

CAMBRIDGE INTERNATIONAL EXAMINATIONS

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

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

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
nfw	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 $\times$ 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 <i>their</i> $\frac{7}{6} \times \frac{8}{7}$ 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 $\frac{\text{their } 76}{360} \times 90$
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 $BED = 90^\circ$ soi
(b)	$[y =] 24$	1	
(c)	$[z =] 48$	2FT	M1FT for angle $ABC = 90^\circ - \text{their } y$

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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 <i>their</i> bisector and 8 cm from C or <i>their</i> arc centre C