

2019 national curriculum tests

Key stage 1

Mathematics

Paper 1: arithmetic

First name	
Middle name	
Last name	

Total marks

--

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Practice question

$2 + 5 =$

1

$$9 - 3 =$$



1 mark

2

$$5 + 10 + 5 =$$



1 mark

3

$18 - 6 =$



1 mark

4

$10 \times 10 =$



1 mark

5

$$80 - 10 =$$



1 mark

6

$$5 + 32 =$$



1 mark

7

$5 \times 6 =$



1 mark

8

$98 + 4 =$



1 mark

9

$22 + 22 =$



1 mark

10

$+ 8 = 12$



1 mark

11

$$68 + 20 =$$



1 mark

12

$$7 + 84 =$$



1 mark

13

$14 \div 2 =$



1 mark

14

$64 - 11 =$



1 mark

15

$$39 - 20 =$$



1 mark

16

$$54 - 8 =$$



1 mark

17

$40 \div 10 =$



1 mark

18

$23 + 37 =$



1 mark

19

$$\boxed{} = 19 - 5$$



1 mark

20

$$\frac{1}{4} \text{ of } 8 = \boxed{}$$



1 mark

21

$$\frac{1}{2} \text{ of } 90 = \boxed{}$$



1 mark

22

$$100 - \boxed{} = 52$$



1 mark

23

$$\frac{2}{4} \text{ of } 36 = \boxed{}$$



1 mark

24

$$62 - 54 = \boxed{}$$



1 mark

25

$$73 - 19 =$$



1 mark

End of test

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Agency

2019 key stage 1 mathematics

Paper 1: arithmetic

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2019 national curriculum tests

Key stage 1

Mathematics

Paper 2: reasoning

First name	
Middle name	
Last name	

Total marks	
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Amy



Ajay

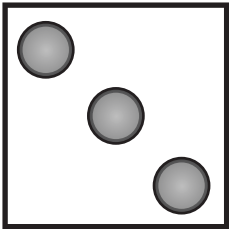
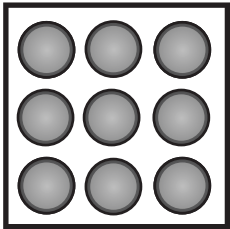
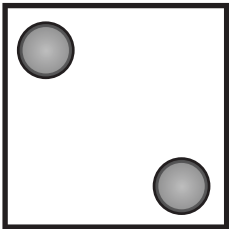
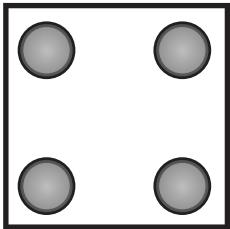
Ben

Sam

Sita

Kemi

Practice question



1

Monday

Friday

Wednesday

Saturday



1 mark

2

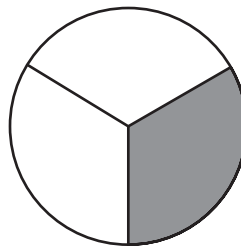
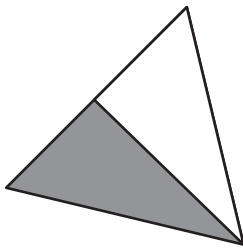
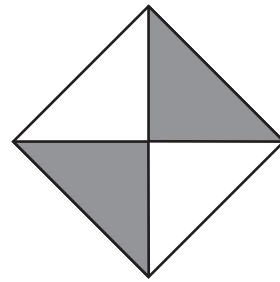
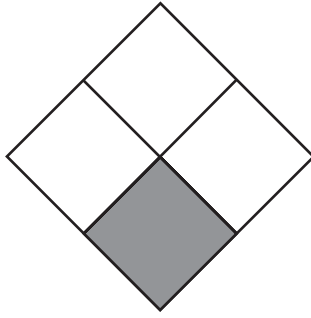
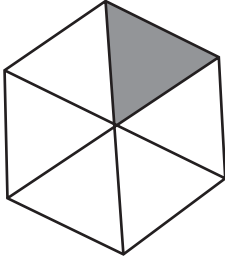
52

57



1 mark

3




1 mark

4

$$12 = \square \times 6$$


1 mark

5

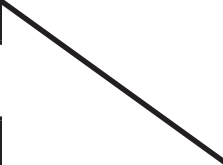
96


1 mark

6

Match each shape to the correct description.

One is done for you.

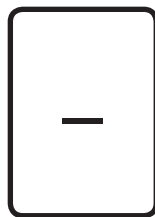
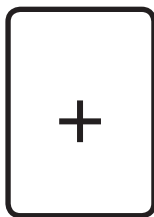
shape		description
triangle		has 8 vertices
square		has 3 sides
octagon		has 4 right angles
circle		has no vertices



1 mark

7

Here are two cards.



Choose a card to make each calculation correct.

One is done for you.

$$4 \quad \boxed{+} \quad 1 = 5$$

$$23 \quad \boxed{} \quad 1 = 22$$

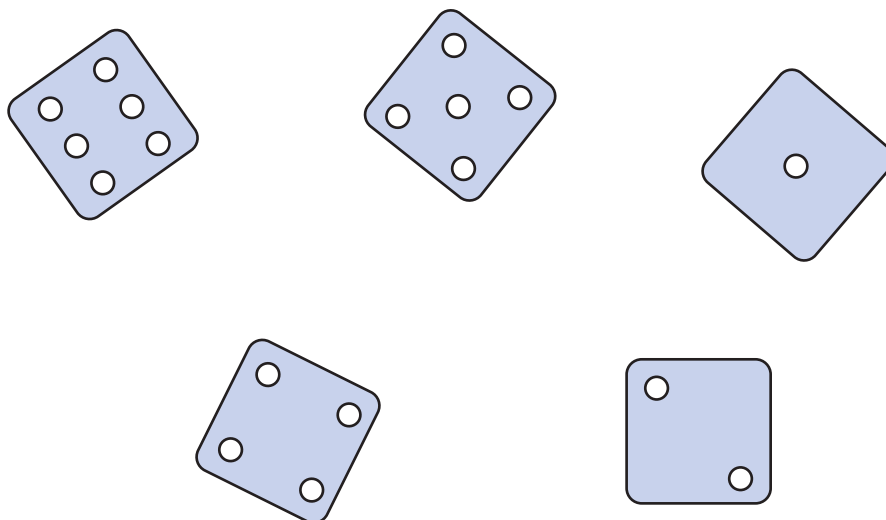
$$40 \quad \boxed{} \quad 1 = 39$$

$$19 \quad \boxed{} \quad 1 = 20$$

1 mark

8

Circle the **three** dice that add up to **13**

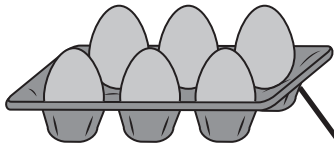


1 mark

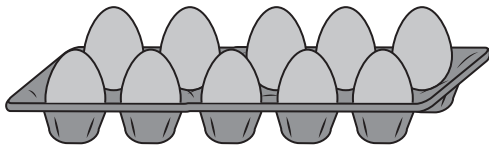
9

Match each egg box to the correct multiplication.

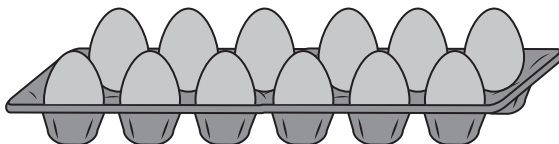
One is done for you.



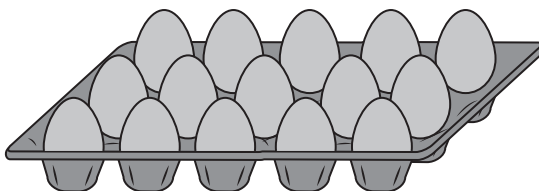
$$6 \times 2$$



$$5 \times 3$$



$$3 \times 2$$



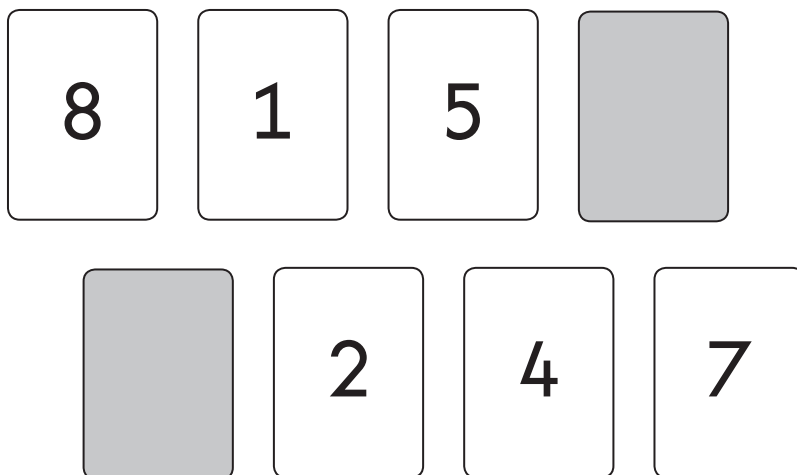
$$5 \times 2$$



1 mark

10 Sam has cards that are numbered 1 to 8

Sam turns over two of the cards.



Which two cards has Sam turned over?

Write the numbers on the cards below.


1 mark

- 11** Complete the number sentences.

One is done for you.

$$\frac{1}{2} \text{ of } \boxed{8} = 4$$

$$\frac{1}{2} \text{ of } \boxed{} = 3$$


1 mark

- 12** Write the missing numbers in the sequence.

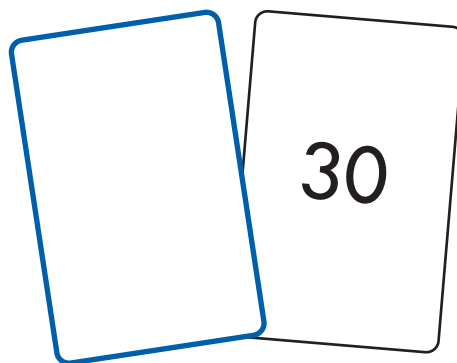
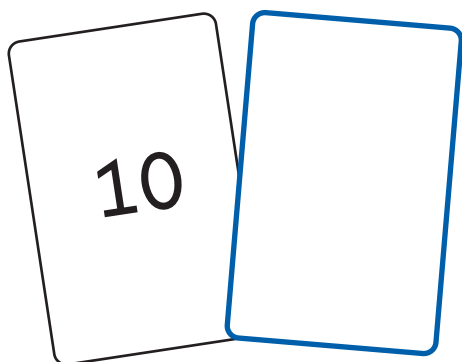
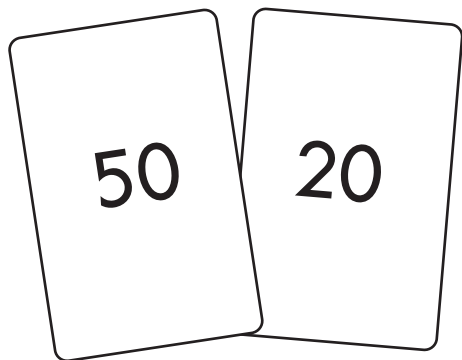
16	14	12			
----	----	----	----------------------	----------------------	----------------------


1 mark

13 Each pair of cards has a **total of 70**

Write numbers to complete the pairs.

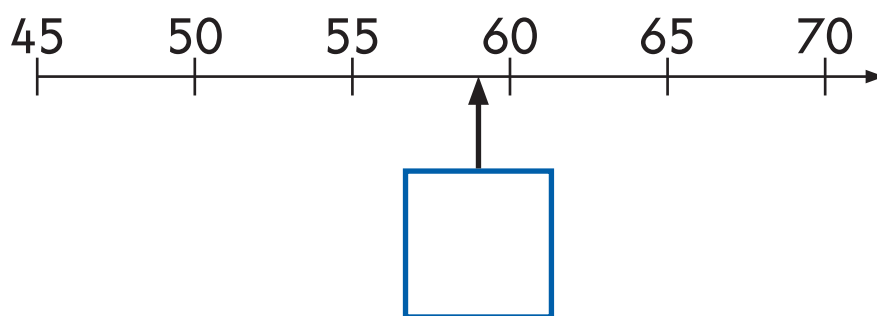
One is done for you.



1 mark

14

Write the correct number in the box.



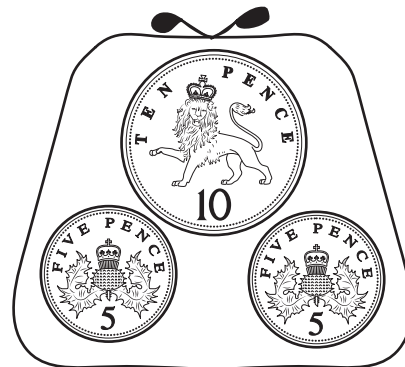
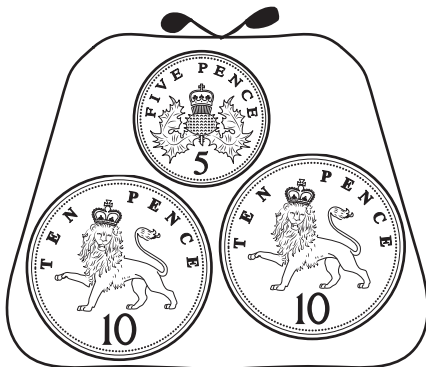
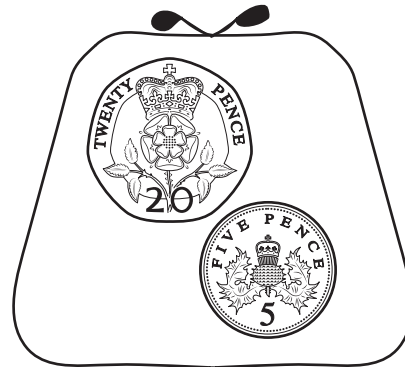
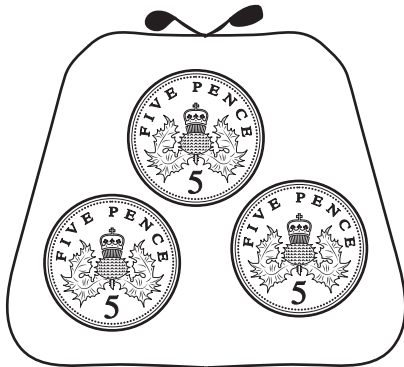
1 mark

15

Amy has 50p.

She buys a pencil for **30p**.

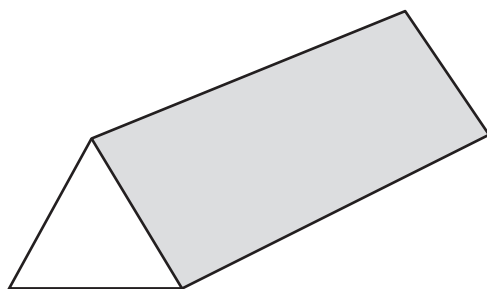
Tick the purse that shows how much money Amy has **left**.



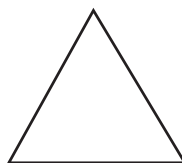
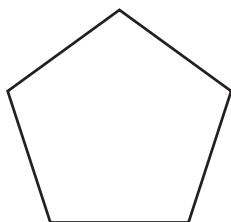
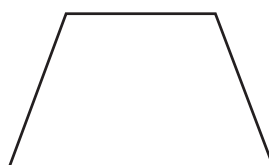
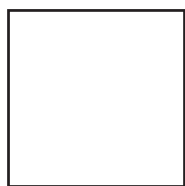
1 mark

16

Here is a prism.



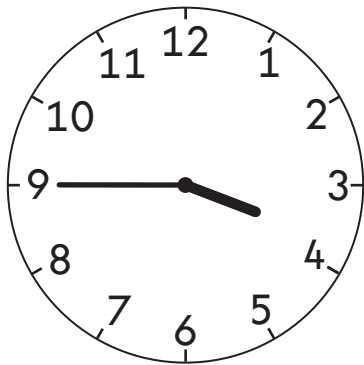
Tick **all** the shapes that are faces on this prism.



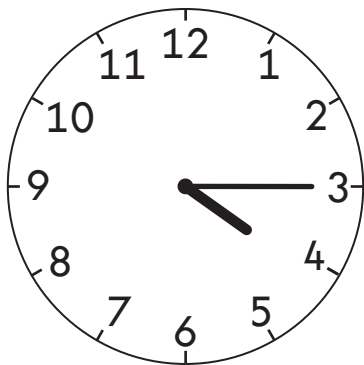
1 mark

17

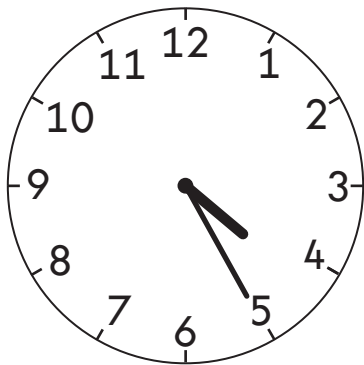
Match each clock to the time it shows.



twenty-five past four



quarter to four



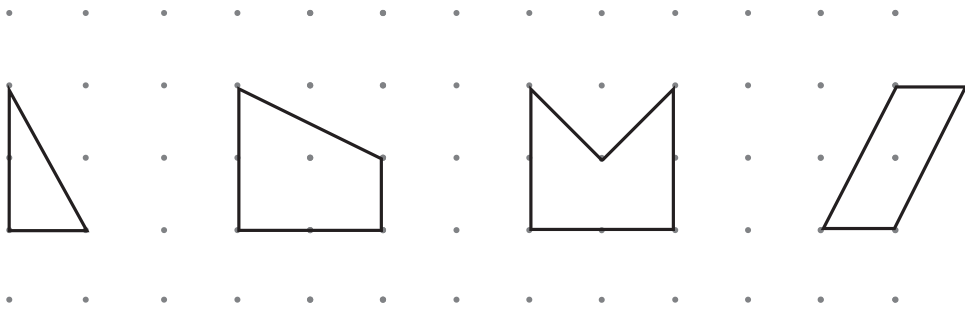
quarter past four



1 mark

18

Tick the shape that has a line of symmetry.



1 mark

19

Write the next number sentence in the pattern.

$$1 + 2 + 3 = 6$$

$$2 + 3 + 4 = 9$$

$$3 + 4 + 5 = 12$$

$$4 + 5 + 6 = 15$$

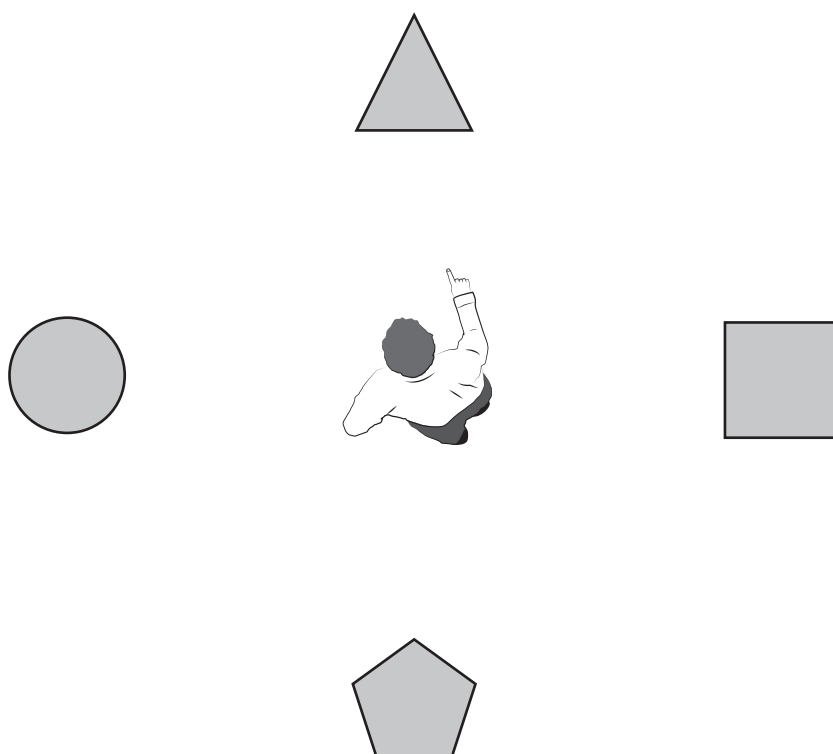
$$\square + \square + \square = \square$$



1 mark

20

Sam is pointing at the triangle.



He turns a **half turn**.

Tick the shape Sam is pointing at after the half turn.



1 mark

21

Sam has four number cards.

10

20

30

40

Use **three** of his cards to make these correct.

$$\boxed{27} + \boxed{} = \boxed{67}$$

$$\boxed{54} - \boxed{} = \boxed{34}$$

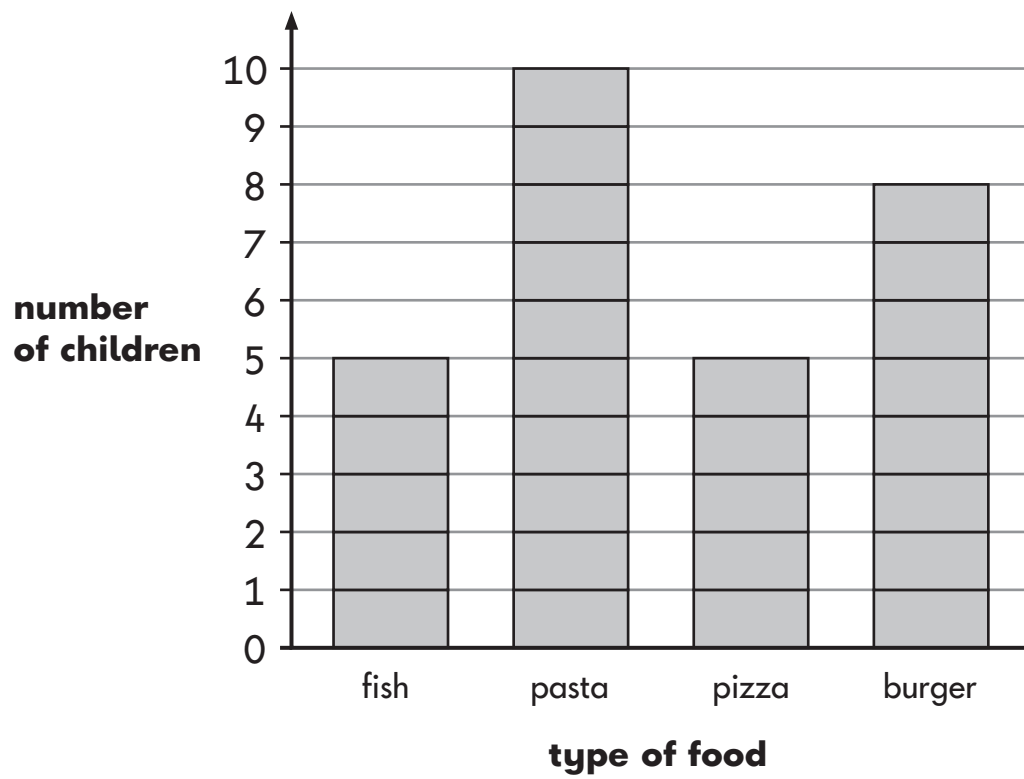
$$\boxed{} + \boxed{88} = \boxed{98}$$



2 marks

22

This chart shows what class 2 ate for lunch today.



Fewer children ate pizza than burger.

How many fewer?

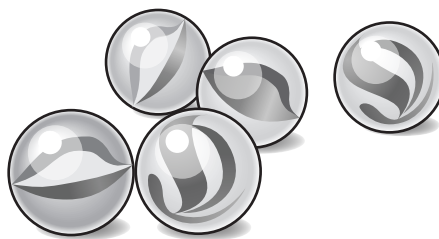
children



1 mark

23

Ben has **five** marbles.



Kemi has **seven times** that number.

How many marbles does Kemi have?

marbles



1 mark

24

Sam plays a maths game.

Each  is equal to **2** points.

$$\text{leaf} + \text{acorn} + \text{acorn} = 10 \text{ points}$$

How many points is **one**  equal to?

points



1 mark

25

Write five coins that have a total of 37p.

p	p	p	p	p

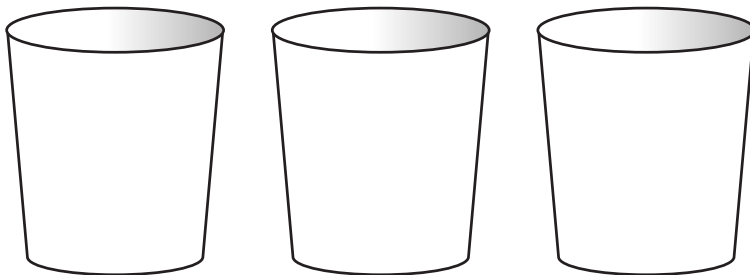


1 mark

26

Ajay has **30** pencils.

He shares them equally between **3** pots.



Complete the number sentence to show how Ajay shares the pencils.

$$\square \div \square = \square$$



1 mark

27

Some children make a chart of how many books they read in a week.

Key:



stands for **1** book

Ben	   
Kemi	     
Ajay	       
Sita	  

Which children read **fewer than 5** books?

Circle them.

Ben

Kemi

Ajay

Sita



1 mark

28

Put a **digit** into each empty box to make the calculation correct.

$$\begin{array}{|c|c|} \hline 1 & \\ \hline \end{array} + \begin{array}{|c|c|} \hline & 3 \\ \hline \end{array} = \begin{array}{|c|c|} \hline 2 & 9 \\ \hline \end{array}$$



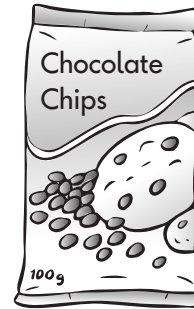
1 mark

29

There are **100g** of chocolate chips in the bag.

Sita uses **25g**.

Ben uses **35g**.



How many grams of chocolate chips are **left** in the bag?

Show
your
working

g

2 marks

30

A shop has 12 bags of crisps.

It sells $\frac{1}{4}$ of the bags.

How many bags of crisps
did the shop **sell**?



bags



1 mark

31

Ben has **63** beads.

He gives **37** beads away.

How many beads does Ben have **left**?

beads



1 mark

32 Ben has **90p**.

He buys **2** tickets.

Each ticket costs **35p**.

How much money does Ben have **left**?



Show
your
working

p

2 marks

End of test

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2019 key stage 1 mathematics

Paper 2: reasoning

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2019 national curriculum tests

Key stage 1

Mathematics test mark schemes

Paper 1: arithmetic

Paper 2: reasoning



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1. Introduction

The Standards and Testing Agency (STA) is responsible for the development and delivery of statutory tests and assessments. STA is an executive agency of the Department for Education.

The 2019 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.

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

The key stage 1 tests will be marked internally within schools to inform teacher assessment.

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 2019 tests will be published in June 2019.

The mark schemes are provided to use when marking 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 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 2019 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. A question assessing 2M1, for example, assesses 'compare and order lengths, mass, volume/capacity and record the results using $>$, $<$ and $=$ ' and is taken from the year 2 programme of study.

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

Paper 1: arithmetic		Paper 2: reasoning	
Question	Content domain reference	Question	Content domain reference
1	2C1/1C2a	1	1M4b/1M4c
2	1N1b	2	2C6/1N1a
3	1C2a/2C1	3	2F1a/2F2
4	2C6/1N1b	4	2C8/2C6
5	2C1/2N1	5	2N6/2C2a
6	2C2b/1N1a	6	2G2a
7	2C6/1N1b	7	1N2b/1C2b
8	1N1a/2C2a	8	1C1/2C2a
9	2C2b/2C2a	9	2C8
10	1C4/1C2a	10	1N2a/2N2b
11	2N6/2C2b	11	2F1b/1F1a
12	2C2b/1N1a	12	2N1
13	2C6/1N1b	13	2C1
14	2C2b/2C2a	14	2N4
15	2N6/2C2b	15	2M9/1M3
16	2C2b/2C2a	16	2G3
17	2C6	17	2M4a/1N1b
18	2C2b	18	2G2a
19	2C1/1C2b	19	2C4/2C2a
20	2F1a/1F1b	20	1P2
21	2F1a	21	2N6/2C3
22	2C3	22	2S2b/1N2a
23	2F1a	23	2C8
24	2C2b	24	2C3/2N4
25	2C2b	25	2M3a/1M3
		26	2C7
		27	2S2a
		28	2N6/2C3
		29	2C4
		30	2F1a/2C8
		31	2C4
		32	2C8/2M9

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, e.g. for $\square = 12 - 5$, 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 ɒ1 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 18 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

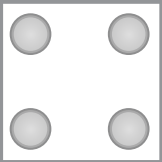
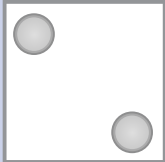
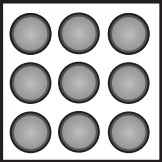
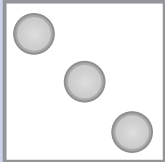
We recommend those who are involved in marking the key stage 1 tests undertake moderation activity to ensure marking is consistent across their school.

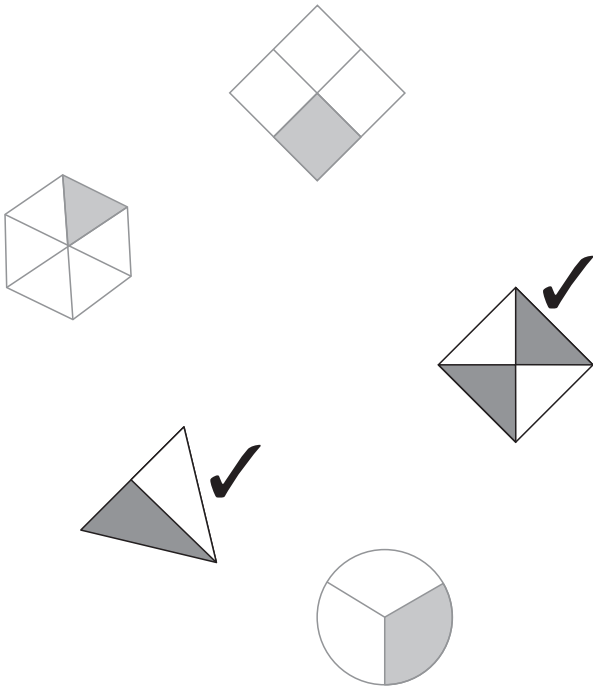
7. Mark schemes for Paper 1: arithmetic

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.

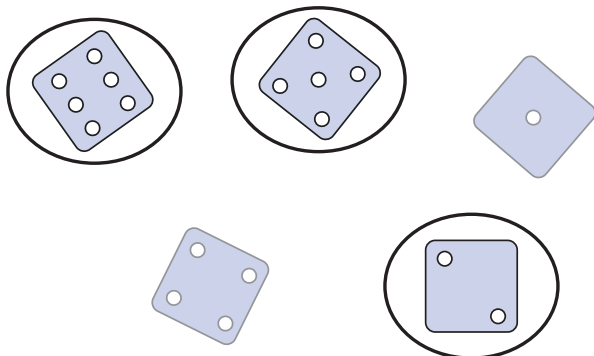
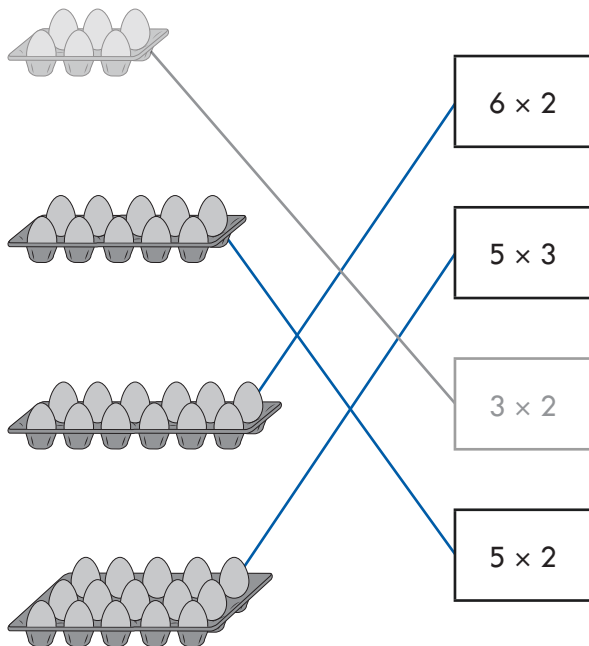
Qu.	Requirement	Mark	Additional guidance
P	7	none	Practice question
1	6	1m	
2	20	1m	
3	12	1m	
4	100	1m	
5	70	1m	
6	37	1m	
7	30	1m	
8	102	1m	
9	44	1m	
10	4	1m	
11	88	1m	
12	91	1m	
13	7	1m	
14	53	1m	
15	19	1m	
16	46	1m	
17	4	1m	
18	60	1m	
19	14	1m	
20	2	1m	
21	45	1m	
22	48	1m	
23	18	1m	
24	8	1m	
25	54	1m	

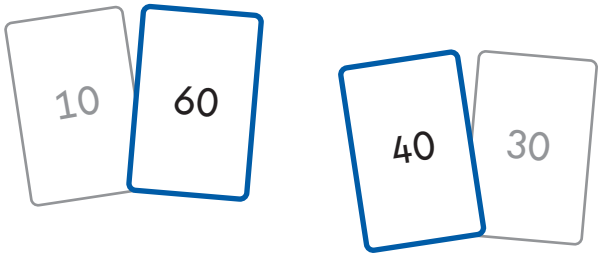
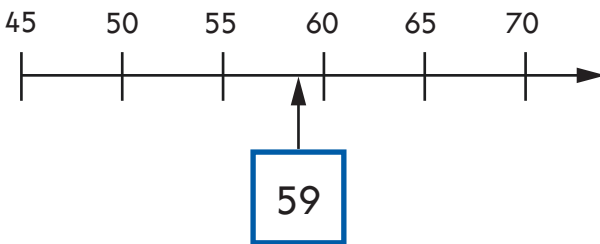
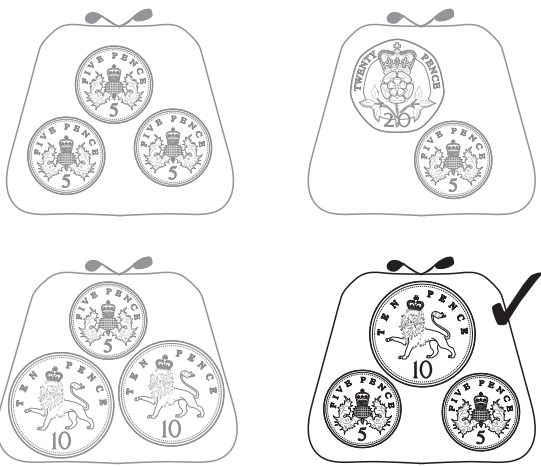
8. Mark schemes for Paper 2: reasoning

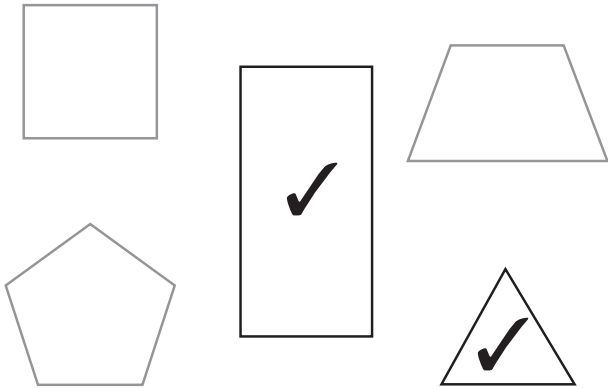
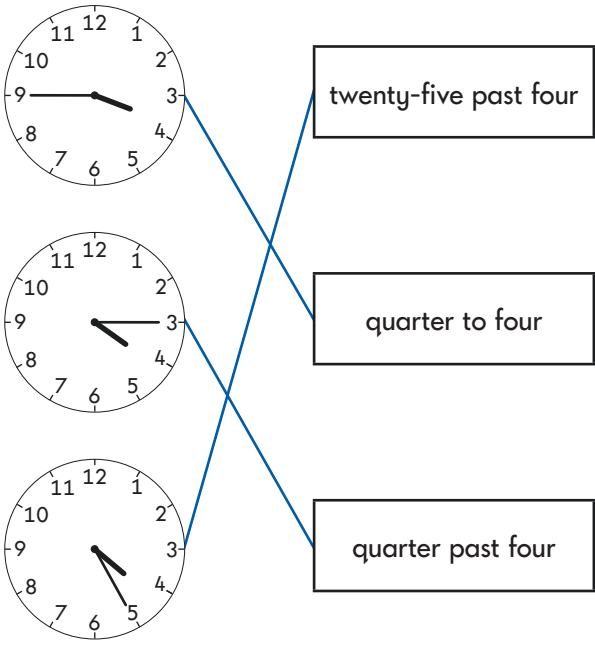
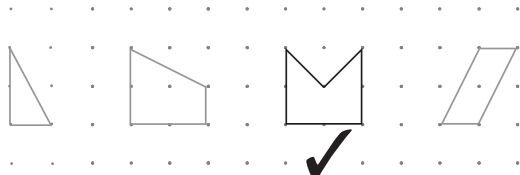
Qu.	Requirement	Mark	Additional guidance
Aural questions			
P	The correct box ticked as shown:    	none	Practice question
1	Correct day (Wednesday) ticked as shown: Monday Friday <input checked="" type="text" value="Wednesday"/> Saturday	1m	Accept any other clear way of indicating the correct answer. Do not award the mark if additional days are indicated, unless it is clear that the correct day is the pupil's final choice.
2	54 or 56	1m	Accept if both 54 and 56 are given. Do not award the mark if additional numbers are given. (Refer to general marking principles 10 and 11 on pages 7 and 8.)

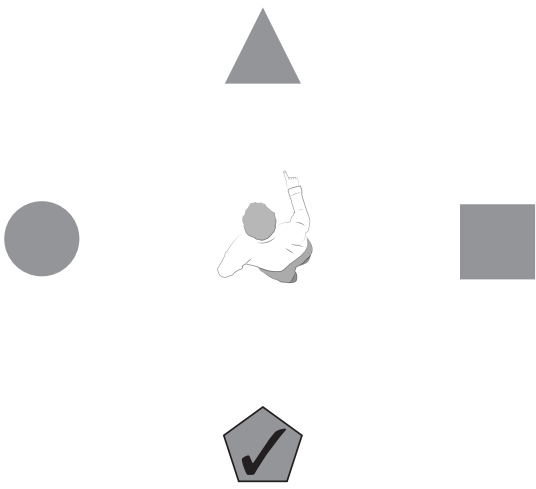
Qu.	Requirement	Mark	Additional guidance
3	Two correct shapes ticked as shown: 	1m	Both correct shapes must be indicated for the award of the mark. Accept any other clear way of indicating the two correct shapes. Do not award the mark if additional shapes are indicated, unless it is clear that the two correct shapes are the pupil's final choice.
4	2	1m	
5	86	1m	

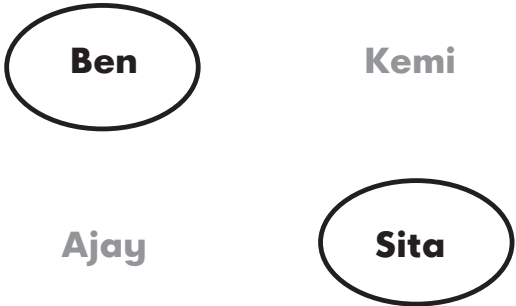
Qu.	Requirement	Mark	Additional guidance
Written questions			
6	shape triangle square octagon circle description has 8 vertices has 3 sides has 4 right angles has no vertices	1m	All three shapes must be correctly matched for the award of the mark. Do not award the mark if a shape is matched to more than one description. Ignore any extra lines drawn from 'triangle'.
7	All three signs written correctly as shown: 4 $\boxed{+}$ 1 = 5 23 $\boxed{-}$ 1 = 22 40 $\boxed{-}$ 1 = 39 19 $\boxed{+}$ 1 = 20	1m	All three signs must be correct for the award of the mark. Accept slight inaccuracies in the drawing of the signs, as long as the intention is clear. (Refer to general marking principle 2 on page 6.)

Qu.	Requirement	Mark	Additional guidance						
8	Three correct dice circled as shown: 	1m	All three correct dice must be indicated for the award of the mark. Accept any other clear way of indicating the correct answer, e.g. ticking the three correct dice. Do not award the mark if more than three dice are circled, unless it is clear that the correct dice are the pupil's final choice.						
9		1m	All three egg boxes must be correctly matched for the award of the mark. Do not award the mark if an egg box is matched to more than one calculation. Ignore any extra lines drawn from the first egg box.						
10	Both 3 AND 6 given, in any order.	1m	Both numbers must be given for the award of the mark. (Refer to general marking principle 4 on page 6.)						
11	6 written in the box as shown: $\frac{1}{2}$ of 6 = 3	1m							
12	Number sequence completed as shown: <table><tr><td>16</td><td>14</td><td>12</td><td>10</td><td>8</td><td>6</td></tr></table>	16	14	12	10	8	6	1m	All three numbers must be correct and in the order shown for the award of the mark.
16	14	12	10	8	6				

Qu.	Requirement	Mark	Additional guidance
13	Number pairs completed as shown: 	1m	Both numbers must be correct for the award of the mark. (Refer to general marking principles 10 and 11 on pages 7 and 8.)
14	59 written in the box as shown: 	1m	Accept any number in the range $57\frac{1}{2} - 60$ exclusive. Do not accept $57\frac{1}{2}$ or 60 (Refer to general marking principles 4, 10 and 11 on pages 6–8.)
15	Correct purse indicated as shown: 	1m	Accept any other clear way of indicating the correct answer. Do not award the mark if more than one purse has been indicated, unless it is clear that the correct purse is the pupil's final choice.

Qu.	Requirement	Mark	Additional guidance
16	Two correct shapes indicated as shown: 	1m	Both correct shapes must be indicated for the award of the mark. Accept any other clear way of indicating the correct answer. Do not award the mark if additional shapes are indicated, unless it is clear that the correct shapes are the pupil's final choice.
17		1m	All three clocks must be correctly matched for the award of the mark. Do not award the mark if a clock face is matched to more than one time.
18	Correct shape indicated as shown: 	1m	Accept any other clear way of indicating the correct answer. Do not award the mark if additional shapes are indicated, unless it is clear that the correct shape is the pupil's final choice.
19	Number sentence given in the following order as shown: $\boxed{5} + \boxed{6} + \boxed{7} = \boxed{18}$	1m	All four numbers in the number sentence must be correct and in the order shown for the award of the mark.

Qu.	Requirement	Mark	Additional guidance
20	Correct shape indicated as shown: 	1m	Accept any other clear way of indicating the correct answer. Do not award the mark if additional shapes are indicated, unless it is clear that the correct shape is the pupil's final choice.
21	Award TWO marks for three number sentences completed correctly, i.e. $\boxed{27} + \boxed{40} = \boxed{67}$ $\boxed{54} - \boxed{20} = \boxed{34}$ $\boxed{10} + \boxed{88} = \boxed{98}$ Award ONE mark for any two number sentences completed correctly.	2m 1m	Accept any other clear way of indicating the correct answers, e.g. matching correct cards to answer boxes. (Refer to general marking principles 10 and 11 on pages 7 and 8.)
22	3 (children)	1m	
23	35 (marbles)	1m	Do not accept 5×7 or 7×5 unless evaluated. (Refer to general marking principles 9, 10 and 11 on pages 7 and 8.)
24	6 (points)	1m	

Qu.	Requirement	Mark	Additional guidance
25	The following five coins given in any order: 10p, 10p, 10p, 5p, 2p OR 20p, 10p, 5p, 1p, 1p OR 20p, 5p, 5p, 5p, 2p	1m	All five coins must be correct for the award of the mark. Numbers may be written in any order. Do not award the mark if additional incorrect numbers are given as part of the answer.
26	Number sentence completed correctly as shown: $\boxed{30} \div \boxed{3} = \boxed{10}$	1m	All three numbers must be correct for the award of the mark. Do not accept $30 \div 10 = 3$
27	Correct children indicated as shown: 	1m	Accept any other clear way of indicating the correct answer, e.g. the two names only indicated on the pictogram and not in the expected place. (Refer to general marking principle 4 on page 6.) Do not award the mark if any additional names are indicated unless it is clear that the correct names are the pupil's final choice.
28	Number sentence completed correctly as shown: $\boxed{1} \boxed{6} + \boxed{1} \boxed{3} = \boxed{2} \boxed{9}$	1m	Both numbers must be correct for the award of the mark.

Qu.	Requirement	Mark	Additional guidance
29	Award TWO marks for the correct answer of 40 (g). If the answer is incorrect or missing, award ONE mark for evidence of a complete, correct method, e.g. • $100 - 25 - 35 =$ (incorrect or no answer) • $25 + 35 = 70$ (error) • $100 - 70 =$ OR Any of these partial methods correctly evaluated, i.e. • $100 - 25 = 75$ • $100 - 35 = 65$ • $25 + 35 = 60$ OR • Sight of 75, 65 or 60	2m 1m	(Refer to general marking principle 6 on page 6.) (Use the example responses given on pages 20 and 21 to help you determine how many marks can be awarded.)
30	3 (bags)	1m	Accept 3 bags indicated on the image as long as it is clear that this is the pupil's final intended answer.
31	26 (beads)	1m	

Qu.	Requirement	Mark	Additional guidance
32	Award TWO marks for the correct answer of 20 (p). If the answer is incorrect or missing, award ONE mark for evidence of a complete, correct method, e.g. • $90 - 35 - 35 =$ (incorrect or no answer) OR • $90 - 2 \times 35 =$ OR • $90 - 35 = 54$ (error) $54 - 35 =$ • $90 - 70 =$ (incorrect or no answer) • $35 \times 2 = 60$ (error) $90 - 60 =$ OR Any of these partial methods correctly evaluated, i.e. • $35 + 35 = 70$ • $35 \times 2 = 70$ • $90 - 35 = 55$ OR • Sight of 70 or 55	2m 1m	(Refer to general marking principle 6 on page 6.) (Use the example responses given on pages 22–23 to help you determine how many marks can be awarded.)

9. Example responses

9.1 Examples of responses from question 29

Sasha: 1 mark

Show your working

$$100g - 25g - 35g = 60g$$

60 g

1

Hassan: 1 mark

Show your working

$$25 + 35 = 60$$

$$30 + 20 = 50$$

$$5 + 5 = 10$$

$$\begin{array}{r} 50 \\ + 10 \\ \hline 60 \end{array}$$

60 g

1

Sasha and Hassan have recorded the same incorrect answer in the answer box.

In her working, Sasha has shown a complete, correct method with an arithmetic error. Although her final answer is incorrect, she is awarded **one mark** for the complete, correct method.

Hassan, in comparison, has only provided a partial method. He has correctly added Sita's and Ben's chocolate chips, but has not subtracted that total from 100. Although his method is not complete, he is awarded **one mark** for a partial method correctly evaluated.

Alex: 1 mark

Show your working

41 g

1

Joanna: 0 marks

Show your working

60 g

0

Alex and Joanna have both used a number line as part of their method.

In his method, Alex first subtracts 25g from 100g to get 75g. He then attempts to subtract 35g from 75g and makes an arithmetic error. Although he has given an incorrect final answer, he can be awarded **one mark** for a complete, correct method.

In contrast, Joanna's method cannot be considered complete or correct as there is no indication that she is subtracting either Ben's or Sita's chocolate chips, so **no marks** are awarded.

9.1 Examples of responses from question 29 (continued)

Katie: 1 mark

Show your working

Handwritten calculation:
$$\begin{array}{r} 25 \\ + 35 \\ \hline 60 \end{array}$$

Answer box: 50 g

Mark: 1

Luke: 0 marks

Show your working

Handwritten marks: 10 vertical lines, followed by 10 groups of 10 vertical lines, and then 10 groups of 10 vertical lines.

Answer box: 50 g

Mark: 0

Katie and Luke have both recorded an incorrect answer of 50 in the answer box.

In her working, Katie has shown a partial step of correctly evaluating the sum of 25 and 35 and is awarded **one mark** for sight of 60.

Luke's working, in contrast, shows no evidence of a correctly evaluated partial step or a complete correct method and therefore is awarded **no marks**.

Priya: 1 mark

Show your working

Handwritten marks: 100 small circles representing chocolate chips. 25 circles are crossed out from the top left and 35 circles are crossed out from the bottom right.

Answer box: 42 g

Mark: 1

Jude: 0 marks

Show your working

Handwritten marks: 10 vertical lines representing 100 chocolate chips.

Answer box: 50 g

Mark: 0

Both Priya and Jude have used a pictorial method to obtain an answer.

Priya has correctly drawn 100 chocolate chips, and crossed out 25 chocolate chips from one end and 35 from the other. However, she miscounts her remaining chocolate chips, giving her an incorrect answer of 42. She is awarded **one mark** for a complete, correct method.

Although Jude has correctly recorded 10 marks representing 100 chocolate chips, he has only subtracted 50 chocolate chips and not 60. His method is therefore not correct and he is awarded **no marks**.

9.2 Examples of responses from question 32

Nathan: 2 marks

Show your working

90
- 70
—
20

~~35~~
~~35~~
—
70

20p

2

Staci: 1 mark

Show your working

90 - 2 x 35 =

70p

1

In their methods, both Nathan and Staci have provided methods with their final answers.

Nathan initially wrote 70(p) as his final answer but he crossed that response out and replaced it with the correct answer of 20(p). Therefore, he is awarded **two marks** for the correct answer.

Staci, in her method, multiplied 35 by 2 to obtain 70 and shows the intention to subtract that answer from 90. Although her final answer is incorrect, Staci is awarded **one mark** for showing a complete, correct method.

Lauren: 1 mark

Show your working

21p

1

Jason: 0 marks

Show your working

37p

0

Lauren and Jason have both provided an incorrect answer but have used pictorial methods.

Lauren has drawn 90 circles to represent 90p and even though she crossed off 70 circles, she then miscounted resulting in an error in her final answer. She is awarded **one mark** for a complete correct method.

In contrast, Jason has not drawn 90 circles and although he has crossed off 35 of these, he cannot be awarded a mark for a correctly evaluated partial method as he has not written down 55 (or 70) either in his working or as his final answer. Therefore, he is awarded **no marks**.

9.2 Examples of responses from question 32 (continued)

Parker: 1 mark

Show your working

$$90 - 35 - 35 = 55$$

$$90 - 35 = 55$$

55 p

1

Gwen: 1 mark

Show your working

$$90 - 35 = 55$$

$$80 - 30 = 50$$

$$10 - 5 = 5$$

$$50 + 5 = 55$$

55 p

1

Parker and Gwen have both provided the same incorrect final answer and have included their methods. Although Parker has only evaluated the first step, he has shown a complete and correct method, therefore he is awarded **one mark**.

Gwen has only shown her method for the first step, which she has correctly evaluated using partitioning. Although her method is not complete, she is awarded **one mark** for a correctly evaluated partial method.

Sandeep: 1 mark

Show your working

$$90 - 35 = 55$$

$$55 - 35 = 15$$

15 p

1

Bethany: 0 marks

Show your working

$$\begin{array}{r} 90 \\ - 35 \\ \hline 65 \end{array}$$

65 p

0

Sandeep and Bethany have both given incorrect final answers with a partial method.

Sandeep has not recorded all aspects of his method and has arrived at the incorrect answer of 15(p). There is no written evidence of a complete, correct method. However, he is awarded **one mark** for sight of 55 in his working as this implies that he has correctly evaluated a partial method ($90 - 35$).

Bethany has shown a correct partial method of 35 subtracted from 90. However, as she has not correctly evaluated this step, she is awarded **no marks**.



Standards
& Testing
Agency

2019 key stage 1 mathematics test mark schemes

Paper 1: arithmetic and Paper 2: reasoning

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2019 national curriculum tests

Key stage 1

Mathematics

Administering Paper 2: reasoning

CONFIDENTIAL

The mathematics test must be administered during **May 2019**. This pack must be kept secure and unopened until **Wednesday 1 May**. The pack must not be opened until the pupils are in the test room ready to complete your school's first administration of the test.

The pupil transcript for the aural questions is contained within this pack. If you need to use this with any pupils, you can open this pack up to one hour early on the day of the administration to photocopy the transcript.

Please ensure you have read and understood the 2019 test administration guidance before opening this pack.

Pack contents:

- Administration instructions for the key stage 1 mathematics test Paper 2: reasoning (overleaf)
- 10 copies of Paper 2: reasoning

For test administration

2019 key stage 1 mathematics test

The key stage 1 mathematics test consists of 2 papers. The papers must be administered in order. Pupils do not have to sit both papers on the same day. If both papers are administered on the same day, pupils may benefit from a break between papers. Both papers can be administered to the whole class, smaller groups of pupils or on an individual basis. Test packs must not be opened until the pupils are in the test room ready to complete your school's first administration of the test. All test materials, including unused test papers, must be stored securely until Monday 3 June.

Paper 2: reasoning

The following information explains how to administer the key stage 1 mathematics Paper 2: reasoning. If you have any questions, you should check with your headteacher or key stage 1 test co-ordinator before you administer the test.

Please follow these instructions correctly to ensure that the test is properly administered. Failure to administer the test correctly could result in a maladministration investigation.

Format	• Paper 2: reasoning consists of a single test paper. • It is expected that Paper 2 will take approximately 35 minutes to complete, but it is not strictly timed. • It is at your discretion to choose when, or if, a pupil requires a break during the test or whether to stop the test early. • This paper has two sections: an aural section and a written section. The first section starts with a practice aural question followed by five aural questions. • After the aural questions, the pupils are presented with written questions. The time for the written questions should be approximately 30 minutes.
Equipment	Each pupil will need the equipment specified below: • a pencil or a blue/black pen • a sharp, dark pencil for mathematical drawing • a ruler (showing centimetres and millimetres) • a mirror • a rubber (optional). If rubbers are not provided, tell pupils that they should cross out any answers they wish to change. Pupils may use the following equipment, if this is normal classroom practice, provided they only give word-for-word translations: • bilingual dictionaries or electronic translators • bilingual word lists • monolingual English electronic spell checkers. Pupils are not allowed: • calculators • tracing paper • number apparatus e.g. base ten materials, number squares, etc.
Assistance	• You must ensure that nothing you say or do during the test could be interpreted as giving pupils an advantage, e.g. indicating that an answer is correct or incorrect, or suggesting the pupil looks at an answer again. • If a pupil requests it, a question may be read to the pupil on a one-to-one basis. You can also read questions 6 to 32 if a pupil has difficulty in reading the questions for themselves. • If reading to a pupil, you can read words and numbers, but not mathematical symbols. This is to ensure that pupils are not given an unfair advantage by having the function inadvertently explained by reading its name.

Assistance (continued)	- For pupils with hearing impairments, be careful when signing numbers and mathematical signs. In particular, please be careful when signing the following: Q3: <i>half</i> Q6: <i>triangle, square, octagon, circle</i> Q11: $\frac{1}{2}$ Q15, 32: <i>left</i> can be explained as <i>not spent</i> Q20: sign <i>half turn</i> in a neutral space away from the diagram Q29: <i>left</i> can be explained as <i>not used</i> Q30: sign $\frac{1}{4}$ in a neutral space away from the diagram. - Guidance for administering the test to pupils with a visual impairment is contained in the relevant modified test pack. - If reading questions to a pupil, you may point to parts of the test paper such as charts, diagrams, statements and equations, but you must not explain the information or help the pupil by interpreting it. - For the aural section of this paper there is an optional pupil script that you may provide to pupils to access this part of the test. Please refer to page 10 of this document for further guidance. - You must not explain any subject-specific terminology. If any other word in a question is unfamiliar to pupils, you may explain it, or show them objects or pictures to help them understand. - The examples below illustrate how to deal with some common queries. Q. What does 'fraction' mean? A. I can't tell you, but think hard and try to remember. We can talk about it after the test. Q. What does '>' or '<' mean? A. I can't tell you, but think hard and try to remember. We can talk about it after the test.
Before the test begins	- Review the list of pupils with any particular individual needs, e.g. pupils who may need to use the optional pupil script for the aural questions, or who may need support from a scribe or a transcript made at the end of the test. - The optional pupil script for the aural questions can be found at the back of this document. Please photocopy it for the pupils who need it.
What to do at the start of the test	- Check that seating is appropriately spaced and that no pupil can see another pupil's test paper. - Check that pupils don't have mobile phones or other disruptive items. - Check that pupils don't have any materials or equipment that may give them extra help. - Ensure that each pupil has a copy of mathematics Paper 2: reasoning.

How to introduce the test

- It is important to brief pupils fully at the start of each test. Use these instructions to introduce Paper 2: reasoning.
- The wording of these instructions can be adapted, provided the meaning is retained.

This is the mathematics test Paper 2: reasoning. You should have a test booklet in front of you. This test will take around 35 minutes.

Write your name on the front of your test booklet.

I'm going to explain how to write down your answers to the questions. You'll have plenty of time to work out the answers.

You need to work on your own. You should think of your own answers and you mustn't talk about them with anyone else.

If you want to change an answer, you should rub it out or put a line through the answer that you don't want to be marked.

If you need to change a diagram or graph, make sure that you completely rub out or cross out your answer before writing your new answer.

Some questions have boxes for you to write your answers in. You can do any working out in the white space around the boxes if you need to.

- Where necessary, you can show the pupils how to draw a tick, circle or cross to indicate the answer.

Open your test booklet at page 2. Amy and Ajay are children who are in some of the questions. There are different children mentioned in other questions as well. Their names are Ben, Sam, Sita and Kemi.

Introducing the aural questions

What to say at the start of the aural questions

Now I'm going to read aloud some questions for you to answer. I'm going to read each question twice, with a short gap in between. You need to listen very carefully when I read the questions to you.

You must work on your own and you must not call out the answers.

- If any pupils are using the optional pupil script to support their access to these questions, you should follow the guidance on page 10 of this document.

Look at the practice question on page 3. This is a practice question for us to do together.

- When reading the question to the pupils, remember to repeat the bold text only.
- You may help pupils locate the question where necessary.

Look at each box of counters.

Tick the box that has the most counters.

- Before proceeding, ensure that the pupils know where they should have indicated their answer, and the correct answer they should have chosen. Discuss methods the pupils used to work out their answer. Allow the pupils to change their answer to the correct one by crossing out or rubbing out, to make sure they know how to correct errors.

Now I'm going to read out questions 1 to 5

You should try to answer all of the questions. You should write your answers in the correct place for each question.

- If any pupils are using the optional pupil script, remind them to write their answers in the test booklet and not on the script.

Remember, I can't help you with these next questions. You should try to work them out on your own.

Do you have any questions?

Turn to page 4 of the booklet.

- Read questions 1 to 5, allowing sufficient time for pupils to write their answers before you move on to the next question. When reading the question to the pupils, remember to repeat the bold text only. Words that are underlined should be emphasised.

This section continues on the next page.

Question 1	Look at the cards. I will read them for you. Monday...Friday...Wednesday...Saturday... Tick the card that shows the name of the day before Thursday.
Question 2	Write an even number that comes between <u>fifty-two</u> and <u>fifty-seven</u>. Write the number in the box.
Question 3	Turn to the next page. Look at the five shapes. Tick <u>all</u> of the shapes that have half shaded.
Question 4	Look at the calculation. Write a number in the box to make the calculation correct.
Question 5	What is <u>ninety-six</u> minus <u>ten</u>? Write your answer in the box.

Introducing the written questions

What to say at the start of the written questions

For the rest of the test you will need to read the questions in the booklet yourself.

- Please note, you may need to change the instruction above if you are supporting some pupils with reading.

In some places there will be an answer box. In other places you may need to write your answer on a diagram or graph.

- Where necessary, you can show the pupils how to change their answers if they think they have made a mistake.

Remember, if you want to change an answer, you should put a line through the answer that you don't want to be marked.

If you need to change a diagram or graph, make sure that you completely rub out or cross out your answer before writing your new answer.

- Where necessary, you can show the pupils how to draw a tick, circle or cross to indicate the answer.

You can use the white space on the page to do any working out if you need to.

You need to work on your own. You need to think of your own answers and you mustn't discuss them with anyone else.

If you can't answer a question, move on to the next one and come back to that question later on if you have time.

You have around 30 minutes to complete the rest of the paper now.

Turn to page 8 and start working.

How to deal with issues during the test	It is impossible to plan for every scenario. Whatever action you take, pupil safety must always be your first consideration. In the following circumstances, you will need to stop the test either for an individual pupil or for the whole cohort: • test papers are incorrectly collated or the print is illegible • an incorrect test has been administered • a fire alarm goes off • a pupil is unwell • a pupil needs to leave the room • a pupil is caught cheating. If you need to stop the test: • make a note of the time • make sure pupils are kept under test conditions and that they are supervised • if pupils have to leave the room, ensure they don't talk about the test • speak to your test co-ordinator or a senior member of staff for advice about what to do next • consider contacting the national curriculum assessments helpline on 0300 303 3013 for further advice. You should brief your headteacher on how the incident was dealt with, once the test is over.
What to do at the end of the test	• Follow your school's procedure for collecting and storing the pupils' test scripts. • If any test papers from the opened pack are unused, they must be stored securely and may be used for any subsequent administration of the test at your school. • All test materials, including any unused test papers, must be stored securely until Monday 3 June. • If you need to make a transcript of a test script, complete it with the individual pupil at the end of the test, under test conditions. Particular care should be taken to ensure accurate transcriptions are made and the pupil's answers are not corrected or amended.
Marking the tests	• Use the key stage 1 test mark schemes to mark the test, following both the general guidance and any specific guidance for each question.

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Optional pupil script for the aural questions

2019 key stage 1 mathematics test Paper 2: reasoning

This is an optional script.

Some pupils may need extra visual support to access the first five aural questions of the key stage 1 mathematics reasoning test. The class teacher can provide this optional script to the pupil(s) in addition to their test booklet if they consider it necessary.

Pupils should use the script alongside their test booklet when listening to the aural questions read by the teacher.

Who is the script for?	• The optional pupil script may be used with any pupil who would find it difficult to access and respond to the aural questions and the visual prompts in the test booklet. • Before administering the test with the optional pupil script, you should consider whether the pupil has any needs where providing the optional pupil script alongside the test would improve their access to the aural questions. • You should only use this script with pupils if you are confident that it will not confuse them.
Assistance	• You must adhere to the administration guidelines in the test administration booklet when administering the test. • Pupils using the optional pupil script will need support so that they can manage the script and the test booklet, and listen to the administrator appropriately.
Before the test begins	• Make a note of pupils who will have access to the optional pupil script for the aural questions. • Make copies of the optional pupil script on page 11, as required. • Provide a copy of the test booklet and the additional optional pupil script to the designated pupils. • Tell the pupils that they should use the script to help them follow the questions as you read them. • Refer to the teacher's aural script to administer the aural section of the test.
What to say at the start of the aural questions	• Follow the administration guidance provided in this document. • Tell the pupils to write their name on their optional script as well as their test booklet. • Remind pupils who have the optional script that they should follow each question as you read it aloud. • Explain to pupils that they should record their answers in their test booklet and not on the optional script.
After the aural questions have been administered	• After the last aural question has been read aloud, collect the optional pupil scripts.
Marking the aural questions	• Use the key stage 1 test mark schemes to mark the tests, following both the general guidance and any specific guidance for each question. • Answers given in the test booklet should take precedence. However, if a pupil has written their answer on the optional script and not in the test booklet, teachers should mark accordingly, as long as the pupil's answer is not contradicted elsewhere.

You may photocopy the optional pupil script for each pupil who is using it during the administration of the aural questions (1 to 5) of Paper 2. Please refer to the guidance on page 10 before using it.

First name	
Middle name	
Last name	

Practice question	Look at each box of counters. Tick the box that has the most counters.
Question 1	Look at the cards. I will read them for you. Monday...Friday...Wednesday...Saturday... Tick the card that shows the name of the day before Thursday.
Question 2	Write an even number that comes between 52 and 57 . Write the number in the box.
Question 3	Look at the five shapes. Tick all of the shapes that have half shaded.
Question 4	Look at the calculation. Write a number in the box to make the calculation correct.
Question 5	What is 96 minus 10 ? Write your answer in the box.

2019 key stage 1 mathematics

Administering Paper 2: reasoning

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