2025 national curriculum tests

Key stage 1

Mathematics test mark schemes

Paper 1: arithmetic
Paper 2: reasoning

Standards & Testing Agency

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1. Introduction

The Standards and Testing Agency (STA) is responsible for the development and delivery of key stage 1 and 2 statutory and optional tests. STA is an executive agency of the Department for Education.

The 2025 optional tests assess the national curriculum. This test has been developed to meet the specification set out in the test framework[1] for mathematics at key stage 1.

This key stage 1 2025 test is not statutory. The key stage 1 tests can be marked internally within schools to inform teacher assessment. The evidence from the test can be used to help inform this teacher assessment.

A new test and new mark schemes will be produced each year.

Scaled score conversion tables are not included in this document. Conversion tables will be produced as part of the standards maintenance process. Scaled score conversion tables[2] for the 2025 tests will be published in June 2025.

The mark schemes should be used to mark pupils' responses. The pupil examples are based on responses gathered from the test trialling process. It is important when marking to refer to the general marking principles, the additional guidance and the exemplars section to ensure marking is accurate and consistent.

2. Structure of the test

The optional key stage 1 mathematics test comprises:

- Paper 1: arithmetic (25 marks)
- Paper 2: reasoning (35 marks)

1 www.gov.uk/government/publications/key-stage-1-mathematics-test-framework
2 www.gov.uk/guidance/scaled-scores-at-key-stage-1

3. Content domain coverage

The 2025 test meets the specification in the test framework. Table 1 sets out the areas of the content domain that are assessed in Papers 1 and 2.

The references below are taken from the test framework. For example, a question with reference 2N6 assesses 'Using place value and number facts to solve problems' and is taken from the Y2 programme of study.

Table 1: Content domain coverage for Paper 1 and Paper 2

Paper 1: arithmetic	
Question	**Content domain reference**
1	1C2a/2C1
2	2C2b/1N1a
3	2N6/2C2a
4	2C2b/2C2a
5	2N6/2N1
6	2C6
7	2C6
8	2C3/2C2b
9	2C2b
10	2C2b/2C2a
11	2C3/2C2b
12	2N1/2N6
13	2C3/2C2b
14	2C2b/2C2a
15	1F1a/2F1a
16	2C6
17	2C2b
18	2C6
19	2C2b/2C2a
20	2C2b/2C2a
21	2F1a/1F1a
22	2C2b
23	2F1a
24	2C2b
25	2C3/2C2b

Paper 2: reasoning	
Question	**Content domain reference**
1	1C4/1C1
2	1N4/2N3/2N4
3	2N4/2F1a
4	2C2b
5	1F1b/2F1a
6	2N3
7	2C8
8	1N2c
9	2G2a
10	2G1b/2G1a
11	2M4c
12	1C1/1C4
13	2C8
14	1N4/2S1
15	1C4/2C2b
16	2C4
17	2C1/1C1
18	1F1a/2M2
19	2G1a/2G2a
20	2C6/2M3a
21	2C8
22	1C2b/2C1/2C3
23	2F1a/2F1b/1M3
24	2C4
25	2C4
26	2C3
27	2M1/2M2/1M3
28	2M9
29	2C4
30	2M4b/2M4a
31	2S2a
32	2C4/2C2b
33	2P2

4. Explanation of the mark schemes

Those marking the tests should familiarise themselves with the marking guidance in section 5 of this document before applying the mark schemes.

The practice questions are not marked as they are completed by the pupils together with the test administrator as an introduction to the test.

The marking information for each question is set out in the form of tables (sections 7 and 8).

The '**Qu.**' column on the left-hand side of each table provides a quick reference to the question number and part.

The '**Requirement**' column may include two types of information:

- a statement of the requirements for the award of each mark, with an indication of whether partial credit can be given for a correct method
- examples of some different types of correct answer

The '**Mark**' column indicates the total number of marks available for each question part.

The '**Additional guidance**' column indicates alternative acceptable answers, and provides details of specific types of answer that are unacceptable. Other guidance, such as the range of acceptable answers, is provided as necessary.

5. General marking guidance

5.1 Applying the mark schemes

To ensure consistency of marking, the most frequent procedural queries are listed in Table 2, along with the action you should take. Unless otherwise specified in the mark scheme, you should apply these guidelines in all cases.

Example responses are also included in section 9 for the two working mark questions in Paper 2: reasoning. These should act as your guide when you are marking these questions.

5.2 General marking principles

Table 2: General marking principles

Possible issues when marking	
1. The answer does not closely match any of the examples in the mark scheme.	Those marking the test will use their judgement to decide whether the answer corresponds with details in the 'Requirement' column of the mark scheme. Refer also to the 'Additional guidance' column and to the examples of responses where appropriate.
2. The pupil has answered in a non-standard way.	Pupils may provide evidence in any form as long as its meaning can be understood. Diagrams, symbols or words are acceptable ways to present an answer.
3. The answer is correct, but the wrong working is shown.	Always award the mark for a final response that is correct.
4. No answer is provided in the expected place, but the correct answer is given elsewhere.	Where a word or number response is expected, a pupil may meet the requirement by annotating a graph or labelling a diagram elsewhere in the question.
5. The correct answer has been crossed (or rubbed) out and not replaced.	You should not award any marks for crossed out answers or working.
6. The answer in the answer box is wrong, but the correct answer is shown in the working.	Give precedence to the response provided in the answer box over any other workings. However, in a 2-mark question, one mark may still be awarded for evidence of a complete, correct method or a partial step, as indicated in the 'Requirement' column.

Possible issues when marking	
7. More than one answer is given.	If all provided answers are correct (or a range of answers is given, all of which are correct), a mark will be awarded unless the mark scheme states otherwise. If both correct and incorrect responses are given, no mark will be awarded unless the mark scheme states otherwise.
8. There appears to be a misread of numbers that affects the pupil's working.	A misread occurs when a pupil misreads a number given in the question and consistently uses a different number that does not alter the original intention or difficulty of the question. For example, if 43 is misread as 48, both numbers may be regarded as comparable in difficulty. However, if 43 is misread as 40 or 45, the misread number may be regarded as making the question easier, depending on the question. For example, 26 + 40 is easier than 26 + 48. The misread of a number will affect the award of marks. No marks are awarded if there is more than one misread in a question or if the mathematics is simplified by the misread. For **1-mark** questions: no mark is awarded for one or more misreads. For **2-mark** questions that have a method mark: one mark is awarded if the correct method is correctly implemented with the misread number, provided this does not simplify the mathematics.
9. The answer is numerically equivalent to the answer in the mark scheme.	Answers should be given as single values in their simplest form unless the mark scheme states otherwise, for example, for □ = 12 – 5, the answer 4 + 3 will not be accepted. Where alternative expressions are acceptable, these will be indicated in the additional guidance column.
10. The pupil reverses a digit in their answer.	A reversed digit is acceptable if it is clearly recognisable as the digit intended. For example, a reversed 2 must clearly show the characteristics of a 2 rather than a 5. As a further example, where the answer is 61 and the response ∂1 is given, then this should be awarded the mark. You should make a decision based upon your knowledge of the pupil's writing.

Possible issues when marking	
11. The pupil transposes digits in their answer.	A pupil transposes digits by reversing their order, for example, 83 instead of 38. For questions where no working is shown, an answer with transposed digits should not be awarded the mark. For example, a response of 16 or 1∂ when the answer is 61 should not be marked as correct.
12. The pupil has worked out the answer correctly, but then copied the wrong answer into the answer box.	A transcription error can occur when the pupil miscopies the correct answer from the end of their working into the answer box. Give precedence to the answer given in the answer box over any other workings. There may be cases where the incorrect answer is a transcription error, in which case you may check the pupil's intention and decide whether to award the mark(s).
13. The answer correctly follows through from earlier incorrect work.	'Follow through' marks for an answer may only be awarded when specifically stated in the mark scheme.

6. Internal moderation procedures

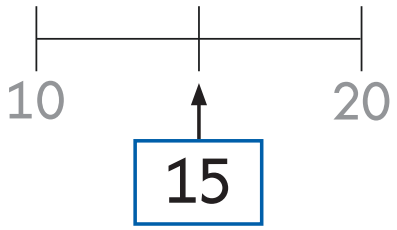
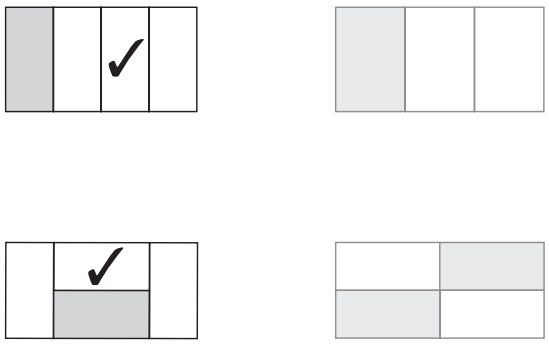
We recommend those who are involved in marking the key stage 1 tests undertake moderation activity to ensure marking is consistent across their school.

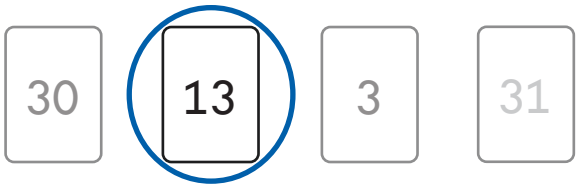
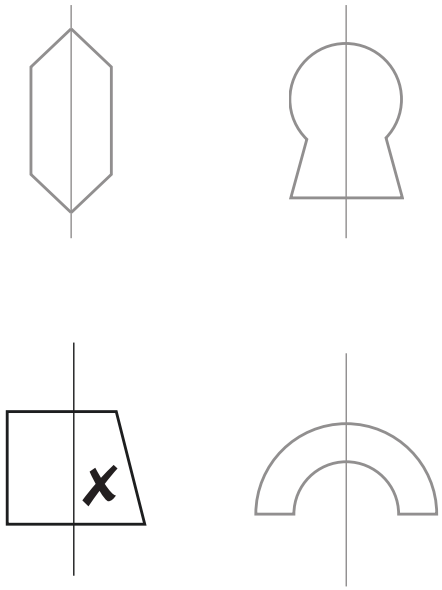
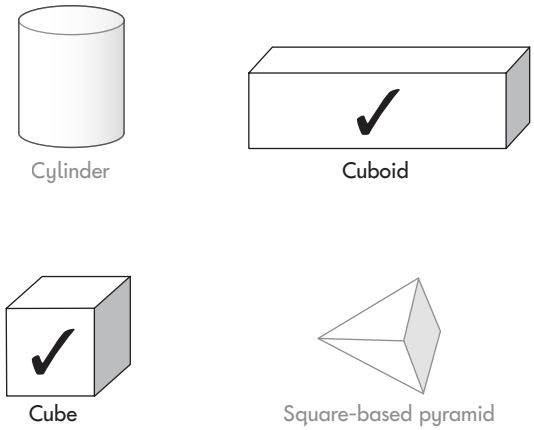
7. Mark schemes for Paper 1: arithmetic

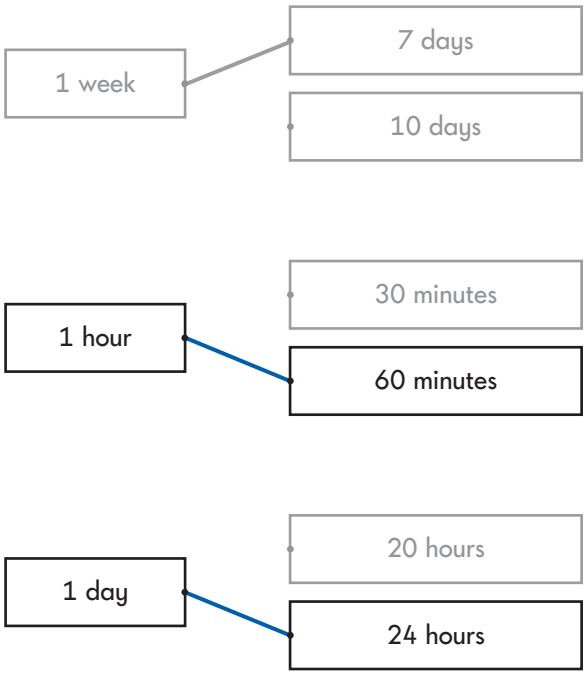
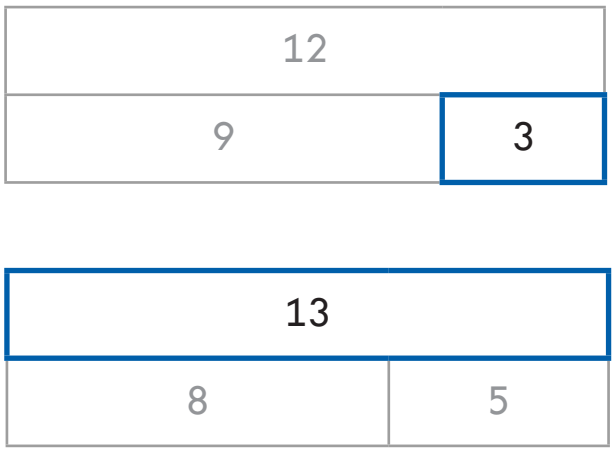
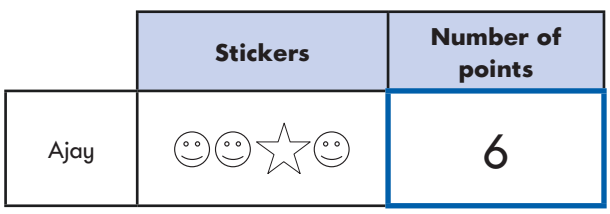
Equivalent answers are **not** acceptable, for example, 10 + 4 instead of 14. When marking the arithmetic questions, refer specifically to general marking principles 9, 10, 11 and 12. No misreads are allowed for 1-mark questions.

Qu.	Requirement	Mark	Additional guidance
P	4	**none**	Practice question
1	2	**1m**	
2	49	**1m**	
3	52	**1m**	
4	61	**1m**	
5	80	**1m**	
6	16	**1m**	
7	35	**1m**	
8	70	**1m**	
9	67	**1m**	
10	38	**1m**	
11	30	**1m**	
12	59	**1m**	
13	15	**1m**	
14	47	**1m**	
15	20	**1m**	
16	6	**1m**	
17	91	**1m**	
18	11	**1m**	
19	90	**1m**	
20	82	**1m**	
21	13	**1m**	
22	85	**1m**	
23	6	**1m**	
24	26	**1m**	
25	45	**1m**	

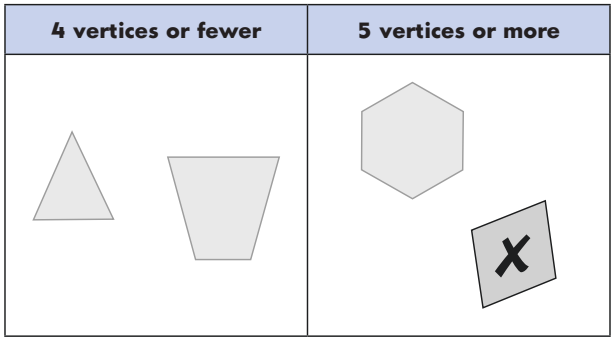
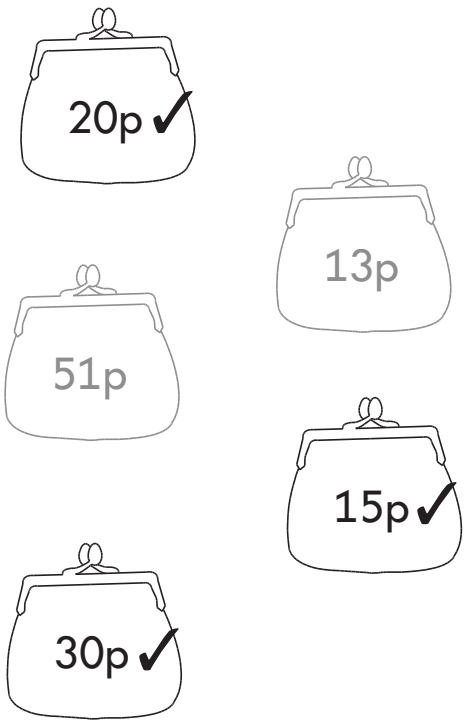
8. Mark schemes for Paper 2: reasoning

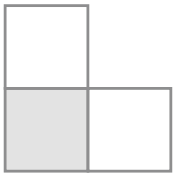
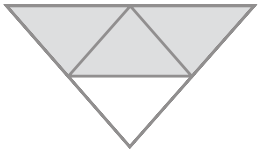
Qu.	Requirement	Mark	Additional guidance
	Aural questions		
P	11	**none**	Practice question
1	9 (apples)	**1m**	
2	23	**1m**	**Do not** accept answers such as 20 and 3 **OR** 20 + 3.
3	15 written in the box as shown: 	**1m**	
4	9	**1m**	
5		**1m**	Accept any other clear way of indicating the two correct shapes, as long as the pupil's intention is clear. **Do not** award the mark if additional shapes are indicated, unless it is clear that the two correct shapes are the pupil's final choice.
	Written questions		
6	87	**1m**	Accept the number 87 written as words, i.e. eighty-seven. Allow unambiguous spellings of the correct number written in words.
7	12 (stickers)	**1m**	

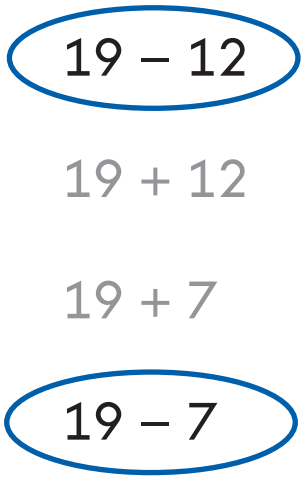
Qu.	Requirement	Mark	Additional guidance
8	Correct number circled as shown: 	1m	Accept any other clear way of indicating the correct number, as long as the pupil's intention is clear, e.g. ticking. **Do not** award the mark if additional numbers have been indicated, unless it is clear that the correct number is the pupil's final choice.
9	Shape indicated as shown: 	1m	Accept any other clear way of indicating the correct shape as long as the pupil's intention is clear, e.g. ticking. **Do not** award the mark if more than one shape is indicated, unless it is clear that the correct shape is the pupil's final choice.
10	Correct shapes ticked as shown: 	1m	Accept any other clear way of indicating the two correct shapes, as long as the pupil's intention is clear. **Do not** award the mark if additional shapes are indicated, unless it is clear that the two correct shapes are the pupil's final choice.

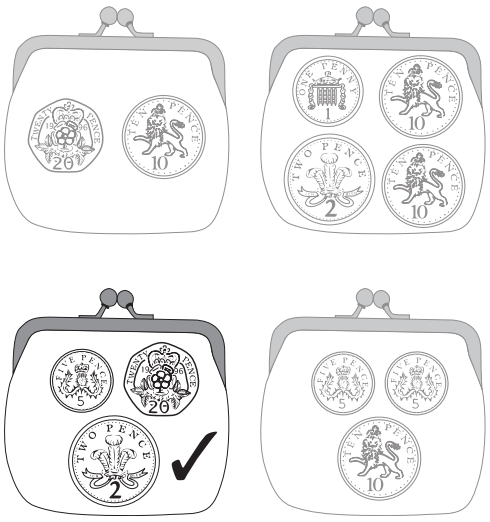
Qu.	Requirement	Mark	Additional guidance
11	Both labels matched to the correct times as shown:  	**1m**	Both labels must be correctly matched for the award of the mark. **Do not** award the mark if a label is matched to more than one other time. Ignore additional lines drawn from 1 week **OR** 7 days
12	Both boxes completed correctly as shown:  	**1m**	Both numbers must be correctly placed in each box for the award of the mark.
13	80	**1m**	
14	Table completed correctly as shown:  	**1m**	**Do not** accept answers such as 1 + 1 + 1 + 3

Qu.	Requirement	Mark	Additional guidance
15	Any two correct numbers written within each box that total 8, e.g. 1 + 7 + 7 = 15 2 + 7 + 6 = 15 3 + 7 + 5 = 15 4 + 7 + 4 = 15 0 + 7 + 8 = 15	1m	Accept the correct combination of numbers given in any order, e.g. 1 + 7 + 7 = 15 **OR** 7 + 7 + 1 = 15 Also accept answers that go beyond the key stage 1 curriculum, e.g. –2 + 7 + 10 = 15
16	12 (seeds)	1m	
17	Boxes completed correctly as shown: 11 < 9 15 < 5 16 < 4	1m	Both numbers must be correctly placed for the award of the mark.
18	2 (bottles)	1m	

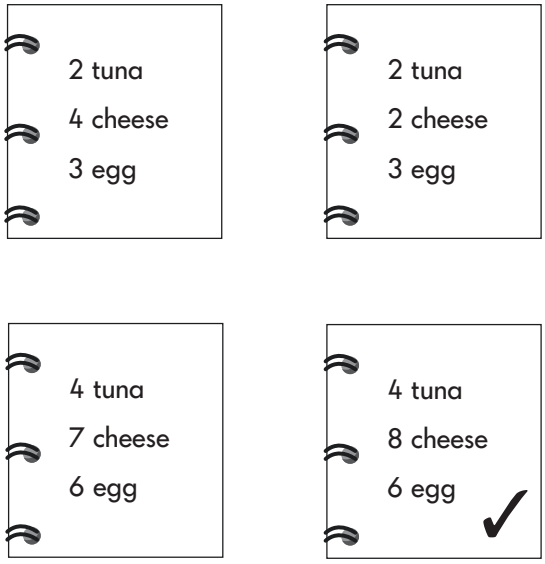
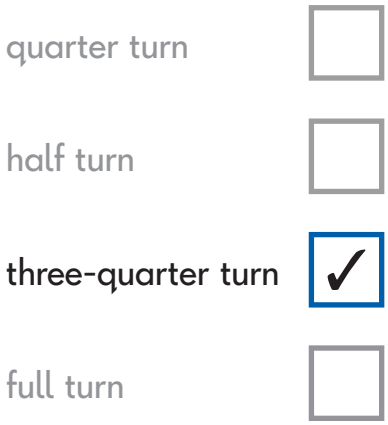
Qu.	Requirement	Mark	Additional guidance
19	Shape indicated as shown: 	1m	Accept any other clear way of indicating the correct shape as long as the pupil's intention is clear, e.g. ticking. **Do not** award the mark if more than one shape is indicated, unless it is clear that the correct shape is the pupil's final choice.
20	(£) 22	1m	
21	All three correct purses ticked as shown: 	1m	All three purses must be correctly indicated for the award of the mark. Accept any other clear way of indicating the three correct purses, as long as the pupil's intention is clear. **Do not** award the mark if additional purses are indicated, unless it is clear that the correct three purses are the pupil's final choice.

Qu.	Requirement	Mark	Additional guidance
22	Both number sentences completed correctly as shown: 12 [–] 5 [=] 7 12 [=] 5 [+] 7 **OR** 12 [=] 5 [+] 7 12 [–] 5 [=] 7	**1m**	Accept slight inaccuracies in the drawing of the symbols, as long as the pupil's intention is clear.
23	Award **ONE** mark for both fractions written correctly as shown:  = [1/3]  = [3/4]	**1m**	Also accept equivalent fractions that go beyond the key stage 1 curriculum for each shape.
24	90(p)	**1m**	

Qu.	Requirement	Mark	Additional guidance
25	Award **TWO** marks for the correct answer of 81 (people). If the answer is incorrect or missing, award **ONE** mark for evidence of a complete, correct method, e.g. • 93 – 21 = 82 (error) 82 + 9 = 91 • 21 – 9 = 14 (error) 93 – 14 = (no answer or incorrect) **OR** Award **ONE** mark for any of these partial methods correctly evaluated, e.g. • 93 – 21 = 72 • 93 + 9 = 102 • 21 – 9 = 12 **OR** • Sight of 72, 102 or 12 (as evidence of a partial method completed correctly)	**2m** **OR** **1m**	(Refer to general marking principle 6 on page 6.) (Use the example responses given on pages 20–21 to help you determine how many marks can be awarded.)
26	Both correct calculations circled as shown: 	**1m**	Accept any other clear way of indicating the two correct calculations, as long as the pupil's intention is clear, e.g. ticking. **Do not** award the mark if additional calculations are also indicated, unless it is clear that the correct calculations are the pupil's final choice.

Qu.	Requirement	Mark	Additional guidance
27	Correct box ticked as shown: 3cm > 3m ☐ 3kg > 3g ☑ 3ml > 3l ☐ 3p > £3 ☐	1m	Accept any other clear way of indicating the correct answer, as long as the pupil's intention is clear. **Do not** award the mark if more than one answer is indicated, unless it is clear that the correct answer is the pupil's final choice.
28	Correct purse ticked as shown: 	1m	Accept any other clear way of indicating the correct purse, including evaluating the correct amount, i.e. writing 27(p) alongside the correct purse. **Do not** award the mark if other purses have been evaluated, and the correct purse has not been indicated. **Do not** award the mark if additional purses are indicated, unless it is clear that the correct purse is the pupil's final choice.

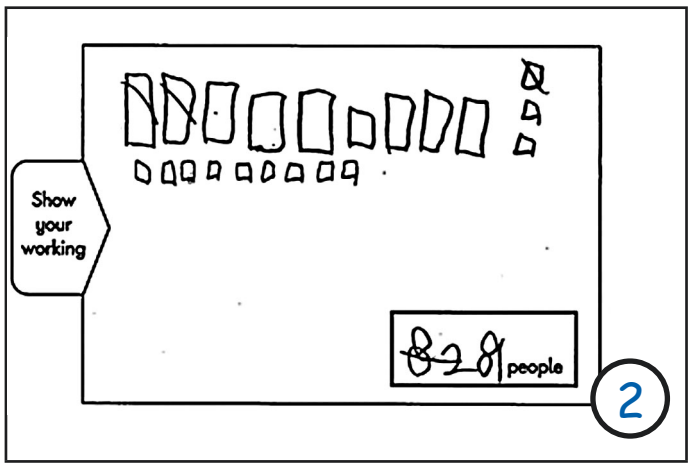
Qu.	Requirement	Mark	Additional guidance
29	Award **TWO** marks for the correct answer of 15	**2m**	(Refer to general marking principle 6 on page 6.)
		OR	
	If the answer is incorrect or missing, award **ONE** mark for evidence of a complete, correct method, e.g. • 19 + 6 = 25 40 – 25 = 14 (error) • 40 – 19 = 30 (error) 30 – 6 = (no answer or incorrect) **OR** Award **ONE** mark for any of these partial methods correctly evaluated, e.g. • 6 + 19 = 25 • 40 – 6 = 34 • 40 – 19 = 21 **OR** • Sight of 25, 34 or 21 (as evidence of a partial method completed correctly)	**1m**	(Use the example responses given on pages 22–23 to help you determine how many marks can be awarded.)
30	All three letters given in the correct order as shown: C A D B **first** **last**	**1m**	All letters must be in the correct order for the award of the mark. Accept any other clear way of indicating the correct answer, as long as the pupil's intention is clear, e.g. matching each clock to its correct position.

Qu.	Requirement	Mark	Additional guidance
31	Correct list ticked as shown: 	1m	Accept any other clear way of indicating the correct list as long as the pupil's intention is clear. **Do not** award the mark if more than one list is indicated, unless it is clear that the correct list is the pupil's final choice.
32	Both correct numbers circled as shown: 	1m	Accept any other clear way of indicating the two correct numbers as long as the pupil's intention is clear, e.g. ticking. **Do not** award the mark if additional numbers are indicated, unless it is clear that the two correct numbers are the pupil's final choice.
33	Correct turn ticked as shown: 	1m	Accept any other clear way of indicating the correct turn as long as the pupil's intention is clear. **Do not** award the mark if more than one turn is indicated, unless it is clear that the correct turn is the pupil's final choice.

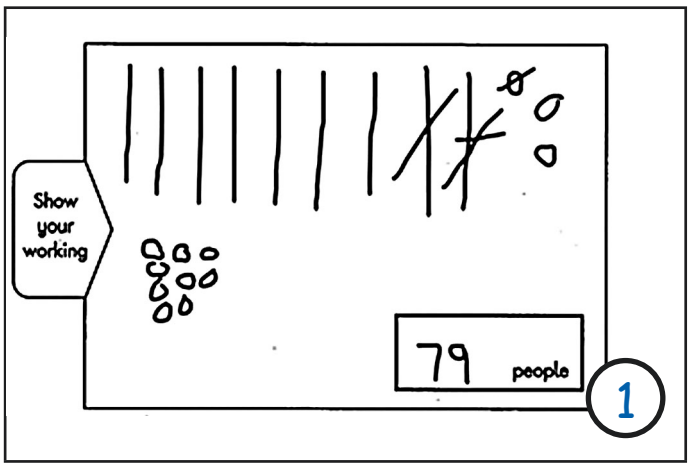
9. Example responses

9.1 Examples of responses from question 25

Anna: 2 marks



James: 1 mark

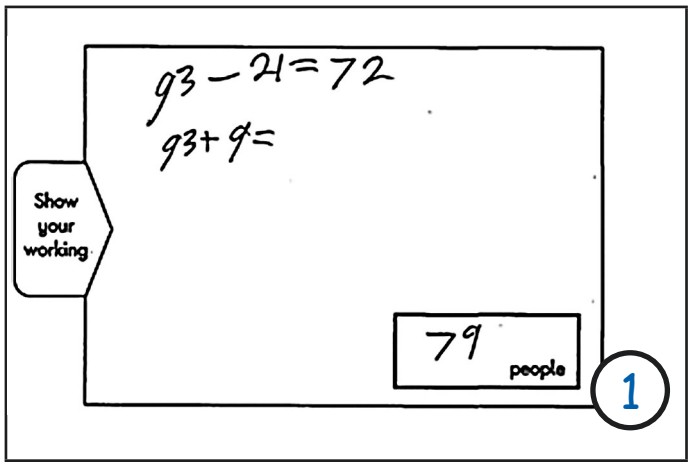


Anna and James have both used pictorial methods to calculate their answer.

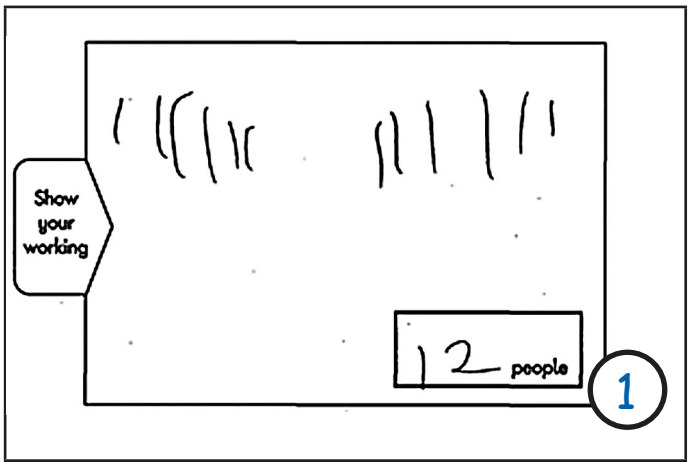
Anna has correctly drawn a pictorial representation of 93 people on the train and correctly crossed off 21 and added 9. In her final answer, Anna has unambiguously replaced the incorrect answer of 82 with the correct answer of 81. Therefore, Anna is awarded **TWO marks**.

James has also drawn tens and ones to represent 93 people. He has crossed off 21 people and has drawn 9 additional circles to show how many people boarded the train. However, James has then miscounted and provided an incorrect final answer of 79. Since the method is correct, James is awarded **ONE mark**.

Ava: 1 mark



Olivia: 1 mark



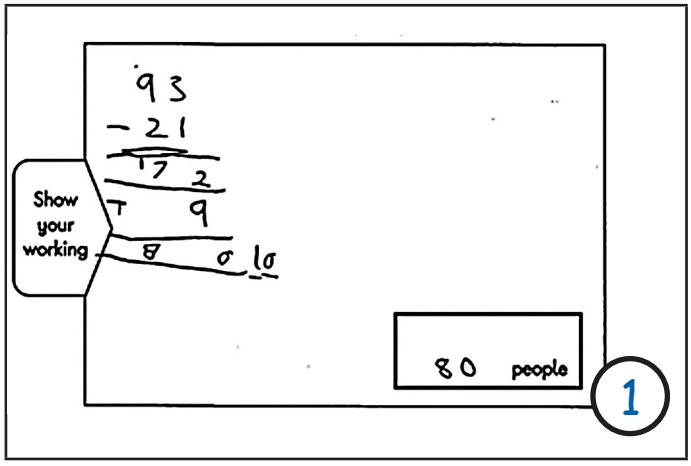
Both Ava and Olivia have been awarded **ONE mark** for a partial step evaluated correctly.

Ava has provided an incorrect final answer and the final step of her method is not correct. However, Ava is awarded **ONE mark** for sight of 72 people as evidence of a partial step completed correctly.

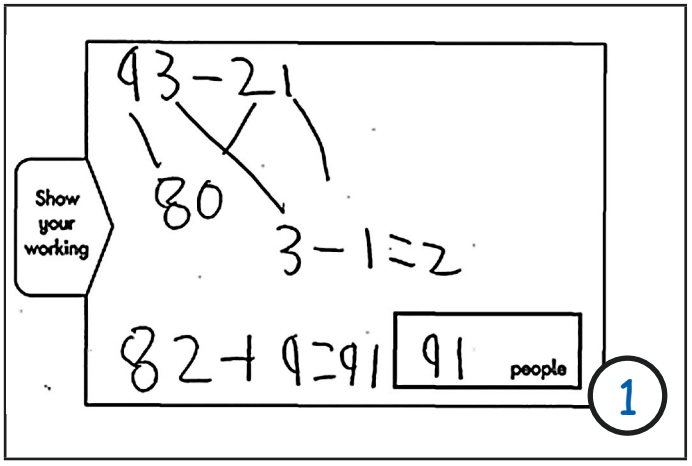
In comparison, Olivia has provided no evidence of a complete correct method, but she is awarded **ONE mark** for the sight of 12 as evidence of a correct step unseen (21 – 9 = 12).

9.1 Examples of responses from question 25 (continued)

Elsie: 1 mark



Sara: 1 mark



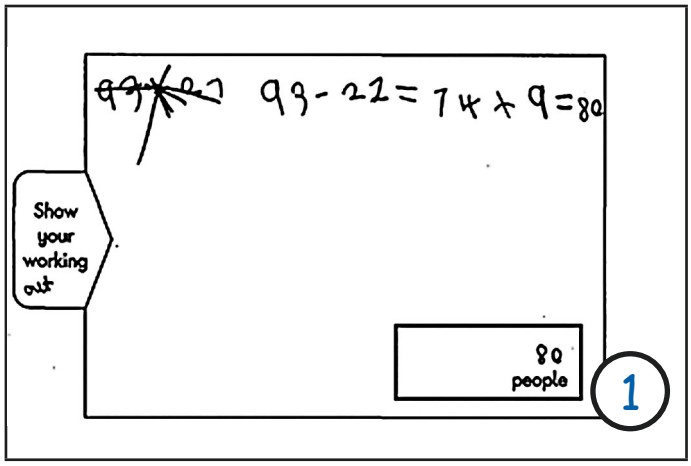
Elsie and Sara have both been awarded **ONE mark** for evidence of a complete correct method.

In Elsie's working, she has evaluated her first step correctly. Her second step is appropriate, but she has made an error. Although her final answer is incorrect, Elsie is awarded **ONE mark** for a correct method.

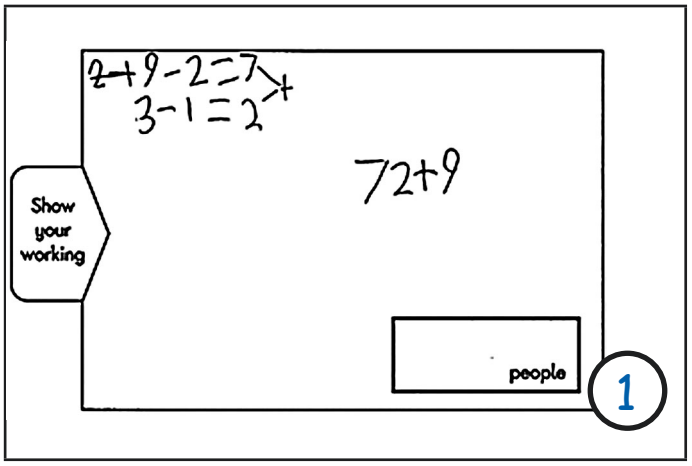
Sara has made an arithmetic error in her first step with an answer of 82. In her final step, she has added 9 to 82 correctly. Her final answer of 91 is incorrect, but Sara is awarded **ONE mark** for an appropriate method.

Note: Elsie would have been awarded **ONE mark** for sight of 72 as evidence of a partial method completed correctly, regardless of the complete method.

Chidera: 1 mark



Seb: 1 mark



Chidera and Seb have provided two methods, one with and one without a final answer.

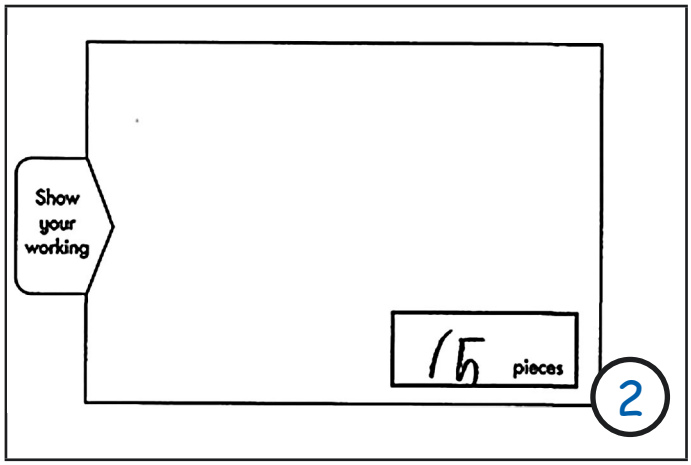
Chidera's final answer is incorrect. His method contains two arithmetic errors, but it is an appropriate method, therefore **ONE mark** is awarded.

Seb has evaluated his first step correctly (93 – 21), but he has not evaluated the last step of his method. However, Seb is awarded **ONE mark** because his method is correct.

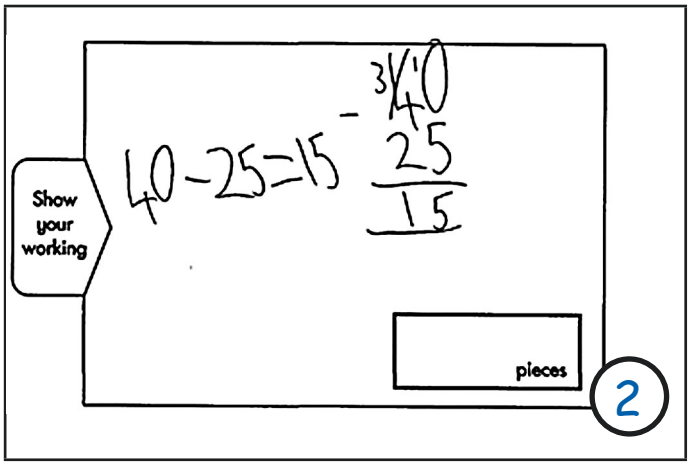
Note: Seb would have been awarded **ONE mark** for sight of 72 as evidence of a partial method completed correctly, regardless of the complete method.

9.2 Examples of responses from question 29

Maya: 2 marks



Luke: 2 marks

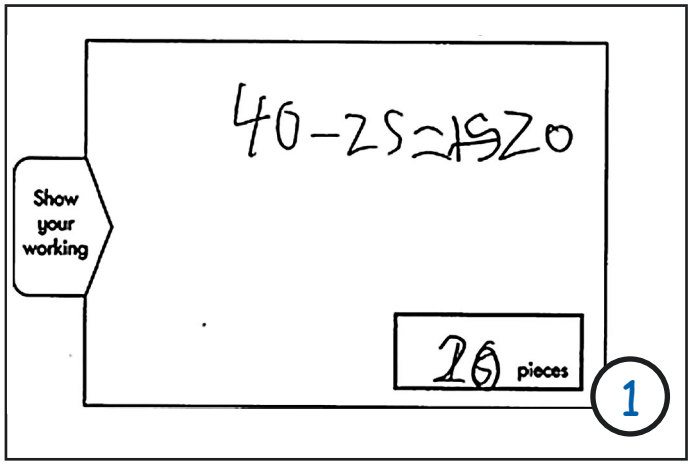


Both Maya and Luke have reached a correct final answer.

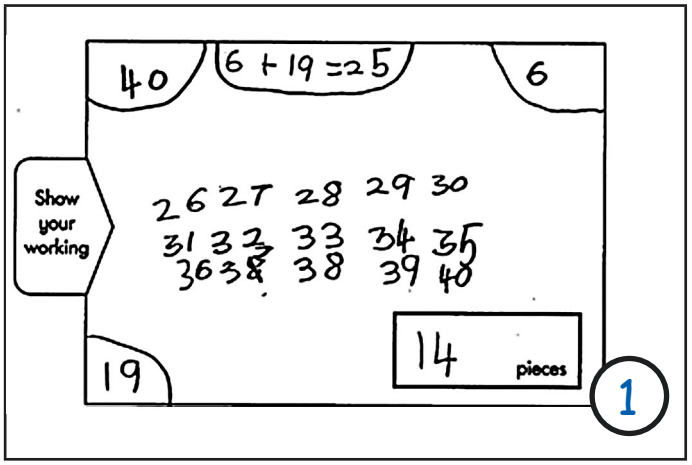
Maya has written a correct final answer, and although the last digit is obscured slightly, it can be clearly recognised as a 5. Maya is awarded **TWO marks**.

Although Luke has not written a final answer in the expected place, it is recognised that 15 is his intended answer from his working. Luke is also awarded **TWO marks** for a final answer that is correct.

Kristina: 1 mark



Rian: 1 mark



Kristina and Rian have used different methods to reach their answer.

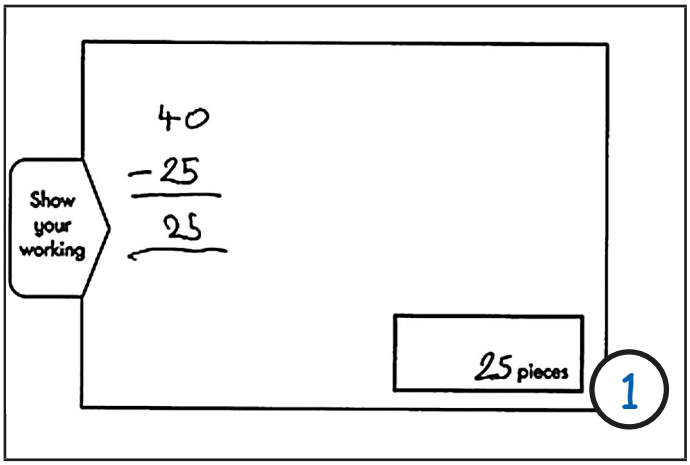
In Kristina's method, her first step is unseen but correctly evaluated. She then intends to complete her method by subtracting 25 from 40 but has made an arithmetic error. Although her answer is incorrect, she is awarded **ONE mark** for her method.

Rian's method shows that he has completed the first step and evaluated it correctly. In his final step Rian shows his intention to count on from 25 to 40, but he has made a counting error resulting in an incorrect answer. Rian is awarded **ONE mark** for a complete correct method.

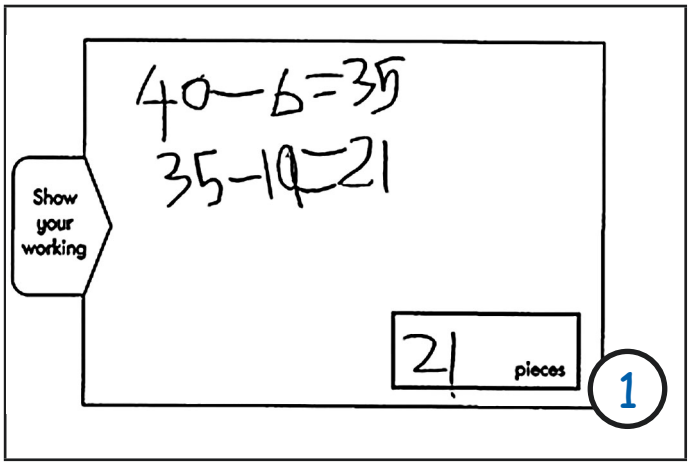
Note: Kristina and Rian would have received **ONE mark** for sight of 25 as evidence of a partial method completed correctly, regardless of their complete methods.

9.2 Examples of responses from question 29 (continued)

Amara: 1 mark



Jerome: 1 mark



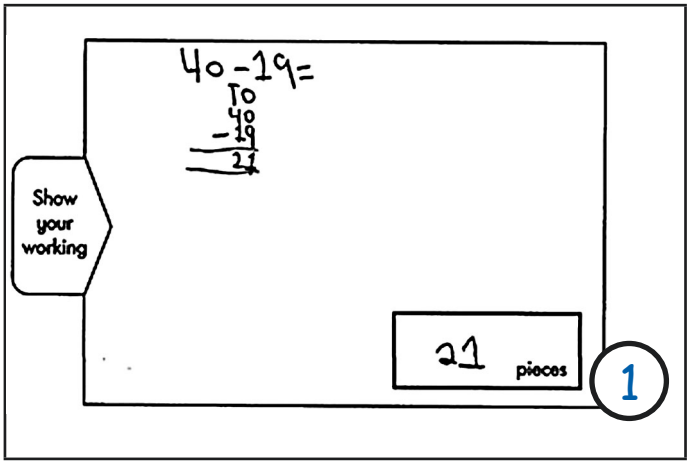
Both Amara and Jerome have provided methods with incorrect final answers.

Amara has provided a complete method with one correct step unseen (19 + 6 = 25). Subsequently, Amara has made an error in subtracting 25 from 40, but her method is complete and correct. She is awarded **ONE mark** for her method.

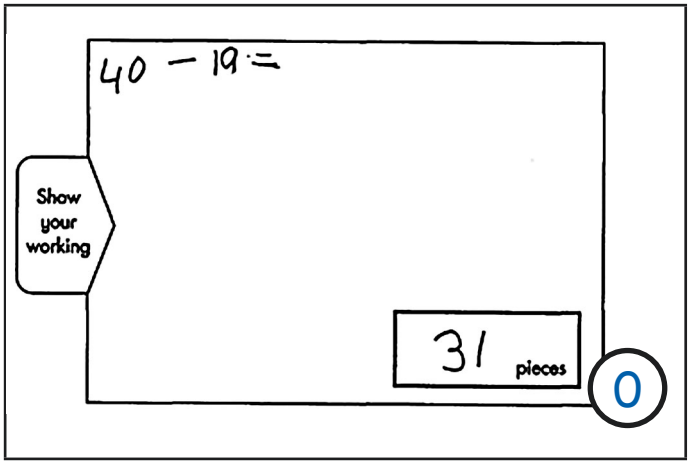
In contrast, Jerome has made two arithmetic errors in his otherwise appropriate method. Jerome is awarded **ONE mark** for a complete, appropriate method.

Note: Amara would have received **ONE mark** for sight of 25 as evidence of a partial method completed correctly, regardless of the complete method.

Shenaya: 1 mark



Ashton: 0 marks



Both Shenaya and Ashton have provided partial methods.

Shenaya has correctly evaluated a partial step (40 – 19) and is awarded **ONE mark** for sight of 21.

Ashton has attempted to complete the partial step (40 – 19) but has made an arithmetic error. Therefore, Ashton receives no marks for his answer.

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