CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2014 series

0607 CAMBRIDGE INTERNATIONAL MATHEMATICS

0607/32 Paper 3 (Core), maximum raw mark 96

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.

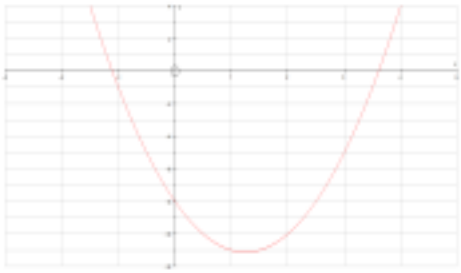
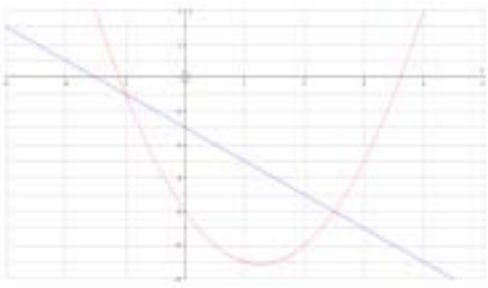
Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

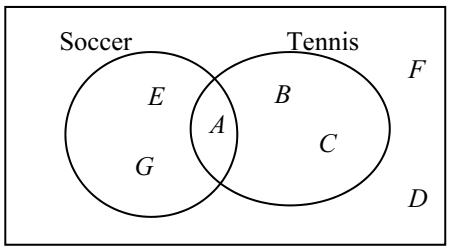
Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the May/June 2014 series for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.

1	**(a)**	200	**1**	
	(b)	49	**1**	
	(c)	1%	**1**	
	(d)	1, 2, 3, 6, 9, 18	**2**	**B1** for 1 and 18 **B1** for all the other factors
	(e)	24	**1**	
	(f)	$\frac{2}{3}$	**1**	
	(g)	16.8	**2**	**M1** for 35×48
	(h)	11 or 13 or 17 or 19	**1**	
2	**(a)**	Square Parallelogram Isosceles Triangle	**1** **1** **1**	
	(b)	4 correct lines drawn no lines 1 correct line	**1** **1** **1**	
	(c)	4 2 1	**1** **1** **1**	
3	**(a)**	39 83 58 83	**1** **1** **1** **1**	
	(b)	66 114 66	**1** **1** **1FT**	**FT** from *their* 66.
4	**(a)**	6.9	**2**	**M1** for 4.5 or 2.4 seen. soi by 2.1
	(b)	18	**1**	
	(c)	[x =] 4 [y =] –6	**1** **1**	If 0 scored **M1** for correct elimination of one variable

5	**(a)**	Vertices at (4, –1), (2, –5), (6, –5) and (4, –7)	**1**	
	(b)	Vertices at (–1, 4), (–5, 2), (–5, 6) and (–7, 4)	**2**	**B1** for 90° clockwise rotation about the origin or 90° anticlockwise rotation about another point
	(c)	Vertices at (–2, –6), (–4, –2), (0, –2) and (–2, 0)	**2**	**B1** for correct translation of $\begin{pmatrix} -6 \\ k \end{pmatrix}$ or $\begin{pmatrix} k \\ -7 \end{pmatrix}$
6	**(a)**	4 : 7 : 5 : 3	**2**	**B1** for 2 correct terms
	(b)	161	**3**	**M2** for $20 \times 1.60 + 35 \times 1.75 + 25 \times 1.60 + 15 \times 1.85$ soi or **M1** for 2 correct products seen.
	(c)	10.7 or [10.73…]	**1FT**	**FT** from answer to **(b)**
7	**(a)**	99	**1**	
	(b)	8	**2**	**M1** for $\frac{12}{90}$ or $\frac{90}{60}$ oe seen
8	**(a)**	40 47	**1** **1FT**	(*their* 40) + 7
	(b)	$7n + 5$	**2**	**M1** for $7n + k$
9	**(a)**	$\frac{6}{11}$	**1**	
	(b)	$\frac{6}{11}\ \frac{5}{11}$	**1**	1 mark for each pair
		$\frac{5}{10}\ \frac{5}{10}$	**1**	
		$\frac{6}{10}\ \frac{4}{10}$	**1**	
	(c)	$\frac{30}{110}$ oe isw	**2FT**	**M1** for multiplying *their* $\frac{6}{11}$ by *their* $\frac{5}{10}$

10	**(a)**		**2**	**B1** for a parabola with vertex downwards
	(b)	–1.11 or –1.108… , 3.61 or 3.608…	**1** **1**	
	(c)	(1.25, –11.125)	**1, 1**	
	(d)		**2**	**B1** for a line with negative gradient cutting the curve twice **B1** for line within tolerance
	(e)	–1 2.5	**1** **1**	
11		**M2** for $\sqrt{15^2 - 9^2}$ **M1** for $0.5 \times 18 \times$ *their h* **M1** for 18^2 **M1** for $\pi \times 2.1^2$ **A1** for 418.1…	**6**	or **M1** for $9^2 + h^2 = 15^2$
12	**(a)**	60 200	**3**	**M2** for $50\,000 \times 0.034 \times 6 + 50\,000$ or **M1** for $50\,000 \times 0.034 \times 6$
	(b)	art 58154 www 3	**3**	**M2** for $48\,000(1 + 0.0325)^6$ or **M1** for $48\,000(1 + 0.0325)^k$

13	**(a)**		**2**	**B1** for *A* correctly placed
	(b) **(i)**	$\frac{1}{7}$	**1FT**	**FT** from Venn diagram
	(ii)	$\frac{2}{7}$	**1**	
14	**(a)**	5	**1**	
	(b)	22.3 or 22.33…	**2**	**M1** for multiplying 1 correct mid-value by frequency
	(c)	14, 21, 27	**1**	
	(d)		**3FT**	**B2FT** for plotting 4 points correctly or **B1FT** for plotting 2 or 3 points correctly **B1** for smooth increasing curve
	(e) **(i)**	21.5 ±1	**1FT**	dependent on increasing curve
	(ii)	12 ±1	**1FT**	dependent on increasing curve
	(iii)	32.5 ±1	**1FT**	dependent. on increasing curve
15	**(a)**	Points correctly plotted	**1 , 1**	
	(b)	$\frac{6}{4}$ oe	**2**	**M1** for $\frac{\text{rise}}{\text{run}}$
	(c)	$y = \frac{6}{4}x$ oe	**1FT**	**FT** *their* $\frac{6}{4}$ if positive