CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the October/November 2013 series

0580 MATHEMATICS

0580/13 Paper 1 (Core), maximum raw mark 56

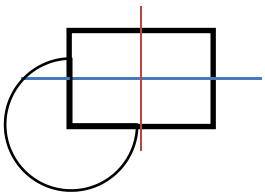
This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, 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 2013 series for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.

Qu.	Answers	Mark	Part Marks
1	84	1	
2	$a(2a - 5)$ final answer	1	
3	29	1	
4	39	2	**M1** for $52 \times 45 \div 60$ oe
5 (a)	2600	1	
(b)	[0].058	1	
6 (a)	$\frac{6}{11}$	1	
(b)	Arrow to right of 0.5	1	Reasonable accuracy
7	Any two of (20, 8) (–4, 0) (12, 24)	2	**B1** for one correct
8 (a)	9[h] 35[min]	1	
(b)	19 25	1	
9 (a)	3	1	
(b)	3	1	
10	$\frac{9}{22}$, 0.41, $\frac{3}{7}$, 43%, $\frac{\pi}{7}$	2	B1 for decimals [0.41] 0.429, 0.409. 0.449 [0.43], or for 4 in correct order
11 (a)	$\begin{pmatrix} 6 \\ -7 \end{pmatrix}$	1	
(b)	$\begin{pmatrix} -18 \\ 21 \end{pmatrix}$	1FT	'*Their* **(a)**' × −3
12 (a)	Negative	1	
(b)	Positive	1	
13	[AB =] 5.3 to 5.7 cm [Bearing] 130° to 134°	1 1	**SC1** for correct length line and bearing but starting at base of North line
14	[x =] 1.75 or $1\frac{3}{4}$ or $\frac{7}{4}$	2	**M1** for first correct step $4x = 7$, $x + \frac{3}{4} = \frac{10}{4}$,

15	$\frac{22}{7} - \frac{7}{5}$ $\frac{5\times their\,22}{35}$ oe – $\frac{7\times their\,7}{35}$ oe or $\frac{5\times their\,22 - 7\times their\,7}{35}$ oe $\frac{61}{35}$ or $1\frac{26}{35}$ cao	**B1** **M1** **A1**	
16	160	**3**	**M1** for sin 15 = $\frac{[\ ]}{628}$ oe or better **A1** for 162.5[3…] or 163 or 162.54 **B1 FT** correct rounding
17	30.9 or 30.88 to 30.91	**3**	**M2** for $12 \times 12 - \pi \times 6 \times 6$ or $4(6 \times 6 - \frac{1}{4} \pi \times 6 \times 6)$ **M1** for 12×12 **or** $\pi \times 6 \times 6$ or $(6 \times 6 - \frac{1}{4} \pi \times 6 \times 6)$
18	$(x =) 3,\ (y =) -2$	**3**	**M1** for correctly eliminating one variable **A1** for [x =]3 **A1** for [y =] −2 If zero scored, **SC1** for correct substitution and evaluation to find the other variable
19 (a)	7.5×10^{-2}	**2**	**M1** for 0.075 or 3/40 $\frac{6}{80}$ 0.75×10^{-1} or 75×10^{-3} oe
(b)	9.3×10^{7}	**2**	**M1** for 93 000 000 or 93×10^{6} or 0.93×10^{8} oe
20 (a)	Circle, radius 3 cm, centre A, not inside the rectangle	**2**	**M1** for arc or full circle centre A radius 3 cm or for an incorrect size circle at A outside rectangle
(b)	One line of symmetry with correct arcs E.g. 	**2**	**B1** for correct ruled line (must reach or cross two sides) **B1** for 2 pairs of correct intersecting arcs

21	**(a)**	$11x - 7y$ final answer	**2**	**B1** for $11x \pm my$ or nx
	(b)	$3a - 2b$ final answer	**2**	**B1** for $8a - 12b$ or $-5a + 10$ or $3a \pm pb$ or $qa - 2b$
22	**(a) (i)**	1000 [m]	**1**	
	(ii)	80 [m/min]	**2**	**M1** for $1600 \div 20$
	(iii)	20 [min]	**1**	
	(b) (i)	Ruled line from (11 10, 1600) to (11 35, 0)	**2**	**M1** for $1600 \div 64$ soi
	(ii)	11 35	**1FT**	*their* line at the axis if on the grid and not before 11 10.