CAMBRIDGE
International Education

Cambridge International AS & A Level

THINKING SKILLS	**9694/11**
Paper 1 Problem Solving	**May/June 2025**
MARK SCHEME	
Maximum Mark: 50	

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.

Cambridge International will not enter into discussions about these mark schemes.

Cambridge International is publishing the mark schemes for the May/June 2025 series for most Cambridge IGCSE, Cambridge International A and AS Level components, and some Cambridge O Level components.

This document consists of **9** printed pages.

[Turn over

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 descriptions 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.

Annotations guidance for centres

Examiners use a system of annotations as a shorthand for communicating their marking decisions to one another. Examiners are trained during the standardisation process on how and when to use annotations. The purpose of annotations is to inform the standardisation and monitoring processes and guide the supervising examiners when they are checking the work of examiners within their team. The meaning of annotations and how they are used is specific to each component and is understood by all examiners who mark the component.

We publish annotations in our mark schemes to help centres understand the annotations they may see on copies of scripts. Note that there may not be a direct correlation between the number of annotations on a script and the mark awarded. Similarly, the use of an annotation may not be an indication of the quality of the response.

The annotations listed below were available to examiners marking this component in this series.

Annotations

Where the answer is underlined in the mark scheme, and a candidate's correct final answer is both clear and clearly identified (encircled, underlined etc.), it is not necessary to annotate that item; nor is it necessary to annotate when there is No Response.

Where there is a response that scores 0, either SEEN should be used, or some other annotation(s) to indicate why no marks can be awarded (Caret, TE, NGE, Cross).

Partial credit should be indicated with a 1 (or, occasionally, a 2) at the point at which that mark has been earned.

The highlighter should be used anywhere it is helpful to clarify the marking.

Annotation	Meaning
✔	Correct item
✘	Incorrect item
1	Individual mark of partial credit
2	Double mark of partial credit
∧	Essential element of answer/working missing
NGE	Judged to be not good enough to earn the relevant credit
BOD	Benefit of doubt
FT	Correct follow through
TE	Transcription error
SC	Special case
SEEN	Working seen but no credit awarded; blank page checked
Highlighter	Use anywhere it is helpful to clarify the marking

NOTES FOR MARKERS

Working

Where a final answer is underlined in the mark scheme, full marks are awarded for a correct answer, regardless of whether there is any supporting working, unless an exception is noted in the mark scheme.

For partial credit, the evidence needed to award the mark will usually be shown on its own line in the mark scheme, or else will be defined in italic text.

For explanations and verbal justifications, apply the principle of 'words to that effect'.

Units

Unless required by the question or mark scheme, units such as $ do not need to be seen to award the marks.

No response

If there is any attempt at a solution award 0 marks not NR. "-" or "?" constitute no attempt at a solution.

Abbreviations

The following abbreviations may be used in a mark scheme:
AG   answer given (on question paper)
awrt   answer which rounds to
dep   mark depends on earlier, asterisked (*), mark
ft   follow through (from earlier error)
oe   or equivalent
SC   special case
soi   seen or implied

Question	Answer	Marks
1	Normal arrival time at office is 09:13 OR new arrival time is 09:23 **[1]** so later by <u>10 min</u> *If 0 scored, award 1 mark for final answer '10 minutes earlier'*	**2**

Question	Answer	Marks
2(a)	<u>150</u> seconds or <u>2.5 minutes</u>	**1**
2(b)	<u>240</u> seconds or <u>4 minutes</u>	**1**

Question	Answer	Marks
3(a)	<u>$11 400</u> *1 mark for $6000 OR $5400 OR $57 OR final answer of $79 800*	**2**
3(b)	<u>13:10</u> **oe** *1 mark for sight of 560 (minutes) or 9h 20 m* *OR final answer 12:50* *OR final answer 15:15* *OR for sight of 13:10 not identified as the final answer*	**2**

Question	Answer	Marks
4(a)	<u>West</u>	**1**
4(b)	One forward then turn left **[1]** Five forward **[1]** *OR* Turn left then five forward **[1]** Turn right then one forward **[1]**	**2**

Question	Answer	Marks
5(a)	Green/Blue	**1**
5(b)	1971	**1**

Question	Answer	Marks
6(a)	<u>100</u> *1 mark for Milly works 28 hours* *OR* *1 mark for Milly makes 21 cats (per day)* *SC: 1 mark for final answer of 112*	**2**
6(b)	<u>Milly at 11:40</u> *1 mark for 11:40* *OR* *1 mark for Milly at 11:20* *OR* *1 mark for Milly made 3 and Donny made 2 by 10:00* *OR* *1 mark for 5 cats made in an hour*	**2**
6(c)	<u>16</u>	**1**
6(d)	<u>12:20, 12:45, 13:10</u>	**1**

Question	Answer	Marks
7(a)	<u>5</u>	**1**
7(b)	The value of D is 6 **[1]** ADDED scores <u>20</u>	**2**
7(c)	<u>4</u> *Award 1 mark for:* *C + U + Y must be at least 5* *OR the two Rs together cannot be more than 9* *OR one example that satisfies all the conditions, except maximising R:* • *U = 1* • *R = 2 or 3* • *all digits sum to 14 with C and Y each between 2 and 8 inclusive* *SC: 2 marks for 4.5 as final answer*	**2**

Question	Answer	Marks
8	$<u>3</u> (per week) *Award 1 mark for:* *Caroline must receive $6 **more** per week* *OR* *(If Tamsin receives $x per week:) $30 + 5x = 5 \times 3x$* *SC: 1 mark for final answer $9*	**2**

Question	Answer	Marks
9(a)	(4 + 6 + 9) × 30 = 570 **oe AG**	**1**
9(b)	(30 × 10 × 15 =) 4500 (minutes) OR 75 hours (30 × 20 × 25 =) 15 000 (minutes) OR 250 hours (30 × 40 × 45 =) 54 000 (minutes) OR 900 hours *1 mark for any **two** correct, OR for 2450 (minutes)* = <u>73 500</u> (minutes) OR <u>1225 hours</u>	**2**
9(c)	Minimum playing time is 750 **[1]** (minutes) Rahim could finish at <u>19:30 on Sunday</u> *SC: 1 mark for final answer 19:36 on Sunday*	**2**
9(d)	<u>(12M, 13H) (15M, 11H) (18M, 9H)</u> *Award marks as follows:*	**3**

Number of answers given

		1	2	3	4	5	6+
Number correct	1	**1**	**1**	**1**	0	0	0
	2		**2**	**2**	1	0	0
	3			**3**	2	1	0

SC: 2 marks for 12, 15, 18 M and 9, 11, 13 H not paired (no extras)
SC: 1 mark for (7M, 0H) (4M, 2H) (1M, 4H)

Question	Answer	Marks
10(a)	<u>18:35</u> *Award 1 mark for:* *last trip begins 7½ hours / 450 minutes after the first one* *OR last trip begins at 17:45* *OR final answer of 17:45* *OR final answer of 20:05*	**2**
10(b)	<u>$376</u> *1 mark for final answer of $381, $386 or $416*	**2**

Question	Answer	Marks
11(a)	(1 km run takes 10 minutes and uses) 20 litres **[1]** (Walk uses 30 litres, taking 30 minutes, total time 10 + 30, so) <u>9:56</u>	**2**
11(b)	(0.4 km walk takes 12 minutes and uses) 12 litres **[1]** (Run uses 38 litres, taking 19 minutes, total time 12 + 19, so) <u>9:47</u>	**2**
11(c)	(Total time 44 minutes) (38 minutes walking and) 6 minutes running **[1]** <u>0.6</u> km ***Alternative solution:*** <u>0.6</u> km *Award 1 mark for correct algebraic equation(s)* $10x + 50 - 20x = 44$ OR $W + 2r = 50$ AND $W + r = 44$	**2**

Question	Answer	Marks
12	<u>5</u> toppings *1 mark for:* *4 toppings gives 15 combinations* *OR 6 toppings gives 63 combinations* *OR 5 + 10 + 10 + 5 + 1 seen* ***Alternative solution:*** 1 topping on its own gives 1 combination Adding another topping gives 2 more combinations A third gives 4 more (so 7 toppings for 3 as stated in question) Adding a fourth gives 8 more **[1]** and adding a <u>fifth</u> 16 more Total 31	**2**

Question	Answer	Marks
13(a)	3/5	**1**
13(b)	2/5	**1**
13(c)	iii true **[1]** ii false **[1]** *SC: 1 mark for both correct and no more than 1 incorrect extra*	**2**