Cambridge Assessment International Education
Cambridge International General Certificate of Secondary Education (9–1)

MATHEMATICS **0626/01**

Paper 1 **October/November 2017**

MARK SCHEME

Maximum Mark: 60

Published

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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MARK SCHEME NOTES

The following notes are intended to aid interpretation of mark schemes in general, but individual mark schemes may include marks awarded for specific reasons outside the scope of these notes.

Types of mark

M Method marks, awarded for a valid method applied to the problem.

A Accuracy mark, awarded for a correct answer or intermediate step correctly obtained. For accuracy marks to be given, the associated Method mark must be earned or implied.

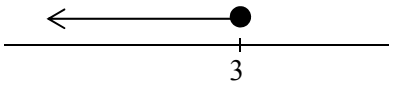
B Mark for a correct result or statement independent of Method marks.

When a part of a question has two or more 'method' steps, the M marks are in principle independent unless the scheme specifically says otherwise; and similarly where there are several B marks allocated. The notation '**dep**' is used to indicate that a particular M or B mark is dependent on an earlier mark in the scheme.

Abbreviations

awrt	answers which round to
cao	correct answer only
dep	dependent
FT	follow through after error
isw	ignore subsequent working
nfww	not from wrong working
oe	or equivalent
rot	rounded or truncated
SC	Special Case
soi	seen or implied

Question	Answer	Marks	Part Marks
1	7.52	**2**	**M1** for 2.48 or 248 or 10 – 0.99 – 1.49 oe soi
2(a)	8	**1**	
2(b)	15 or –15	**1**	
2(c)	–13	**2**	**M1** for –65 or $\frac{\textit{their}\ \text{sum}}{5}$ If 0 scored, **SC1** for answer 13
3(a)	43	**1**	
3(b)	2 hours 8 mins	**3**	**M1** for 11 45 oe or correct bus identified e.g. by 12 19 or 13 53 used **M1** for *their* 13 53 – *their* 11 45 soi **M1** for *their* time in minutes correctly converted to hours and minutes **Max 2 marks if answer incorrect**
4(a)	14 16 ~~///~~ // 10	**2**	**B1** for 2 or 3 correct entries
4(b)	Football	**1**	
4(c)	12	**1**	**FT** their frequencies
4(d)	Valid explanation	**1**	
5(a)	[Triangular] prism	**1**	
5(b)	Congruent shape drawn	**1**	
6(a)	83	**1**	
6(b)	–0.601	**2**	**B1** for –0.6[005…] or for *their* value with > 3 decimal places correctly rounded to 3 decimal places **SC1** for answer 2.089 or answer 0.601
7(a)	Correct shape in correct position	**2**	**B1** for correct shape, incorrect position or at least 3 correct vertices
7(b)	0 3	**2**	**B1** for each
8(a)	$24^2 - 23^2$ 45 $25^2 - 24^2$ 47 49	**2**	**B1** for either of the bottom two rows correct If 0 scored, **SC1** for all numbers correct with missing or incorrect signs
8(b)(i)	$97^2 - 96^2 = 193$	**1**	
8(b)(ii)	Valid explanation	**1**	

Question	Answer	Marks	Part Marks
8(c)	Two million [and] one	**1**	
9	The three scores converted to the same form with convincing comparison	**3**	**M2** for 3 scores correctly converted to the same form for comparison or **M1** for one score correctly converted
10(a)	5, 10, 15, 20	**1**	
10(b)	4	**1**	**FT** *their* (a)
10(c)	5	**1**	
11	$[V =]6.5\times6.5\times10$	**M1**	
	$[m =]2.5\times$ *their* 422.5	**M1**	
	= 1056[.25] [g]	**A1**	
	Compares *their* mass with 1 kg using consistent units e.g. 1.056 kg > 1 kg	**B1**	
12	141 or 141.3 to 141.4	**2**	**M1** for $\pi \times 3^2 \times 5$ soi
13(a)	$x \leqslant 3$ final answer	**2**	**M1** for $7x \leqslant 19 + 2$ **M1** for $x \leqslant \frac{b}{a}$ after $ax \leqslant b$ seen **max 1 mark if answer incorrect** If 0 scored, **SC1** for answer 3 or $x \ldots 3$ with any incorrect equality or inequality symbol or answer $7 \times 3 - 2 \leqslant 19$
13(b)		**1**	**FT** *their* inequality in (a)
14	1.5 oe	**3**	**M1** for $8 - 2x = 5$ or $56 - 14x = 35$ **M1** for collecting *their* like terms **M1** for $x = \frac{b}{a}$ after $ax = b$ seen **max 2 marks if answer incorrect**
15	Number (order) each student from 1 to 360 Choose every 18th student	**2**	**B1** for incomplete explanation or 18 seen If 0 scored, **SC1** for details of how to select a random sample
16	58.4 to 58.5	**4**	**M1** for $\pi \times 4.9^2$ [÷ 2] **M1** for $2 \times 10.1 \times 15.2$ or $3 \times 10.1 \times 15.2$ soi **M1** for *their* shaded area ÷ *their* total area
17	$14x^7y^4$ final answer	**2**	**B1** for x^7 or y^4 seen in answer

Question	Answer	Marks	Part Marks
18	$c = \frac{S - 3dh}{d}$ final answer or $c = \frac{S}{d} - 3h$ final answer	**2**	**M1** for $S - 3dh = cd$ or $\frac{S}{d} = c + 3h$ or for $\frac{S - 3dh}{d}$ or $\frac{S}{d} - 3h$
19	$x = 13$ $y = 7$ $z = 5$	**3**	**B2** for correct figures in wrong order or two correct answers or $5 \times 7 \times 13$ seen or **B1** for 5, 7 or 13 seen on answer line or xyz [= 455] seen or **M1** for attempt to divide 455 by an integer $n > 2$