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

MATHEMATICS **0980/01**

Paper 1 (Core) **For examination from 2019**

MARK SCHEME

Maximum Mark: 56

Specimen

This document consists of **5** printed pages and **1** blank page.

Cambridge Assessment International Education

Generic Marking Principles

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptors for a question. Each question paper and mark scheme will also comply with these marking principles.

GENERIC MARKING PRINCIPLE 1:

Marks must be awarded in line with:

- the specific content of the mark scheme or the generic level descriptors for the question
- the specific skills defined in the mark scheme or in the generic level descriptors for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

GENERIC MARKING PRINCIPLE 2:

Marks awarded are always **whole marks** (not half marks, or other fractions).

GENERIC MARKING PRINCIPLE 3:

Marks must be awarded **positively**:

- marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit is given for valid answers which go beyond the scope of the syllabus and mark scheme, referring to your Team Leader as appropriate
- marks are awarded when candidates clearly demonstrate what they know and can do
- marks are not deducted for errors
- marks are not deducted for omissions
- answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

GENERIC MARKING PRINCIPLE 4:

Rules must be applied consistently e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

GENERIC MARKING PRINCIPLE 5:

Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).

GENERIC MARKING PRINCIPLE 6:

Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

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

Question	Answer	Marks	Partial Marks
1	9 [h] 30 [min] cao	**1**	

Question	Answer	Marks	Partial Marks
2	5.34×10^7	**1**	

Question	Answer	Marks	Partial Marks
3	−3	**1**	

Question	Answer	Marks	Partial Marks
4	5	**1**	

Question	Answer	Marks	Partial Marks
5	Negative	**1**	

Question	Answer	Marks	Partial Marks
6(a)	[0].64	**1**	
6(b)	$\frac{16}{25}$ cao	**1**	

Question	Answer	Marks	Partial Marks
7	$2x$ Final answer	**2**	**B1** for $2x + j$ or kx [+0] as final answer or either $5x - 15$ or $-3x + 15$ in working

Question	Answer	Marks	Partial Marks
8	$\sqrt{0.011}$ 0.11 3^{-2} $\frac{2}{17}$	**2**	**M1** for correct change to decimals (or %) or **B1** for 3 in correct order

Question	Answer	Marks	Partial Marks
9	0.2 oe	**2**	**M1** for $1 - (0.15 + 0.3 + 0.35)$

Question	Answer	Marks	Partial Marks
10	$xy(3x - 5z)$ final answer	**2**	**B1** for $x(3xy - 5yz)$ or $y(3x^2 - 5xz)$

Question	Answer	Marks	Partial Marks
11	Parallel	**1**	
	Same length	**1**	

Question	Answer	Marks	Partial Marks
12	$\frac{8}{3}$	**1**	**B1** or $\frac{40}{15}$ accept $\frac{3}{8}$ or $\frac{15}{40}$
	$\frac{4}{5} \times$ *their* $\frac{3}{8}$ oe	**1**	**M1** or $\frac{12}{15} \div$ *their* $\frac{40}{15}$ or equivalent division with fractions with common denominators
	$\frac{3}{10}$ cao	**1**	

Question	Answer	Marks	Partial Marks
13(a)	11	**1**	
13(b)	8	**2**	**FT** $30 - 2 \times$ *their* **(a)** or **M1** for $4 \times 7 = 2(x - 1) + FG$ oe or $4(x - 4) = 2(x - 1) + FG$ oe or $2 \times 7 + 2(x - 4) = 2(x - 1) + FG$ oe Allow x to be *their* **(a)** in each case

Question	Answer	Marks	Partial Marks
14	548 or 547.8 or 547.75 to 547.76	**3**	**M2** for $480\left(1 + \frac{4.5}{100}\right)^3$ oe or **M1** for correct method for amount for 2 years. **SC2** for [interest = \$]68 or 67.8 or 67.75 to 67.76

Question	Answer	Marks	Partial Marks
15(a)	$\frac{73}{200}$ oe	**1**	
15(b)	1971	**2**	**FT** *their* **(a)** $\times$ 5400 correctly evaluated **M1** for *their* **(a)** $\times$ 5400 ($0 <$ *their* **(a)** < 1) or $5400 \div 200 \times 73$

Question	Answer	Marks	Partial Marks
16(a)	$\begin{pmatrix} 3 \\ 7 \end{pmatrix}$	**1**	
16(b)(i)	C marked at $(-4, 0)$	**1**	
16(b)(ii)	$(-4, 0)$	**1**	**FT** Co-ordinates of *their* point C

Question	Answer	Marks	Partial Marks
17(a)	[x =] 37	**1**	
17(b)	[y =] 53	**1**	**FT** 90 – *their* **(a)**
17(c)	[z =] 74	**2**	**FT** 180 – 2 × *their* **(b)** **M1** for e.g. 180 – 2 × *their* angle *BDC* or 180 – 2 × *their* **(b)** or 2 × *their* **(a)**

Question	Answer	Marks	Partial Marks
18(a)	45	**1**	
	38	**1**	**FT** *their* 45 – 7
18(b)	80 – 7n oe	**2**	**B1** for – 7n

Question	Answer	Marks	Partial Marks
19(a)	78	**3**	**M2** for $5 \times 12 + \frac{1}{2} \times 12 \times (8 - 5)$ or $\frac{1}{2} \times 6 \times (5 + 8) \times 2$ oe or **M1** for 5×12, $\frac{1}{2} \times 12 \times (8 - 5)$, $\frac{1}{2} \times 6 \times (5 + 8)$ or $12 \times 8 - (\ldots)$
19(b)	1170	**1**	**FT** 15 × *their* **(a)**

Question	Answer	Marks	Partial Marks
20(a)	3 × 180	**1**	
20(b)	51, 153, 204	**4**	**M1** for 540 – (79 + 53) [= 408] **M1 dependent** for *their* 408 ÷ (1 + 3 + 4) **A1** for 1 correct angle If zero, **SC2** for 67.5, 202.5 and 270 or **SC1** for 67.5

Question	Answer	Marks	Partial Marks
21(a)	Jan	**1**	
21(b)	9	**1**	
21(c)	9.5	**2**	**M1** for correctly ordering at least 7 months from one end or identifying the middle two, 8 and 11
21(d)	8.8	**3**	**M1** for attempt to add the temperatures ÷ 12 **A1** for 8.83[3...] After **M1 A0**, award **SC1** for their mean correct to 2 sf

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