

2018 national curriculum tests

Key stage 1

Mathematics

Paper 1: arithmetic

First name	
Middle name	
Last name	

Total marks

--

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Practice question

$5 + 1 =$

1

$2 + 7 =$



1 mark

2

$37 + 5 =$



1 mark

3

$10 + 20 =$



1 mark

4

$18 - 8 =$



1 mark

5

$$88 - 4 =$$



1 mark

6

$$3 \times 10 =$$



1 mark

7

$$\frac{1}{2} \text{ of } 6 =$$



1 mark

8

$$3 + 30 + 3 =$$



1 mark

9

$6 \times 10 =$



1 mark

10

$100 - 10 =$



1 mark

11

$4 + 81 =$



1 mark

12

$7 \times 2 =$



1 mark

13

$$+ 8 = 20$$



1 mark

14

$$54 + 22 =$$



1 mark

15

$8 \div 2 =$



1 mark

16

$63 - 4 =$



1 mark

17

$$54 - 20 =$$



1 mark

18

$$99 + 10 =$$



1 mark

19

$$67 + 33 =$$



1 mark

20

$$59 - 15 =$$



1 mark

21

$$17 + 48 =$$



1 mark

22

$$\frac{1}{4} \text{ of } 24 =$$



1 mark

23

$$98 - \boxed{} = 28$$



1 mark

24

$$120 \div 10 =$$



1 mark

25

$$74 - 47 =$$



1 mark

End of test

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Standards
& Testing
Agency

2018 key stage 1 mathematics

Paper 1: arithmetic

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2018 national curriculum tests

Key stage 1

Mathematics

Paper 2: reasoning

First name	
Middle name	
Last name	

Total marks	
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Amy



Ajay

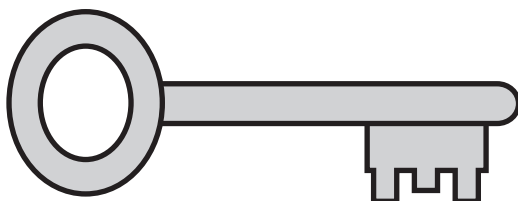
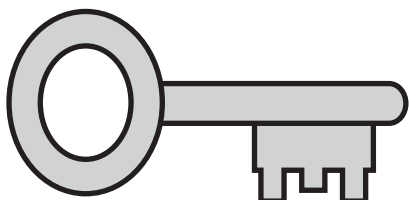
Sam

Ben

Sita

Kemi

Practice question



1

20 2 2



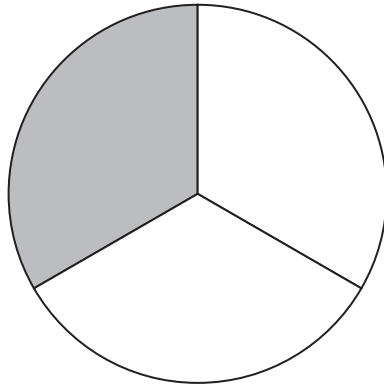
1 mark

2



1 mark

3



$$\frac{1}{2}$$

☐

$$\frac{1}{4}$$

☐

$$\frac{1}{3}$$

☐

$$\frac{3}{4}$$

☐

1 mark

4

13



marbles

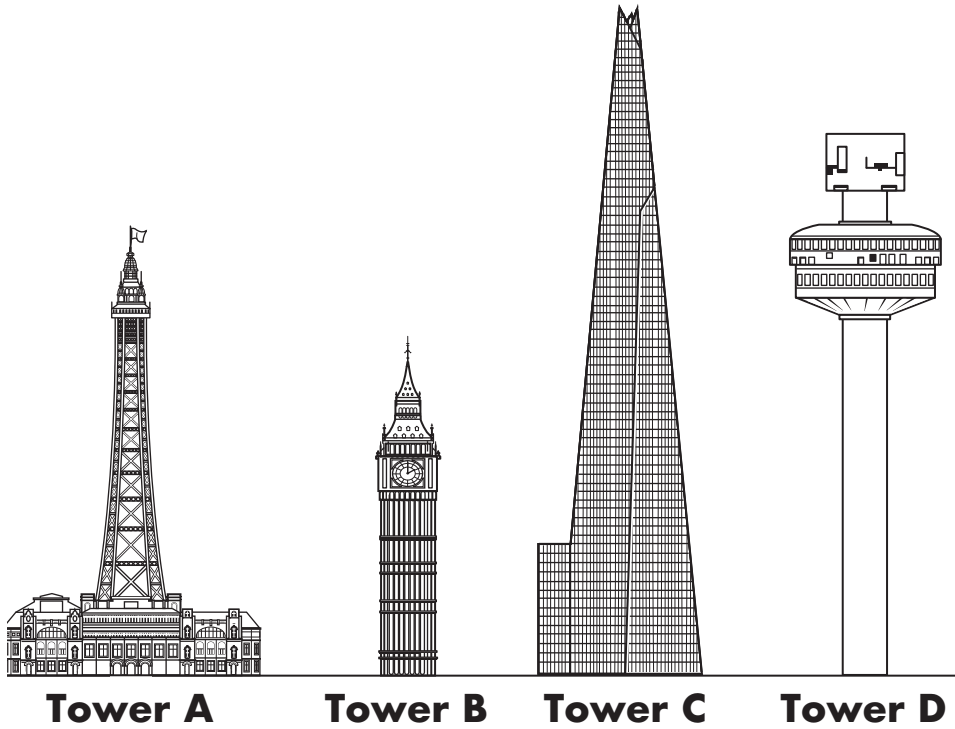

1 mark

5

$$\square \times \square = 25$$



1 mark



Put the four towers in order from **tallest** to **shortest**.

One is done for you.



tallest

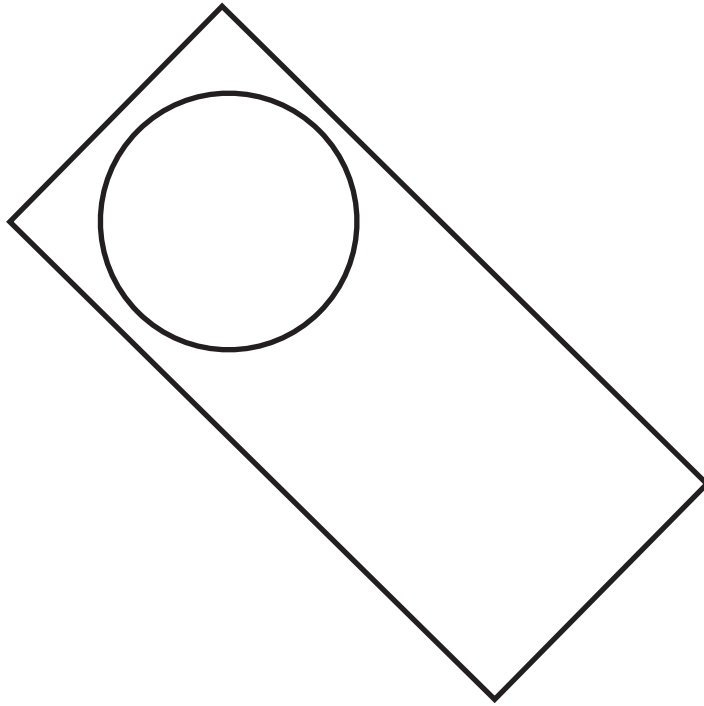


shortest



1 mark

7



Tick the names of the **two** shapes in this picture.

Tick **two**.

triangle

☐

square

☐

rectangle

☐

circle

☐

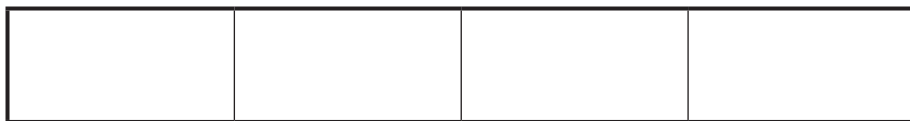
hexagon

☐

1 mark

8

Shade $\frac{3}{4}$ of this shape.



1 mark

9

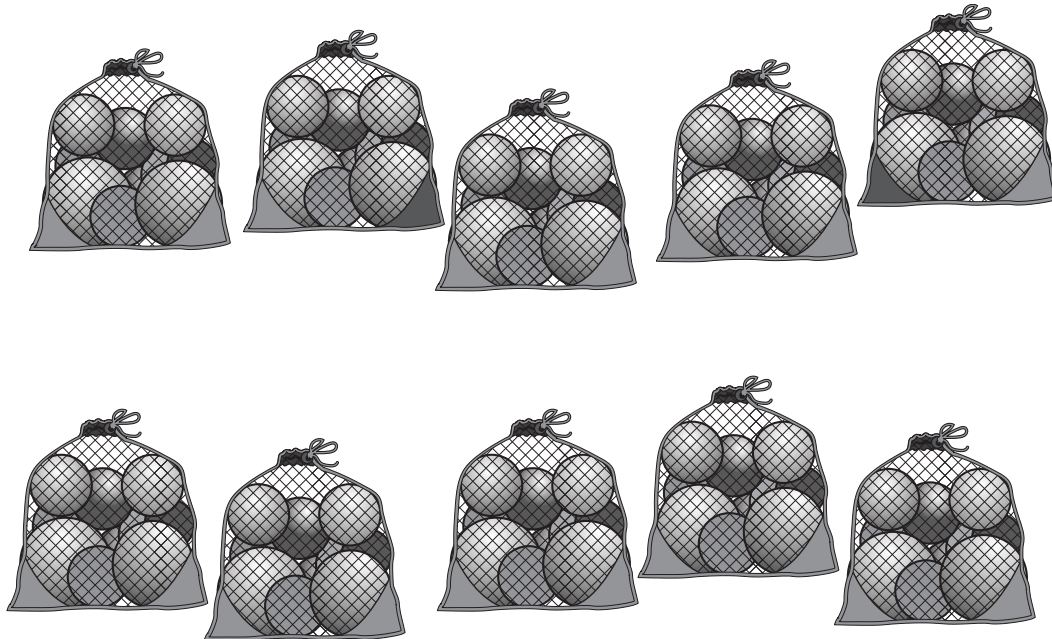
Put a tick below the **fourth black bead**.



1 mark

10

Sita puts **10** balls in each bag.



How many balls are in the bags **altogether**?

balls

1 mark

11 Kemi goes to four clubs each week.

Which club lasts the **longest**?

Circle it.

Swimming

45 minutes

Art

2 hours

Music

75 minutes

Drama

1 hour



1 mark

12 Ajay's plant was **11** centimetres tall.

It grows **7** centimetres taller.

How tall is the plant now?

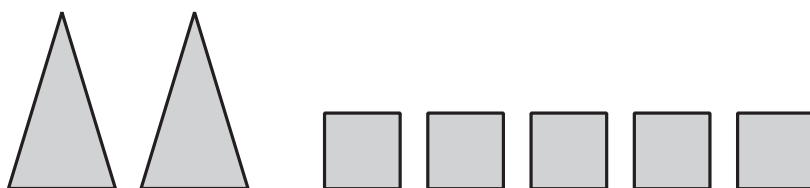


cm

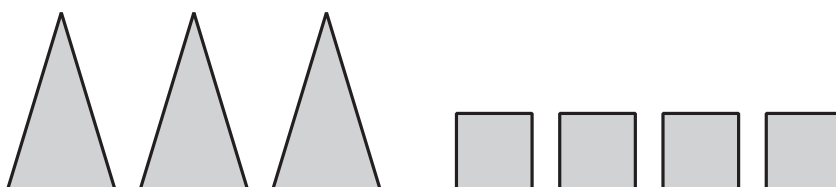

1 mark

13

Amy makes **25** using different shapes for tens and ones.



Amy makes a new number.



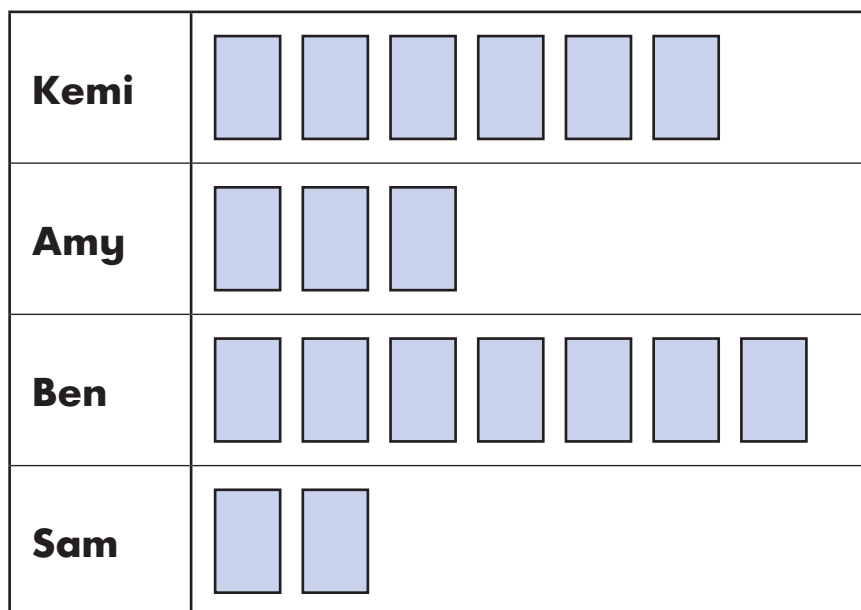
What is Amy's new number?



1 mark

14

The chart shows the number of stickers four children have.

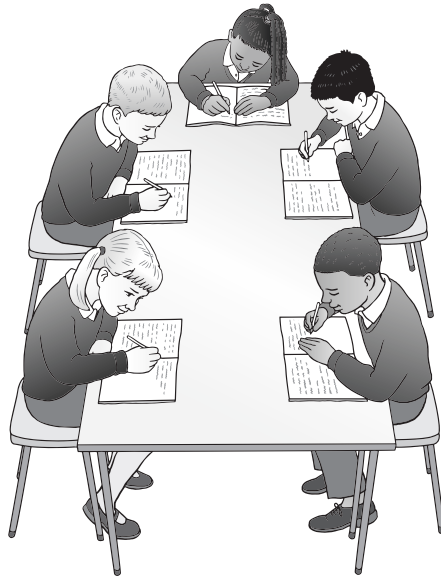


Kemi has more stickers than Sam.

How many **more**?



1 mark



A classroom has **6** tables.

Each table has **5** children sitting at it.

Complete the number sentence to show how many children there are **altogether**.

$$\square \times \square = \square \text{ children}$$

1 mark

16



A shopkeeper has **20** fish and **5** fish bowls.

He puts the same number of fish in each bowl.

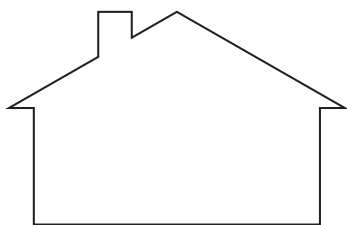
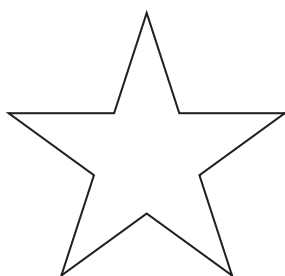
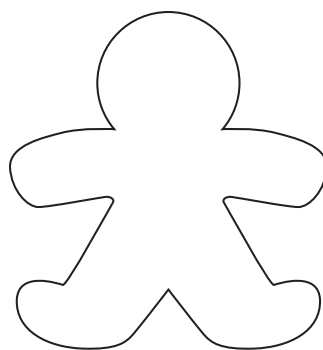
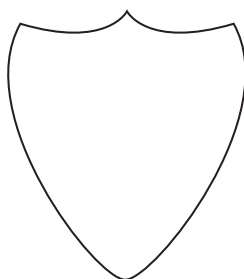
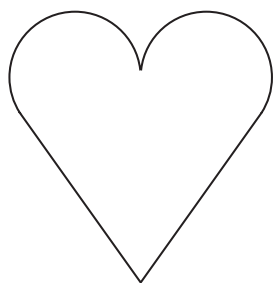
How many fish go in each bowl?

fish


1 mark

17

Tick the shape that does **not** have a line of symmetry.



1 mark

18 Ajay has **20p** in 2p coins.

How many 2p coins does Ajay have?



coins



1 mark

5

40

8

Use only these numbers to make a **different** number sentence each time.

One is done for you.

$$\boxed{5} \times \boxed{8} = \boxed{40}$$

$$\boxed{} \times \boxed{} = \boxed{}$$

$$\boxed{} \div \boxed{} = \boxed{}$$

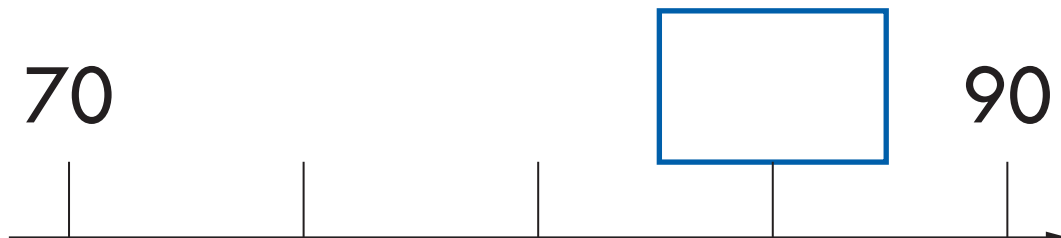


1 mark

20

Here is part of a number line.

Write the correct number in the box.

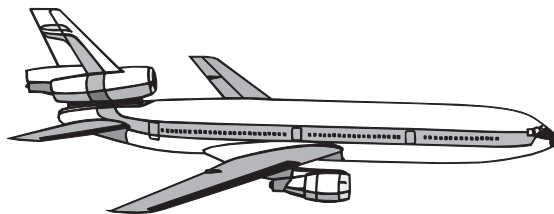


1 mark

21

One plane lands every minute.

How many planes land in **1 hour**?



planes

1 mark

22

Use four **different** number cards to complete the number sentences below.

5	15	25	35	45	55
---	----	----	----	----	----

$$\square + \square = 60$$

$$\square + \square = 60$$



2 marks

23

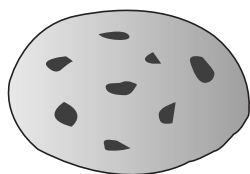
Sam has 55p.

Ben has 10p less than Sam.

Tick the coins that **Ben** has.



1 mark



biscuits
20p each



cakes
25p each

Sam buys **3** biscuits and **1** cake.

How much does Sam spend **altogether**?

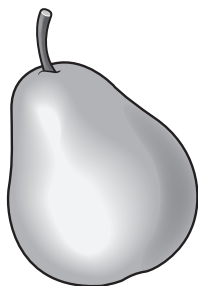
Show
your
working

--

p



2 marks



35p

Amy buys **one** pear for 35p.

She pays with a 50p coin.



How much change does Amy get?

p

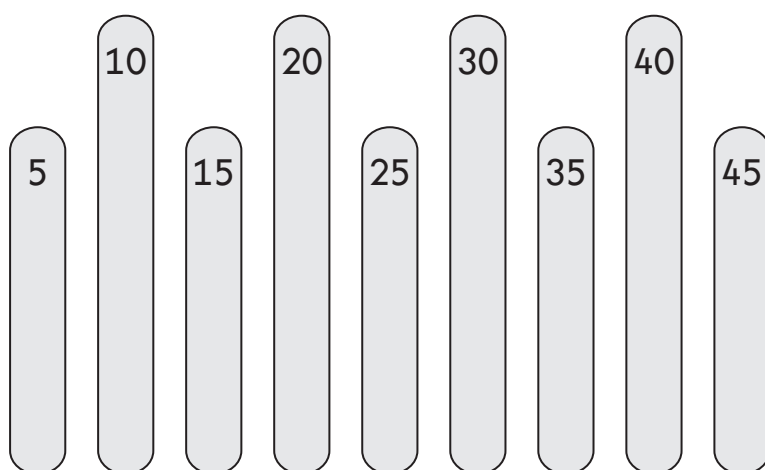


1 mark

26 Kemi makes a pattern with sticks.

Some are long and some are short.

She writes a number pattern on the sticks.



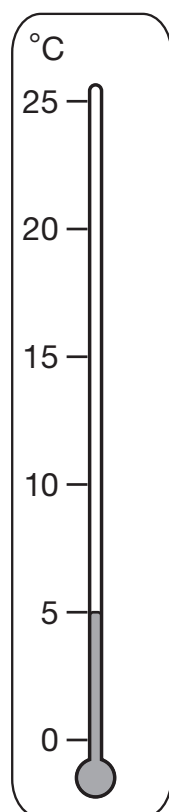
Write the number that will be on the next **short** stick.



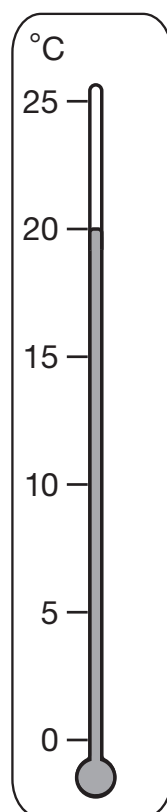
1 mark

27

Look at the thermometers.



playground



classroom

The temperature on the playground is lower than the temperature in the classroom.

How much lower?

°C



1 mark

28

Write the **same** number in both boxes to make the sum correct.

$$\square + \square = 26$$

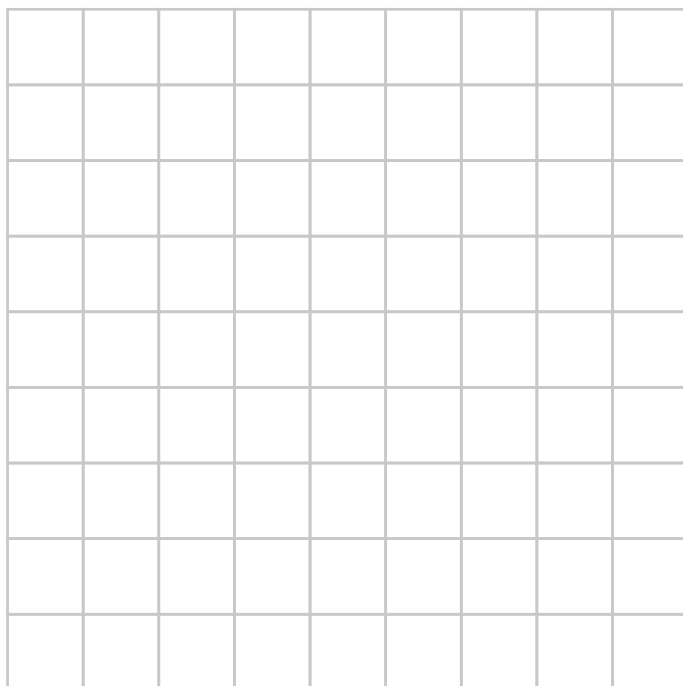


1 mark

29

Draw a rectangle **7cm** long and **3cm** wide.

Use a ruler.



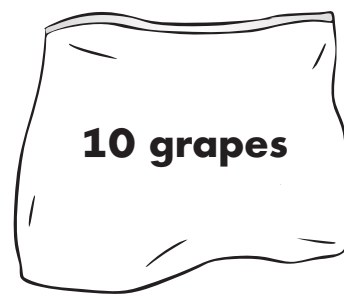
1 mark

30 Ben has **7** bags of grapes.

Each bag has **10** grapes.

Ben gives **25** grapes to his friends.

How many grapes does he have **left**?



Show
your
working

grapes



2 marks

- 31 Write the missing number in the box.

$$13 + 6 = 10 + \boxed{}$$


1 mark

- 32 Write two numbers that are **greater than 20** to make this subtraction correct.

$$\boxed{} - \boxed{} = 2$$


1 mark

End of test

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2018 key stage 1 mathematics

Paper 2: reasoning

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2018 national curriculum tests

Key stage 1

Mathematics

Administering Paper 2: reasoning

CONFIDENTIAL

The mathematics test must be administered during **May 2018**. This pack must be kept secure and unopened until **Tuesday 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 2018 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

2018 Key stage 1 mathematics test

The key stage 1 mathematics test consists of two 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 Friday 1 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: $\frac{1}{2} \frac{1}{4} \frac{1}{3} \frac{3}{4}$ Q7: <i>triangle, square, rectangle, circle, hexagon</i> Q8: $\frac{3}{4}$ Q9: <i>fourth</i> Q17: <i>line of symmetry</i> Q29: <i>rectangle</i> Q30: <i>left</i> may be explained as <i>not taken</i>. - 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. - Ensure that you know how to administer any access arrangements correctly by referring to the 2018 key stage 1 access arrangements guidance. - 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. - Check that there are enough test administrators to maintain supervision and support during the test. You should consider the possibility that at least one test administrator might need to leave the room with a pupil. - Ensure that you understand how to deal with issues during the tests.
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 Sam, Ben, 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 the four keys.

Tick the key that is the longest.

- 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	What is twenty <u>add</u> two <u>add</u> two? Write your answer in the box.
Question 2	I am thinking of a number. It has <u>four</u> tens and <u>two</u> ones. Write my number in the box.
Question 3	Look at the circle. Part of the circle is shaded. Tick the fraction below that shows the <u>shaded</u> part of the circle. Put your tick in the box by the correct fraction.
Question 4	Turn the page over and look at question 4. There are <u>thirteen</u> marbles in a jar. The jar can hold <u>twenty</u> marbles. How many more marbles can fit in the jar? Write your answer in the box.
Question 5	Write the <u>same</u> number in both boxes to make the multiplication correct.

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 Friday 1 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

2018 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.

2018 key stage 1 mathematics test Paper 2: reasoning
Optional pupil script for the aural questions

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 the four keys. Tick the key that is the longest .
Question 1	What is 20 add 2 add 2?
Question 2	I am thinking of a number. It has four tens and two ones. Write my number in the box.
Question 3	Look at the circle. Part of the circle is shaded. Tick the fraction below that shows the shaded part of the circle.
Question 4	There are 13 marbles in a jar. The jar can hold 20 marbles. How many more marbles can fit in the jar?
Question 5	Write the same number in both boxes to make the multiplication correct.

2018 key stage 1 mathematics

Administering Paper 2: reasoning

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Standards
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Agency

OGL

2018 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 2018 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 2018 tests will be published in June 2018.

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 2018 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	1C2a	1	1N1b
2	2C2b	2	2N3/1N2a
3	2C1	3	2F1a
4	1C2a	4	2C4
5	2C2b	5	2C8
6	2C6	6	1M1
7	1F1a	7	1G1a
8	2N1/2C2b	8	2F1a
9	2C6	9	1P2
10	2N1/2N6	10	2N6
11	2C2b	11	2M4b
12	2C6	12	2C4
13	1C4	13	1N4
14	2C2b	14	2S2b
15	2C6	15	2C7/2C6
16	2C2b	16	1C8
17	2N6/2C2b	17	2G2a
18	2N1/2N6	18	2C8/2M3b
19	2C2b	19	2C9b
20	2C2b	20	2N4
21	2C2b	21	2M4c
22	2F1a	22	2C1/2C2b
23	2C3	23	2M9/2M3a
24	2C6/1N1b	24	2C8/2M9
25	2C2b	25	2M9
		26	2N1
		27	2M2
		28	2C4
		29	2M2/1G1a
		30	2C8/2C4
		31	2C4
		32	2C3/2C4

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 for the two working mark questions and one other question 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.

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

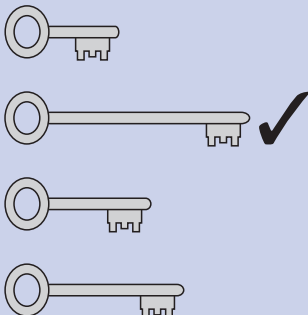
We recommend those who are involved in marking the key stage 1 tests undertake moderation activity to ensure marking is consistent across their school.

7. Mark schemes for Paper 1: arithmetic

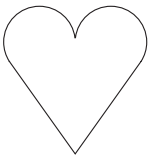
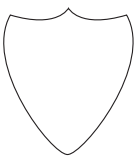
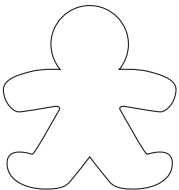
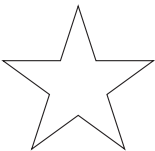
Equivalent answers are **not** acceptable, for example, $10 + 4$ instead of 14. When marking the arithmetic questions, refer specifically to general marking principles 9, 10, 11 and 12.

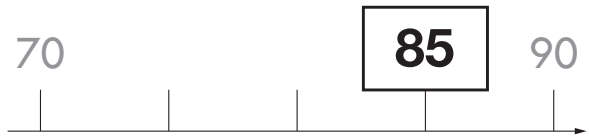
Qu.	Requirement	Mark	Additional guidance
P	6	none	Practice question
1	9	1m	
2	42	1m	
3	30	1m	
4	10	1m	
5	84	1m	
6	30	1m	
7	3	1m	
8	36	1m	
9	60	1m	
10	90	1m	
11	85	1m	
12	14	1m	
13	12	1m	
14	76	1m	
15	4	1m	
16	59	1m	
17	34	1m	
18	109	1m	
19	100	1m	
20	44	1m	
21	65	1m	
22	6	1m	
23	70	1m	
24	12	1m	
25	27	1m	

8. Mark schemes for Paper 2: reasoning

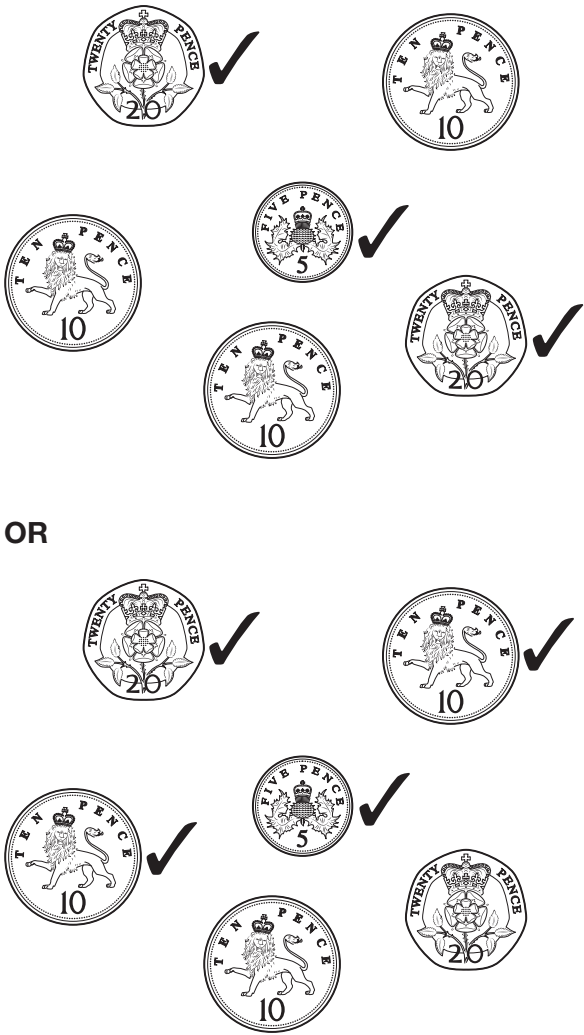
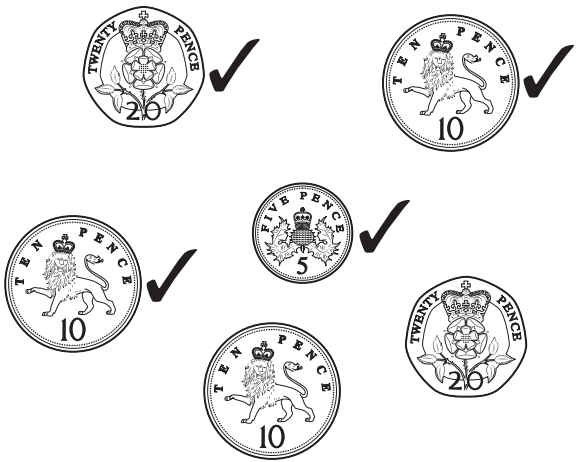
Qu.	Requirement	Mark	Additional guidance								
Aural questions											
P	The correct key ticked as shown: 	none	Practice question								
1	24	1m									
2	42	1m	Accept any number that has 4 tens and 2 ones, e.g. 042, 142, 1042. Refer to general marking principles 10 and 11 on pages 7 – 8.								
3	The correct fraction ticked as shown: <table border="0"> <tr> <td>$\frac{1}{2}$</td><td>☐</td> <td>$\frac{1}{4}$</td><td>☐</td> </tr> <tr> <td>$\frac{1}{3}$</td><td>☒</td> <td>$\frac{3}{4}$</td><td>☐</td> </tr> </table>	$\frac{1}{2}$	☐	$\frac{1}{4}$	☐	$\frac{1}{3}$	☒	$\frac{3}{4}$	☐	1m	Accept any other clear way of indicating the correct answer. Do not award the mark if additional fractions are indicated, unless it is clear the correct fraction is the pupil's final choice.
$\frac{1}{2}$	☐	$\frac{1}{4}$	☐								
$\frac{1}{3}$	☒	$\frac{3}{4}$	☐								
4	7 (marbles)	1m									
5	Number sentence completed correctly as shown: 5 × 5 = 25	1m	The number 5 must appear in both answer boxes for the award of the mark.								
Written questions											
6	Letters put in the correct order as shown: <table border="0"> <tr> <td style="border: 1px solid black; padding: 5px; text-align: center;">C</td> <td style="border: 1px solid black; padding: 5px; text-align: center;">D</td> <td style="border: 1px solid black; padding: 5px; text-align: center;">A</td> <td style="border: 1px solid black; padding: 5px; text-align: center;">B</td> </tr> <tr> <td style="text-align: center;">tallest</td> <td></td> <td></td> <td style="text-align: center;">shortest</td> </tr> </table>	C	D	A	B	tallest			shortest	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, e.g. matching each building to its correct position.
C	D	A	B								
tallest			shortest								

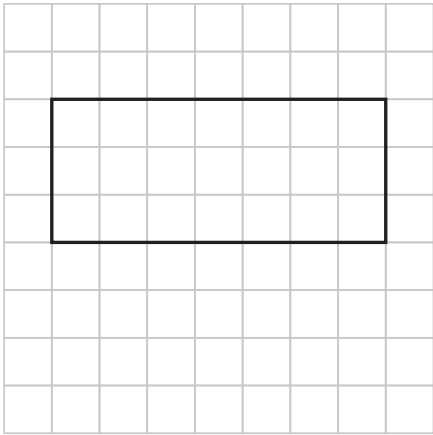
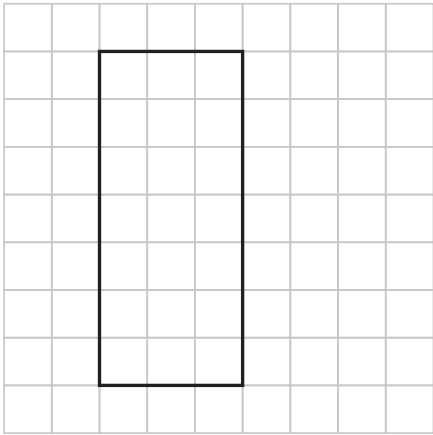
Qu.	Requirement	Mark	Additional guidance
7	Both shapes ticked as shown: Tick two. triangle ☐ square ☐ rectangle ☒ circle ☒ hexagon ☐	1m	Both correct shapes must be indicated for the award of the mark. Accept any other clear way of indicating the two correct shapes. Do not award the mark if additional shapes are indicated, unless it is clear that the two correct shapes are the pupil's final choice.
8	Three-quarters shaded as shown, e.g. 	1m	Accept any other clear way of indicating three-quarters, e.g. marking the appropriate number of sections. Accept slight inaccuracies in shading. Do not award the mark if more or less than three-quarters has been shaded and the intention is not clear, e.g. 
9	The fourth black bead ticked as shown, e.g. 	1m	Accept any other clear way of indicating the correct answer, e.g. circling the fourth black bead, ticking above the fourth black bead etc. Do not award the mark if more than one bead has been indicated, unless it is clear that the fourth black bead is the pupil's final choice.
10	100 (balls)	1m	
11	Longest time indicated as shown: Swimming 45 minutes Art 2 hours Music 75 minutes Drama 1 hour	1m	Accept any other clear way of indicating the correct answer, e.g. ticking the correct club. Do not award the mark if more than one club has been indicated, unless it is clear that the correct club is the pupil's final choice.
12	18 (cm)	1m	

Qu.	Requirement	Mark	Additional guidance
13	34	1m	Refer to general marking principle 9 on page 7.
14	4	1m	
15	Number sentence completed as shown: 5 × 6 = 30 children OR 6 × 5 = 30 children	1m	All three numbers must be correct for the award of the mark.
16	4 (fish)	1m	The correct number of 4 must be seen for the award of the mark. Also accept the word 'four' written as long as it is clear it is the pupil's final answer.
17	Shape indicated as shown:      	1m	Accept any other clear way of indicating the correct answer, e.g. circling or putting a cross on the correct shape. Do not award the mark if more than one shape has been indicated, unless it is clear that the correct shape is the pupil's final choice.
18	10 (coins)	1m	

Qu.	Requirement	Mark	Additional guidance
19	Both number sentences completed as shown: $\boxed{8} \times \boxed{5} = \boxed{40}$ $\boxed{40} \div \boxed{5} = \boxed{8}$ OR $\boxed{8} \times \boxed{5} = \boxed{40}$ $\boxed{40} \div \boxed{8} = \boxed{5}$	1m	All numbers in both number sentences must be correct for the award of the mark.
20	Correct number given as shown: 	1m	
21	60 (planes)	1m	

Qu.	Requirement	Mark	Additional guidance
22	Award TWO marks for two number sentences completed correctly, using four different number cards from those that are given, e.g. $\boxed{55} + \boxed{5} = \boxed{60}$ $\boxed{15} + \boxed{45} = \boxed{60}$ $\boxed{25} + \boxed{35} = \boxed{60}$ Award ONE mark for any one number sentence completed correctly using the given cards only, e.g. $\boxed{25} + \boxed{35} = \boxed{60}$ $\boxed{10} + \boxed{50} = \boxed{60}$ OR Award ONE mark if one number sentence is correct, but the pupil has used the same numbers cards for the other number sentence, e.g. $\boxed{55} + \boxed{5} = \boxed{60}$ $\boxed{5} + \boxed{55} = \boxed{60}$	2m 1m	Accept any other clear way of indicating the correct answers, e.g. matching correct cards to answer boxes. Do not award any marks if the pupil uses numbers that are not given in the question, e.g. $\boxed{59} + \boxed{1} = \boxed{60}$ $\boxed{50} + \boxed{10} = \boxed{60}$

Qu.	Requirement	Mark	Additional guidance
23	Award the mark for any combination of coins indicated that totals 45p, e.g.  OR 	1m	Accept any other clear way of indicating a correct combination of coins, i.e. 20p, 20p and 5p or 20p, 10p, 10p and 5p
24	Award TWO marks for the correct answer of 85 (p). If the answer is incorrect or missing, award ONE mark for evidence of a complete, correct method, e.g. • $20 + 20 + 20 + 25 =$ (incorrect or no answer) • $20 \times 3 = 40$ (error) $40 + 25 =$	2m 1m	Use the example responses given on pages 18 – 19 to help determine how many marks can be awarded.
25	15 (p)	1m	
26	55	1m	
27	15 (°C)	1m	

Qu.	Requirement	Mark	Additional guidance
28	13 written in both boxes as shown: 13 + 13 = 26	1m	The correct number must be written in both boxes for the award of the mark.
29	Rectangle drawn with the correct dimensions 7cm × 3cm, e.g.  OR 3cm × 7cm 	1m	Accept any orientation of the rectangle, with the correct dimensions. Accept slight inaccuracies of drawing the rectangle as long as the intention is clear; allowing a tolerance of up to 5mm. Use the example responses given on pages 20 – 21 to help determine how the mark can be awarded.
30	Award TWO marks for the correct answer of 45 If the answer is incorrect or missing, award ONE mark for evidence of a complete, correct method, e.g. • $7 \times 10 - 25 =$ (incorrect or no answer) • $7 \times 10 = 60$ (error) 60 – 25 =	2m 1m	Use the example responses given on pages 22 – 23 to determine how many marks can be awarded.

Qu.	Requirement	Mark	Additional guidance
31	Number sentence completed as shown: $13 + 6 = 10 +$ 9	1m	Refer to general marking principle 9 on page 7.
32	Award the mark for any two numbers that are greater than 20 with a difference of 2, e.g. • 24 – 22 • 30 – 28 • 49 – 47	1m	Both numbers must be greater than 20 for the award of the mark. Do not award the mark if only one number is greater than 20 and has a difference of 2, e.g. • 22 – 20 Do not award the mark if the numbers are presented in the wrong order, e.g. • 22 – 24 = 2

9. Example responses

9.1 Examples of responses from question 24

Dale: 2 marks

Show your working

$$20 + 20 + 20 = 60$$

$$60 + 25 = 85$$

58 _P

2

Karolina: 1 mark

Show your working

$$3 \text{ lots of } 20 = 60$$

$$60 + 25$$

58 _P

1

Dale and Karolina have recorded the same answer in the answer box. In his working, Dale has shown a complete, correct method with the correct answer. However, in transcribing his answer into the answer box, he has transposed the digits, recording 58 instead of 85. It is clear that his intention was to write 85, but he has miscopied his final answer. In this case we can apply general marking principle 12 (see page 8). Therefore, Dale can be awarded the full **two marks**. In contrast, Karolina has not recorded the correct answer, 85, anywhere. However, she has written a complete, correct method and is awarded **one mark**.

Freya: 1 mark

Show your working

$$60 + 25 = 75$$

75 _P

1

Harmeet: 0 marks

Show your working

$$\begin{array}{r} 20 \\ 40 \\ 60 \end{array}$$

84 _P

0

Freya and Harmeet have an incorrect final answer, but both have provided methods. In her method, Freya has not shown how she has reached 60, but she has shown that 25 has to be added to this amount. Although, she has given an incorrect final answer, she can be awarded **one mark** for a complete, correct method. In contrast, Harmeet has shown how he reached 60 by counting in twenties. However, he has not shown the final step in his working. He has recorded 84 as his final answer, but we do not know that he was attempting to add 25, so his method cannot be considered correct. Therefore, he is awarded **no marks**.

9.1 Examples of responses from question 24 (continued)

Jake: 1 mark

Show your working

$$20 + 20 + 20 = 30$$

$$30 + 25 = 55$$

55 p

1

Esmae: 0 marks

Show your working

$$20 + 25p = 45$$

$$20 + 20 = 40$$

$$40 + 5 = 45$$

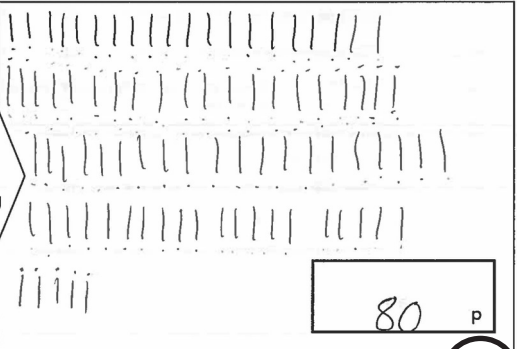
45p

0

Both Jake and Esmae have incorrect final answers and they have provided methods with errors. Jake has made an arithmetic error in his first step of adding twenties. He then correctly added 25 to his first total of 30. Although his final answer is incorrect, he can be awarded **one mark** for his complete, correct method. Esmae, in comparison, has correctly added the cost of one biscuit and one cake, and then separately added the cost of two biscuits. In her last step, she has not added the two totals correctly, only adding 5 instead of 45 to 40, so her method is not correct. Therefore, she is awarded **no marks**.

Jabeen: 1 mark

Show your working

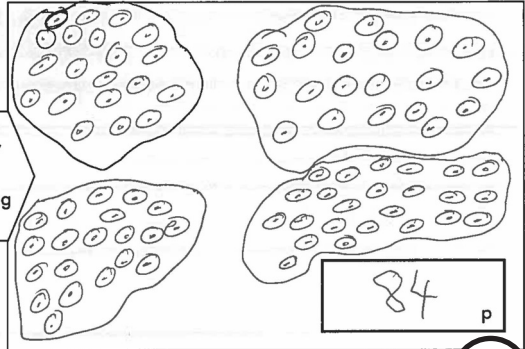


80 p

1

Kirk: 0 marks

Show your working



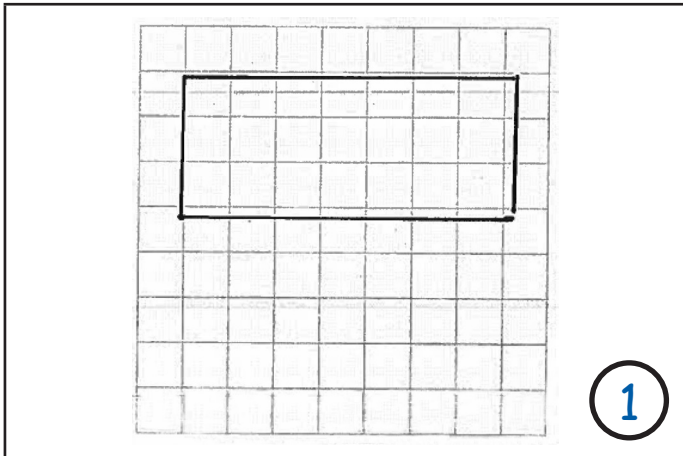
84 p

0

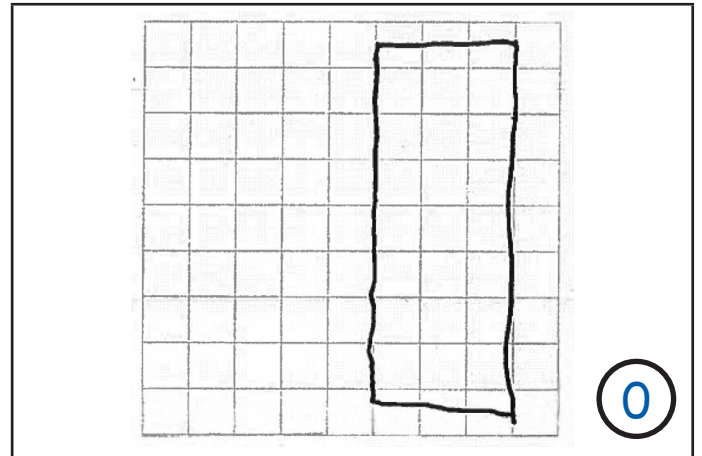
Both Jabeen and Kirk have used a pictorial method to obtain an answer. Jabeen has correctly drawn 85 tallies, but has made a counting error when finding the total number. Her pictorial method is complete and correct so she is awarded **one mark**. Kirk has correctly recorded three groups of 20 pence, but in his fourth group, he has only recorded 24 pence instead of 25 pence. As a consequence, he reached the answer 84 instead of 85. Although he has counted correctly, his method is not correct and he is awarded **no marks**.

9.2 Examples of responses from question 29

Ashley: 1 mark

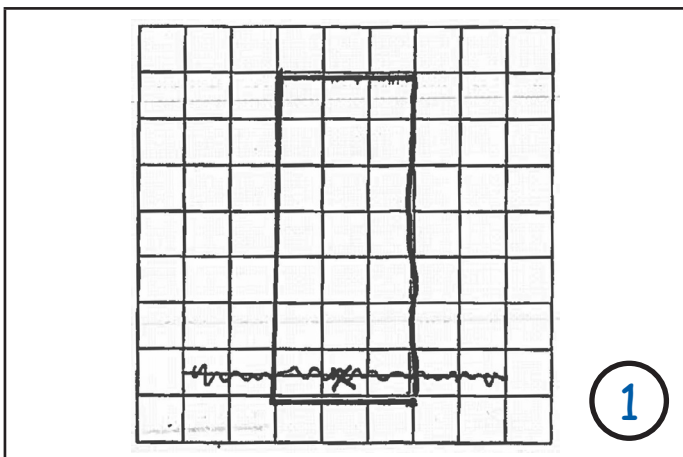


Georgia: 0 marks

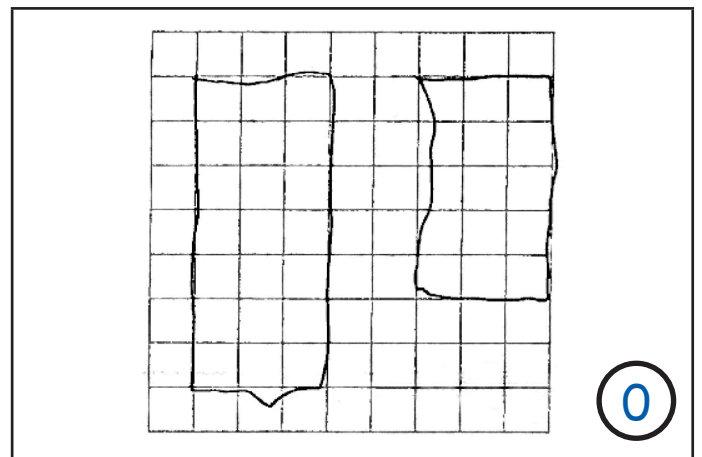


Ashley has drawn a rectangle that is slightly inaccurate ($7.2\text{cm} \times 3.1\text{cm}$), but within the tolerance allowed (5mm), so he is awarded **one mark**. In contrast, Georgia has drawn a rectangle that is outside of the tolerance allowed, and is awarded **no marks**.

Cristina: 1 mark



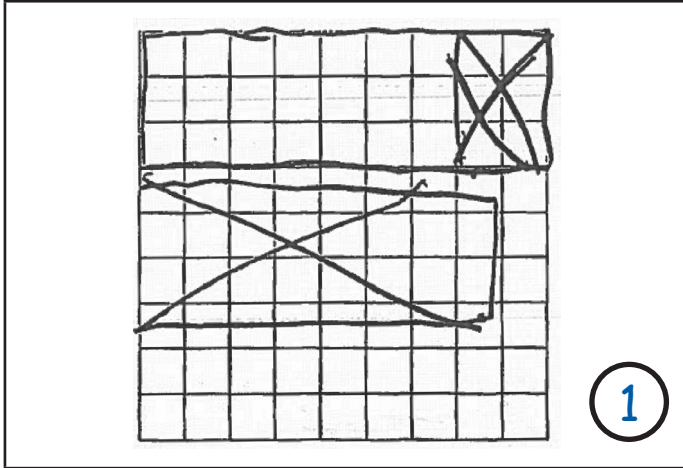
Alfie: 0 marks



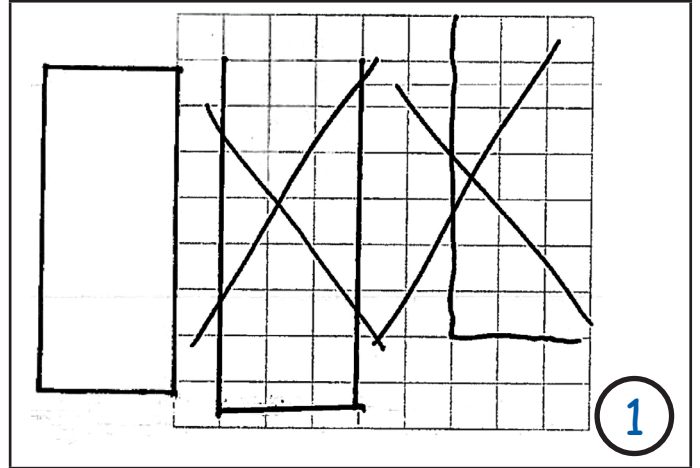
Cristina has superimposed a rectangle that has the correct dimensions over the first line she drew. Her intended answer is clear and she is awarded **one mark**. Alfie has drawn two rectangles and one of them is correct with slight inaccuracies. However, he has not indicated which rectangle is his intended answer. As a result, general marking principle 7 (page 7) is applied and **no marks** can be awarded.

9.2 Examples of responses from question 29 (continued)

Louise: 1 mark



Matteo: 1 mark



Both Louise and Matteo have made corrections in their creditworthy responses. Louise has corrected her response by crossing out. Therefore, she is awarded **one mark**. Similarly, Matteo has corrected his answer, but he has not used the grid for his intended answer. However, he has drawn a rectangle that is creditworthy and therefore is awarded **one mark**.

9.3 Examples of responses from question 30

Hanaa: 2 marks

Show your working

$$70 - 20 = 50$$

$$50 - 5 = 45$$

45 grapes

2

Kyle: 1 mark

Show your working

$$70 - 25 = 55$$

70 0 20 5

55 grapes

1

In their methods, Hanaa and Kyle both calculated 7×10 mentally and then attempted a partitioning method to subtract 25 from 70. Hanaa subtracted 20 correctly and then subtracted 5 from her answer. She recorded the correct answer in the answer box and is awarded **two marks**. Kyle also partitioned 25 into 20 and 5, and calculated the difference in the tens. However, he did not subtract the 5 and, as a result, he provided an incorrect answer. Although his final answer is incorrect, Kyle is awarded **one mark** for his complete, correct method.

Caleb: 1 mark

Show your working

$$7 \times 10 = 70 - 25 = \cancel{45} 55$$

55 grapes

1

Aidan: 0 marks

Show your working

$$10 \times 7 = 70$$

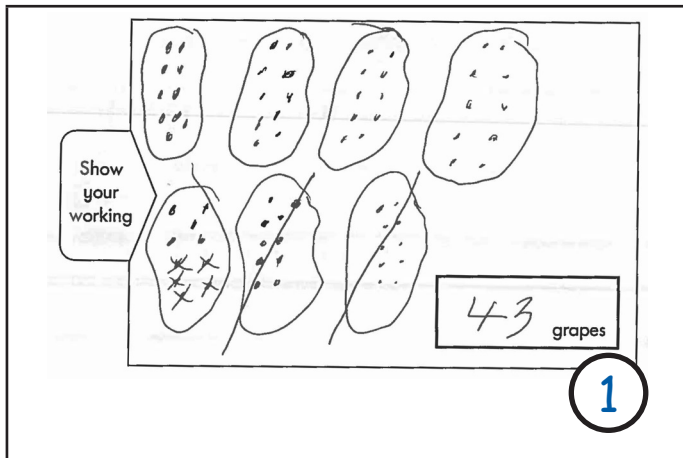
70 grapes

0

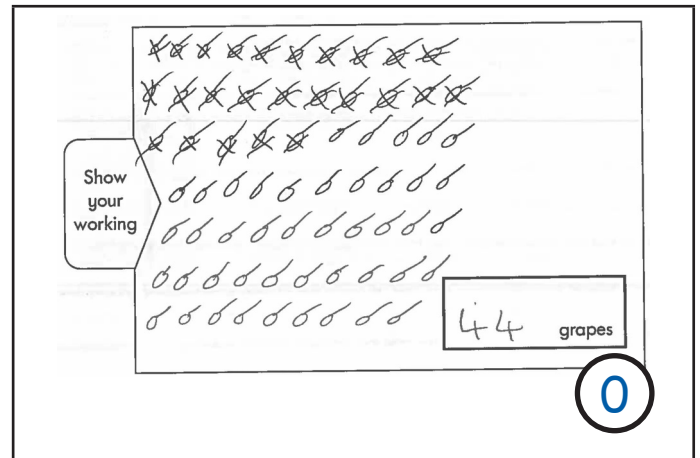
Both Caleb and Aidan have crossed out their work. Caleb recorded a complete, correct method with the correct answer 45 in his working. He then crossed out the 45 and recorded 55 as his final answer. We cannot consider working or answers that have been crossed out. Consequently, Caleb is awarded **one mark** for a complete, correct method only. In comparison, Aidan has only recorded and correctly evaluated one step of the problem. He has not completed the method and has provided the final answer of 70. His final answer is incorrect and he is awarded **no marks**.

9.3 Examples of responses from question 30 (continued)

Izabella: 1 mark

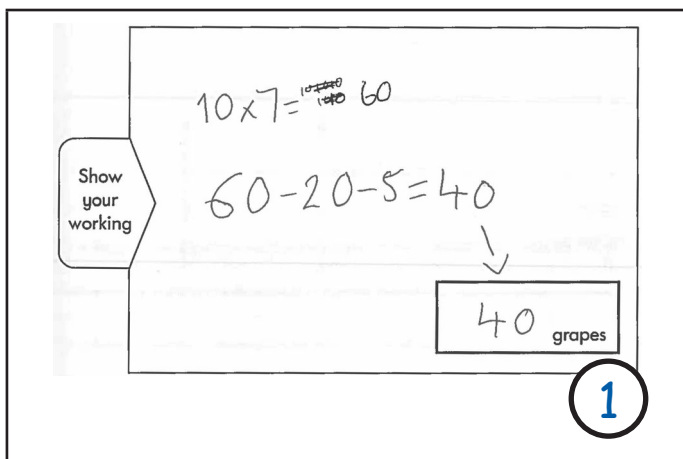


Siobhan: 0 marks

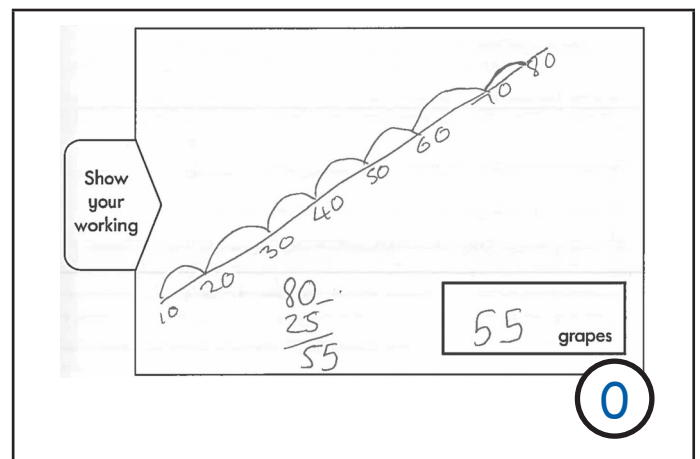


Izabella and Siobhan have both provided an incorrect answer, but have used pictorial methods. Izabella has drawn 7 bags of 10 grapes and has clearly crossed off 25 of these grapes. In her final answer, she has made a counting error, so she is awarded **one mark** for a complete, correct method. In contrast, Siobhan has drawn 69 grapes instead of 70 and although she has correctly crossed off 25 of these, her method is not correct because she did not start with 70. Therefore, she is awarded **no marks**.

Owen: 1 mark



Grace: 0 marks



Owen and Grace have both provided an incorrect final answer, but have included their methods. In Owen's method, he has made two arithmetic errors, but his method is complete and correct; therefore he is awarded **one mark**. Grace has used a number line to calculate, 7×10 . However, because she started to count from ten, she has erroneously reached the answer of 80. She then successfully subtracts 25 from her answer of 80. As a result of her first step being incorrect, she cannot be awarded any marks for her method.



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