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Cambridge International General Certificate of Secondary Education

MARK SCHEME for the October/November 2014 series

0580 MATHEMATICS

0580/12 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.	Answer	Mark	Part marks
1	$6 + 5 \times (10 - 8) = 16$	**1**	One pair of brackets only
2	20	**1**	
3	8	**1**	
4 (a)	5 and −3 or −5 and 3 or 1 and −15 or −1 and 15	**1**	
(b)	60	**1**	
5	729	**2**	**B1** for 81 or $\frac{1}{9}$ seen in the working or 0.111..... or **B1** for 3^6 in the working or on the answer line.
6	95.55 95.65	**1, 1**	If zero, **SC1** for both correct but reversed or 955.5 [mm] **and** 956.5 [mm] in correct place
7 (a)	3 6 15	**1**	
(b)	2 3 5 cao	**1**	
8 (a)	6.4×10^5	**1**	
(b)	[0].000782	**1**	
9	$\frac{3x-8}{5}$ oe	**2**	**B1** for $5y = 3x - 8$ or $-5y = 8 - 3x$ If **B0 SC1** for $\frac{3x+8}{5}$ or $\frac{-3x-8}{5}$
10 (a)	$\begin{pmatrix} -5 \\ 4 \end{pmatrix}$	**1**	
(b)	$\begin{pmatrix} -15 \\ 12 \end{pmatrix}$	**1FT**	**FT** for 3 × *their* **(a)**
11	40.4% $\frac{17}{42}$ $\frac{15}{37}$ 0.41	**2**	**B1** for 3 in correct order or for 0.405..... , 0.404 and 0.4047.... or 0.4048

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12	**(a)**	$2k$	**1**	
	(b)	-1	**2**	**B1** for -16 or -15 or 15 seen in the working.
13	**(a)**	700	**2**	**M1** for 2800×0.325
	(b)	0.28	**1**	
14		$\frac{7}{6}$ oe *their* $\frac{7}{6} \times \frac{8}{7}$ oe $\frac{4}{3}$ or $1\frac{1}{3}$ cao must see working	**B1** **M1** **A1**	Or **M1** for $\frac{56}{48} \div \frac{42}{48}$ or equivalent division with fractions with common denominators cancelled
15		$[x =]$ 2 $[y =] -5$	**3**	**M1** for correct method to eliminate one variable **A1** for x **A1** for y If zero scored **SC1** for correct substitution and evaluation to find the other variable.
16	**(a)**	$\frac{136}{360}$ oe	**1**	
	(b)	19 cao	**3**	**B1** for 76 **M1** for $\frac{\textit{their}\,76}{360} \times 90$
17	**(a)**	4 points correctly plotted	**2**	**B1** for 3 correct
	(b)	Correct ruled line of best fit	**1**	
	(c)	Positive	**1**	
18	**(a)**	9 cao	**1**	
	(b)	15 and -15	**1, 1**	
	(c)	Any multiple of 18	**1**	
	(d)	16	**1**	
19	**(a)**	$[x =]$ 66	**2**	**B1** for angle $BED = 90°$ soi
	(b)	[y =] 24	**1**	
	(c)	$[z =]$ 48	**2FT**	**M1FT** for angle $ABC = 90° -$ *their* y

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20 (a)	102 to 106	**2**	**B1** for 5.1 to 5.3 seen
(b)	Correct position of F with correct arcs for angle bisector	**5**	**B2** for Correct ruled angle bisector of *A* with correct arcs or **B1** for correct bisector with no/wrong arcs **and** **B2** for Arc centre *C*, radius 8 cm or **B1** for arc centre *C* with incorrect radius or correct conversion to 8 cm **and** **B1** for marking position of F on *their* bisector and 8 cm from *C or their* arc centre *C*

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