neq 6$) or for answer $2x + 6$ or answer $their(a)x + 6$
19 (a)		44	3	M2 for $\sqrt{93.5^2 - 82.5^2}$ or M1 for $CD^2 + 82.5^2 = 93.5^2$
(b)		33	1FT	FT 93.5 – (82.5 + <i>their</i> (a))
20 (a)	(i)	2400	1	
	(ii)	Ruled line (0815, 0) to (0845, <i>their</i> 2400)	1FT	Follow through <i>their</i> 2400 and 30 minute time period

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Question		Answer	Mark	Part marks
(b)	(i)	Horizontal line 1.5 hours from (<i>their</i> 0845, <i>their</i> 2400)	1FT	FT (<i>their</i> 0845 + 90 min, <i>their</i> 2400)
		Line from <i>their</i> (1015, 2400) to Home axis 15 min later	1FT	FT (<i>their</i> 1015, <i>their</i> 2400) to (<i>their</i> 1015 + 15 min, 0)
((ii)	160	2FT	M1FT for <i>their</i> 2400 ÷ 15
21 (a)	(i)	120	1	
((ii)	15	2	M1 for <i>their</i> 120 ÷ 360 [× 45] or 45 ÷ 360 [× <i>their</i> 120]
(b)		192	2	M1 for 24 ÷ 45 [× 360]
(c)		Line giving angles of 192° and 48° from given lines	1FT	FT their 192
(d)		Blue and an acceptable reason	1	