

**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.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the October/November 2014 series for most Cambridge IGCSE<sup>®</sup>, Cambridge International A and AS Level components and some Cambridge O Level components.

® IGCSE is the registered trademark of Cambridge International Examinations.

<b>Page 2</b>	<b>Mark Scheme</b>	<b>Syllabus</b>	<b>Paper</b>
	<b>Cambridge IGCSE – October/November 2014</b>	<b>0580</b>	<b>12</b>

**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

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

Page 3	Mark Scheme	Syllabus	Paper
	Cambridge IGCSE – October/November 2014	0580	12

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

Page 4	Mark Scheme	Syllabus	Paper
	Cambridge IGCSE – October/November 2014	0580	12

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