

# 2019 national curriculum tests

## Key stage 2

# MATHEMATICS

## Modified large print

## Paper 1: arithmetic

First name

---

Middle name

---

Last name

---

Date of birth

Day

---

Month

---

Year

---

School name

---

DfE number

---

Note to markers:

This paper should be marked using the standard mark schemes for KS2 Mathematics: Paper 1. There is additional guidance on marking some questions in this paper in the Key stage 2 Mathematics amendments to mark schemes – MLP document.

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# Instructions

**You must not use a calculator to answer any questions in this test.**

## Questions and answers

**You will have 30 minutes to complete this test, plus your additional time allowance.**

**Work as quickly and as carefully as you can.**

**Put your answer on the line or in the box for each question.**

**All answers should be given as a single value.**

**For questions expressed as common fractions or mixed numbers, you should give your answers as common fractions or mixed numbers.**

**If you cannot do a question, go on to the next one. You can come back to it later, if you have time.**

**If you finish before the end, go back and check your work.**

## Marks

**In this test, long division and long multiplication questions are worth two marks each. You will be awarded two marks for a correct answer. You may get one mark for showing your method.**

**All other questions are worth one mark each.**

1.  = 6 000 + 90

2.  = 8 275 + 82

3. 826 = 800 +  + 6

4.  + 5 = 341

5.  $9 \times 41 =$  \_\_\_\_\_

6.  $5 \cdot 87 + 3 \cdot 123 =$  \_\_\_\_\_

7.  $180 \div 3 =$  \_\_\_\_\_

8.  $120 \div 12 =$  \_\_\_\_\_

9.  $213 \times 0 =$  \_\_\_\_\_

10.  $91 \div 7 =$  \_\_\_\_\_

11.  =  $87 - 65$

12.  $602 -$   =  $594$

13.  $1210 \div 11 =$  \_\_\_\_\_

14.  $25 \cdot 34 \times 10 =$  \_\_\_\_\_

15.  $60 \div (30 - 24) =$  \_\_\_\_\_

16.  $3^3 =$  \_\_\_\_\_

17.  $101 \times 1000 =$  \_\_\_\_\_

18.  $20\%$  of  $3000 =$  \_\_\_\_\_

19.  $7 - 2.25 =$  \_\_\_\_\_

20.  $0.9 \div 100 =$  \_\_\_\_\_



21.  $9 - 1 \cdot 9 =$  \_\_\_\_\_

22.  $1\frac{3}{7} - \frac{4}{7} =$  \_\_\_\_\_

23. Work out  $836 \times 27$

Show your method.

\_\_\_\_\_

24.  $\frac{1}{5} + \frac{3}{4} =$  \_\_\_\_\_

25. Work out  $888 \div 37$

Show your method.

\_\_\_\_\_

26.  $1\frac{1}{5} + 2\frac{1}{10} =$  \_\_\_\_\_

27. **35% of 320 =** \_\_\_\_\_

28.  $\frac{8}{9} - \frac{1}{4} =$  \_\_\_\_\_

29. **51% of 900 =** \_\_\_\_\_

30. Work out  $3468 \times 62$

Show your method.

\_\_\_\_\_

31.  $\frac{2}{3} \div 3 =$  \_\_\_\_\_

32.  $2\frac{1}{2} - \frac{3}{4} =$  \_\_\_\_\_

33.  $36\%$  of  $450 =$  \_\_\_\_\_

34.  $1\frac{3}{4} \times 10 =$  \_\_\_\_\_

35.  $\frac{5}{6} \times 540 =$  \_\_\_\_\_

36. Work out  $8051 \div 83$

Show your method.

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**END OF TEST**

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2019 key stage 2 mathematics

Paper 1: arithmetic

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2019 national curriculum tests

# Key stage 2

## Mathematics

Administering the modified large print (MLP) version of Paper 1: arithmetic

**WEDNESDAY 15 MAY 2019**

**CONFIDENTIAL:** This pack must be kept secure and unopened until the start of the test on **Wednesday 15 May**.

Early opening, up to 1 hour before the test starts, is only allowed if access to the contents is needed to make adaptations to meet individual pupils' needs. Early opening of more than 1 hour is only allowed if permission has been granted by STA.

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

### Pack contents:

- Administration instructions for the MLP key stage 2 mathematics test Paper 1: arithmetic (overleaf)
- 1 copy of the MLP Paper 1: arithmetic

**For test administration**



Standards  
& Testing  
Agency

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Where we have identified any third-party copyright information you will need to obtain permission from the copyright holders concerned.

### 2019 Key stage 2 mathematics test

The following information explains how to administer the modified large print (MLP) version of the key stage 2 mathematics test Paper 1: arithmetic. Modified test administration guidance is available at [www.gov.uk/sta](http://www.gov.uk/sta). If you have any questions, you should check with your headteacher or key stage 2 test co-ordinator before you administer the test.

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

#### Format

The key stage 2 mathematics test consists of 3 papers. The papers must be administered in order. Pupils can have a break between Paper 1 and Paper 2.

Test packs for each test must not be opened until the pupils are in the test room ready to complete the test, unless early opening is required to meet individual pupils' needs.

The scheduled day for the administration of Papers 1 and 2 is Wednesday 15 May.

The scheduled day for the administration of Paper 3 is Thursday 16 May.

Paper 1: arithmetic consists of a single MLP test paper.

Pupils have 30 minutes to complete the paper, plus up to 100% additional time.

You must not refer to the standard test questions when administering this test.

#### Equipment

Each pupil will need the equipment specified below:

- a blue/black pen or dark pencil
- ruler.

Rubbers are allowed, but please encourage pupils to cross out answers they wish to change instead of rubbing them out.

Pupils **are not** allowed:

- calculators
- tracing paper
- other mathematical equipment, such as angle measurers or mirrors.

#### Assistance

You must ensure that nothing you say or do during the test could be interpreted as giving pupils an advantage, e.g. indicating an answer is correct or incorrect, or suggesting the pupil looks at an answer again.

If a pupil requests it, you may read a question to the pupil on a one-to-one basis.

If reading to a pupil, you may only 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.

The example below illustrates how to deal with a common situation:

**Q.** Do I need to multiply when I calculate 95% of 240?

**A.** I can't tell you, but think hard and try to remember. We can talk about it after the test.

#### Guidance for specific questions

There is no specific guidance needed to administer the MLP version of Paper 1: arithmetic.

### Before the test begins

Review the list of pupils with any particular individual needs, e.g. pupils who may need a rest break, a scribe or a transcript made at the end of the test.

Ensure you know how to administer any access arrangements correctly. Please refer to the 2019 key stage 2 access arrangements guidance.

It is important that the pupils' names on their tests match the names on the test attendance register. Check with your test co-ordinator whether any pupil in your group is known by a different name in school, or has changed their name since pupil registration. This is so you can ensure the pupil writes the correct name on their test paper.

Write the school's name and DfE number on a board that is visible to all pupils. Leave space on the board to write the start and finish times of the test.

### 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 each pupil who needs it has 1 MLP copy of mathematics Paper 1: arithmetic.

Write the start and finish times on a board so that all the pupils can see them.

### How to introduce the test

It is important to brief pupils fully at the start of each test. Use this script to introduce mathematics Paper 1: arithmetic.

*This is the key stage 2 mathematics Paper 1: arithmetic.*

*You will need a blue or black pen or dark pencil.*

*Write your name, school name and DfE number on the front of your test Paper 1: arithmetic.*

[If any pupil's name differs from the name provided during pupil registration, instruct the pupil to write both names on the paper.]

*Open your test paper to page 3. I will read the instructions to you.*

*You must **not** use a calculator to answer any questions in this test.*

*You will have up to 60 minutes to complete this test. This includes your additional time allowance.*

*Work as quickly and as carefully as you can.*

*Put your answer on the line or in the box for each question.*

*All answers should be given as a single value.*

*For questions expressed as common fractions or mixed numbers, you should give your answers as common fractions or mixed numbers.*

*If you cannot do a question, go on to the next one. You can come back to it later, if you have time.*

*If you finish before the end, go back and check your work.*

*In this test, long division and long multiplication questions are worth **2 marks** each. You will be awarded 2 marks for a correct answer. You may get 1 mark for showing your method.*

*All other questions are worth **1 mark** each.*

*If you want to change your answer, put a line through the response you don't want the marker to read. If you have to use a rubber, make sure you rub out your answer completely before writing a new one.*

*Remember to check your work carefully.*

*If you have any questions during the test, you should put your hand up and wait for someone to come to you. Remember, I can't help you answer any of the test questions.*

*You must not talk to each other.*

*Do you have any questions?*

*I will tell you when you have 5 minutes left. I will tell you when the test is over and to stop writing.*

*You may now start the test.*

### 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, a group of pupils 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 do not talk about the test
- speak to your test co-ordinator or a senior member of staff for advice on 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

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.

Ensure you inform your senior member of staff/test co-ordinator if you have made a transcript, or if a pupil has used a scribe, word processor or other electronic or technical device. This is so they can complete the appropriate online notification.

Make sure you have collected every test script. Return them immediately to the senior member of staff who is responsible for collating the tests.

Do not look at, review or amend pupils' answers in any way (unless it is necessary to make a transcript). If you tamper with or make changes to pupils' answers, it will be considered maladministration and results could be annulled.

Do not keep or photocopy test scripts for any reason.

All test materials, including any unused test papers, must be stored securely until Monday 3 June.

# 2019 national curriculum tests

## Key stage 2

# MATHEMATICS

## Modified large print

## Paper 2: reasoning

First name

---

Middle name

---

Last name

---

Date of birth

Day

---

Month

---

Year

---

School name

---

DfE number

---

Note to markers:

This paper should be marked using the modified large print amendments to the mark schemes – MLP with the standard mark schemes for KS2 Mathematics: Paper 2.

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# Instructions

**You must not use a calculator to answer any questions in this test.**

## Questions and answers

**You have 40 minutes to complete this test, plus your additional time allowance.**

**Follow the instructions for each question.**

**Work as quickly and as carefully as you can.**

**If you need to do working out, you can use any space on the page.**

**Some questions say ‘Show your method.’**

**For these questions, you may get a mark for showing your method.**

**If you cannot do a question, go on to the next one.**

**You can come back to it later, if you have time.**

**If you finish before the end, go back and check your work.**

1. Look at the three multiplications below.

Write the missing numbers in the boxes.

$$4 \times 8 = \square$$

$$3 \times \square = 21$$

$$8 \times \square = 56$$

2. Write the number that is **1 000** less than **9 072**

---

3. Order the numbers below starting with the largest.

Draw lines to match each number with its order.

1 230 650

1st

largest

1 009 909

2nd

1 023 065

3rd

1 009 099

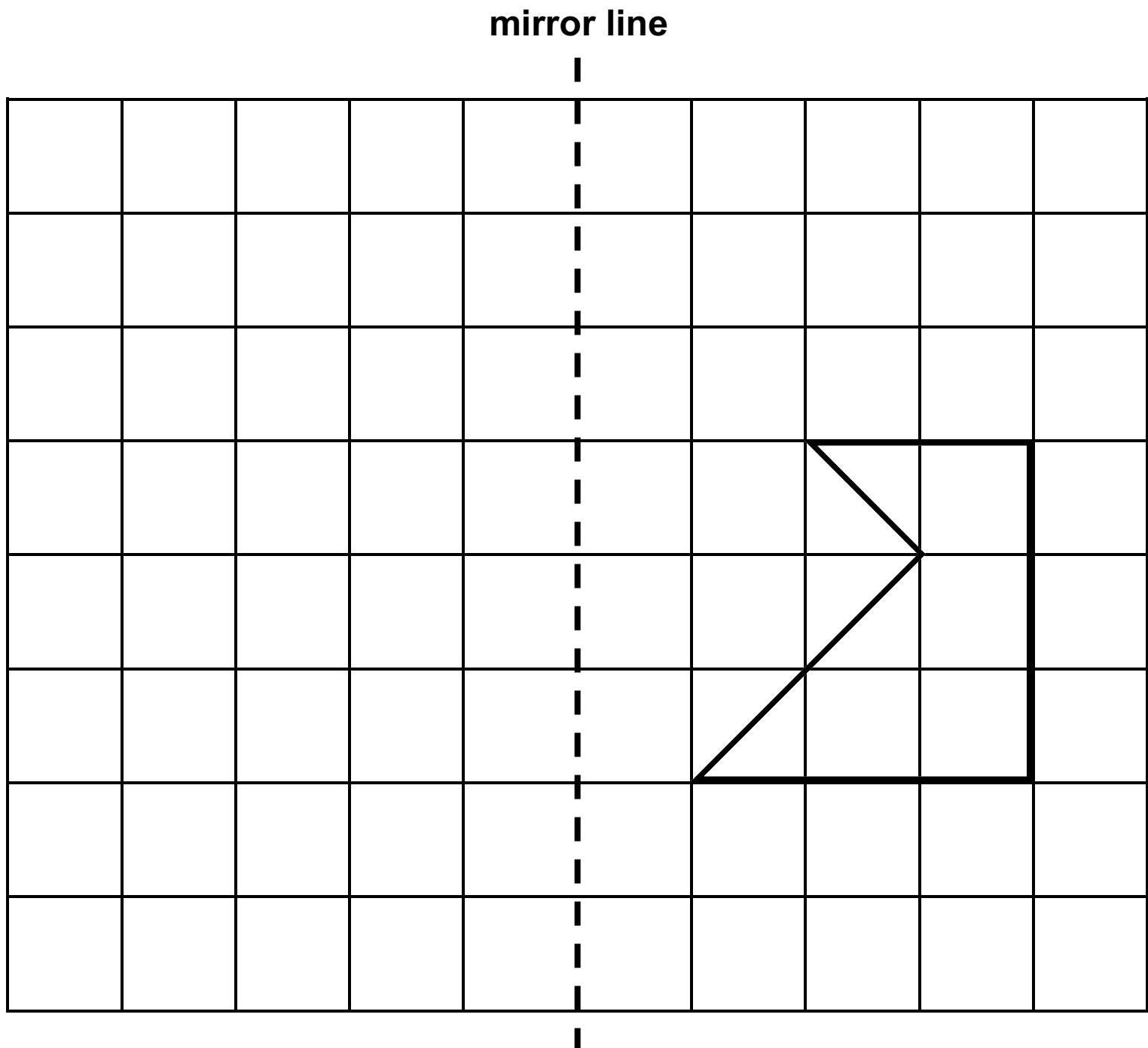
4th

smallest

4. You have a cut-out shape for this question.

Look at the diagram below.

A shape is drawn on a square grid.



Reflect the shape in the mirror line.

Use a ruler.



5. Look at the sequence below.

The numbers increase by **45** each time.

\_\_\_\_\_ **155** **200** **245** \_\_\_\_\_ \_\_\_\_\_

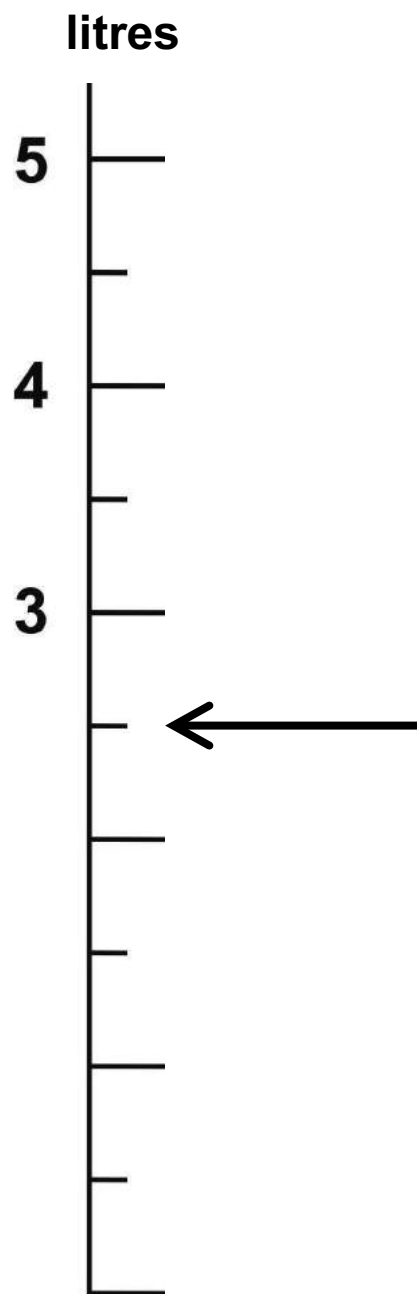
Write the missing numbers in the three spaces.

6. Write the missing number in the box to make the division below correct.

$$0.3 \div \boxed{\phantom{00}} = 0.03$$

7. Look at the number scale below.

It measures litres.



Write the number of litres the arrow is pointing to.

\_\_\_\_\_ litres

8. In the sequence below, the rule to get the next number is multiply by **2** and then add **3**

Some numbers in the sequence are shown below.

\_\_\_\_\_ **25**      **53**      \_\_\_\_\_

Write the missing numbers in the two spaces.

9. Jack chose a number.

He multiplied the number by **7**

Then he added **85**

His answer was **953**

What number did Jack choose?

Show your method.

\_\_\_\_\_

10. A theme park sells tickets online.

Each ticket costs **£24**

There is a **£3** charge for buying tickets.

Look at the four calculations below.

number of tickets  $\times 3 + 24$

number of tickets  $\times 24 + 3$

number of tickets  $+ 3 \times 24$

number of tickets  $+ 24 \times 3$

Tick the calculation that shows how to calculate the total cost in pounds.

**11. Amina is shopping.**

**She says that she would like to buy one-quarter of a kilogram of cheese.**

**Write one-quarter as a decimal.**

\_\_\_\_\_ kg

**The cheese costs £1.35**

**Amina pays with a £2 coin.**

**How much change should Amina get?**

\_\_\_\_\_

12. Look at the three symbols below.

< > =

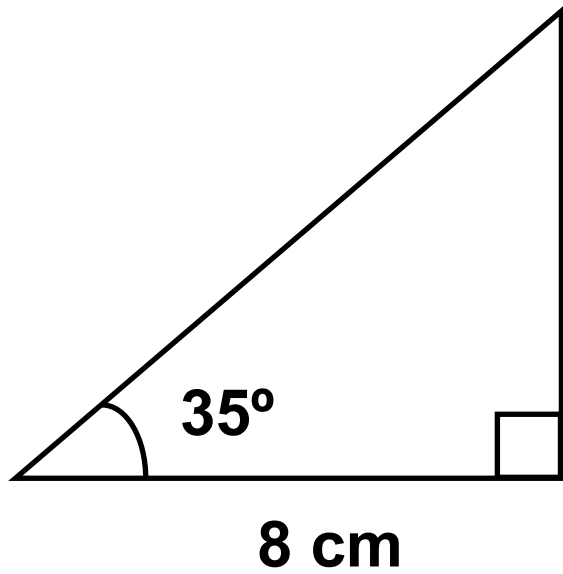
Write one symbol in each box below to make the statements correct.

$$\frac{7}{10} \quad \boxed{\phantom{00}} \quad 0.07$$

$$\frac{23}{1000} \quad \boxed{\phantom{00}} \quad 0.23$$

**13. Look at the sketch of a triangle below.**

**It is not drawn to scale.**



**Draw the full-size triangle accurately.**

**Use the diagram on a separate sheet.**

**Use an angle measurer (protractor) and a ruler.**

**One line has been drawn for you.**

14. Round **39 476** to the nearest **10 000**

---

Round **39 476** to the nearest **1 000**

---

Round **39 476** to the nearest **100**

---



15. Amina asked **60** children to choose their favourite flavour of jelly.

Her results are shown in the table below.

Flavour	Number of children
Raspberry	<b>12</b>
Lemon	<b>8</b>
Orange	<b>15</b>
Blackcurrant	<b>25</b>
Total	<b>60</b>

What percentage of the **60** children chose orange?

\_\_\_\_\_ %

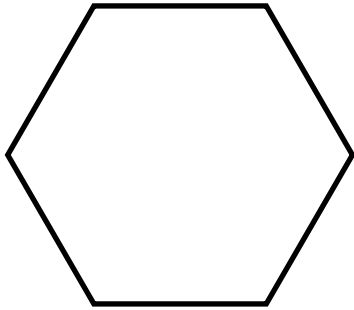
16.  $6 + 2 \times 2 - \square = 6$

Write the missing number in the box.

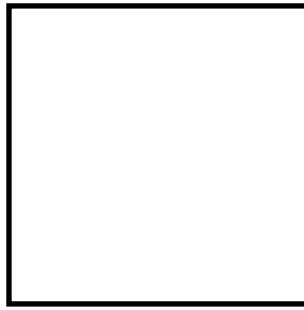
17. Look at the two shapes below.

They are not actual size.

regular hexagon



square



The two shapes have the same perimeter.

The length of each side of the hexagon is **8** centimetres.

Calculate the area of the square.

Show your method.

\_\_\_\_\_  $\text{cm}^2$

18. Look at the three numbers below.

**95      89      87**

**Write the prime number.**

---

**Explain how you know the other numbers are **not** prime.**

19. A machine pours **250** millilitres of juice every **4** seconds.

How many litres of juice does the machine pour every minute?

Show your method.

\_\_\_\_\_ litres

20. Look at the five fractions below.

$$\frac{1}{20}$$

$$\frac{20}{40}$$

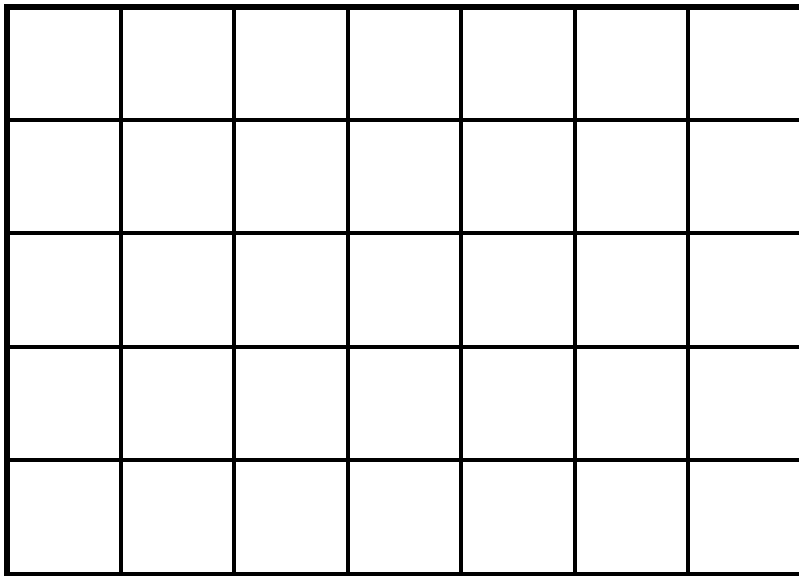
$$\frac{1}{5}$$

$$\frac{3}{15}$$

$$\frac{2}{100}$$

Tick the fractions that are equal to **20%**

21. Adam has this rectangular piece of card. It is marked with grid lines.



Adam makes one straight cut along the grid lines.

The cut divides the rectangle into **2** shapes:

**1** square and

**1** rectangle.

Using the grid lines, draw one line that shows where Adam could have made his cut.

You may use the diagram on a separate sheet.

Use a ruler.

22. The table below shows the maximum temperature for five days.

Day	Temperature °C
Monday	8.1
Tuesday	9.3
Wednesday	11.9
Thursday	11.8
Friday	12.4

For what fraction of the five days was the maximum temperature below  $10^{\circ}\text{C}$ ?

---

What was the mean maximum temperature, to one decimal place?

Show your method.

---

°C

**23. Amina makes a cuboid using centimetre cubes.**

**Her cuboid has**

**length 6 cm**

**width 3 cm**

**height 4 cm**

**Stefan makes a cuboid that is**

**5 cm longer**

**5 cm wider**

**5 cm taller than Amina's cuboid**

**What is the difference between the number of cubes in Amina's and Stefan's cuboids?**

**Show your method.**

**\_\_\_\_\_ cubes**



**END OF TEST**



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2019 key stage 2 mathematics

Paper 2: reasoning

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2019 national curriculum tests

# Key stage 2

## Mathematics

Administering the modified large print (MLP) version of Paper 2: reasoning

**WEDNESDAY 15 MAY 2019**

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

### Pack contents:

- Administration instructions for the MLP key stage 2 mathematics test Paper 2: reasoning (overleaf)
- 1 copy of the MLP Paper 2: reasoning
- 1 model pack
- 2 copies of the diagrams for questions 13 and 21

**For test administration**



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## 2019 Key stage 2 mathematics test

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

### Format

The key stage 2 mathematics test consists of 3 papers. The papers must be administered in order. Pupils can have a break between Paper 1 and Paper 2. Test packs for each test must not be opened until the pupils are in the test room ready to complete the test, unless early opening is required to meet individual pupils' needs. The scheduled day for the administration of Papers 1 and 2 is Wednesday 15 May. The scheduled day for the administration of Paper 3 is Thursday 16 May.

Paper 2: reasoning consists of a single MLP test paper.

Pupils will have 40 minutes, plus up to 100% additional time, to complete the test paper.

You must not refer to the standard test questions when administering this test.

### Equipment

Each pupil will need the equipment specified below:

- a blue/black pen or dark pencil
- a sharp, dark pencil for mathematical drawing
- a ruler (showing centimetres)
- an angle measurer or protractor (Papers 2 and 3 only)
- a mirror (Papers 2 and 3 only)

Rubbers are allowed, but please encourage pupils to cross out answers they wish to change instead of rubbing them out.

Pupils may use the following equipment, if this is normal classroom practice:

- monolingual English electronic spell checkers
- bilingual word lists
- bilingual dictionaries or electronic translators, provided they only give word-for-word translations.

Pupils are **not** allowed:

- calculators
- tracing paper.

### Assistance

You must ensure nothing you say or do during a test could be interpreted as giving pupils an advantage, e.g. indicating an answer is correct or incorrect, or suggesting the pupil looks at an answer again.

If a pupil requests it, you may read a question to the pupil on a one-to-one basis.

If reading to a pupil, you may only read words and numbers, but not mathematical symbols. This is to ensure pupils are not given an unfair advantage by having the function inadvertently explained by reading its name.

At a pupil's request, 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.

The following examples illustrate how to deal with some common situations:

**Q.** What does 'quadrilateral' or '>' or '<' mean?

**A.** I can't tell you, but think hard and try to remember. We can talk about it after the test.

**Q.** What is '0.6'?

**A.** That's nought point six.

You must not explain any subject-specific terminology. If any context or words related to a question are unfamiliar to a pupil, you may show them related objects or pictures, or describe the context.

### Guidance for specific questions

There is a shape supplied for **question 4**. Make sure that this is at hand for when the pupil reaches this question. Question 4 must **not** be enlarged.

For **question 7**, part of the scale is not labelled. This is intentional. This is part of the demand of the question.

There are separate copies of the diagrams for **questions 13 and 21** in the pack. Secure them to the pupil's test booklet, if used.

### Before the test begins

Open the pack containing the shape ready for use in question 4.

Review the list of pupils with any particular individual needs, e.g. pupils who may need a rest break, a scribe or a transcript made at the end of the test.

Ensure you know how to administer any access arrangements correctly. Please refer to the 2019 key stage 2 access arrangements guidance.

It is important that the pupils' names on their tests match the names on the test attendance register. Check with your test co-ordinator whether any pupil in your group is known by a different name in school, or has changed their name since pupil registration. This is so you can ensure the pupil writes the correct name on their test paper.

Write the school's name and DfE number on a board that is visible to all pupils.

Leave space on the board to write the start and finish times of the test.

### What to do at the start of the test

Check that seating is appropriately spaced.

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 each pupil who needs it has 1 MLP copy of mathematics Paper 2: reasoning.

Write the start and finish times on a board so that all the pupils can see them.

### How to introduce the test

It is important to brief pupils fully at the start of each test. Use this script to introduce mathematics Paper 2: reasoning.

*This is the key stage 2 mathematics Paper 2: reasoning.*

*You will need a blue or black pen, a sharp, dark pencil, a ruler, a protractor and a mirror.*

*Write your name, school name and DfE number on the front of your mathematics test Paper 2: reasoning.*

[If any pupil's name differs from the name provided during pupil registration, instruct the pupil to write both names on the paper.]

*Open your test paper to page 3. I will read the instructions to you.*

*You must **not** use a calculator to answer any questions in this test.*

*You have up to 80 minutes to complete the test. This includes your additional time allowance.*

*Follow the instructions for each question.*

*Work as quickly and as carefully as you can.*

*If you need to do working out, you can use any space on the page.*

*Some questions say 'Show your method.' For these questions, you may get a mark for showing your method.*

*If you cannot do a question, go on to the next one. You can come back to it later, if you have time.*

*If you finish before the end, go back and check your work.*

*If you want to change your answer, put a line through the answer you don't want the marker to read.*

*If you want to change a drawing, you should either put a line through the answer you don't want the marker to read, or use a rubber.*

*If you have to use a rubber, make sure you rub out your answer completely before writing a new one.*

*Remember to check your work carefully.*

*If you have any questions during the test, you should put your hand up and wait for someone to come to you. Remember, I can't help you answer any of the test questions.*

*You must not talk to each other.*

*Do you have any questions?*

*I will tell you when you have 5 minutes left. I will tell you when the test is over and to stop writing.*

*You may now start the test.*

### 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, a group of pupils 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 the pupils are kept under test conditions and that they are supervised
- if the pupils have to leave the room, ensure they do not talk about the test
- speak to your test co-ordinator or a senior member of staff for advice on 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

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.

Ensure you inform your senior member of staff/test co-ordinator if you have made a transcript, or if a pupil has used a scribe, word processor or other electronic or technical device. This is so they can complete the appropriate online notification.

Make sure you have collected every test script. Return them immediately to the senior member of staff who is responsible for collating the tests.

Do not look at, review or amend pupils' answers in any way (unless it is necessary to make a transcript). If you tamper with or make changes to pupils' answers, it will be considered maladministration and results could be annulled.

Do not keep or photocopy test scripts for any reason.

All test materials, including any unused test papers, must be stored securely until Monday 3 June.

# 2019 national curriculum tests

## Key stage 2

# MATHEMATICS

## Modified large print

## Paper 3: reasoning

First name

---

Middle name

---

Last name

---

Date of birth

Day

---

Month

---

Year

---

School name

---

DfE number

---

Note to markers:

This paper should be marked using the modified large print amendments to the mark schemes – MLP with the standard mark schemes for KS2 Mathematics: Paper 3.

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# Instructions

**You must not use a calculator to answer any questions in this test.**

## Questions and answers

**You have 40 minutes to complete this test, plus your additional time allowance.**

**Follow the instructions for each question.**

**Work as quickly and as carefully as you can.**

**If you need to do working out, you can use any space on the page.**

**Some questions say ‘Show your method.’**

**For these questions, you may get a mark for showing your method.**

**If you cannot do a question, go on to the next one.**

**You can come back to it later, if you have time.**

**If you finish before the end, go back and check your work.**

1. The original price of a car is **£8 999**

In a sale there is **£1 100** off the original price.

What is the sale price of the car?

£ \_\_\_\_\_

2. Look at this number

**3 576 219**

Which digit is in the ten thousands place?

\_\_\_\_\_

Round **3 576 219** to the nearest million.

\_\_\_\_\_



3. Dev had **£10**

He gave some money away.

**p** is the amount of money, in pounds, that Dev gave away.

Look at the five expressions below.

$$10 + p$$

$$10 \div p$$

$$p - 10$$

$$10 - p$$

$$p \times 10$$

Write the expression that shows how much money Dev has left.

---

4. Look at the four masses below.

**1.25 kg**

**0.99 kg**

**1.025 kg**

**0.009 kg**

Write the masses in order, starting with the lightest.

---

**lightest**

5. Look at the addition below.

$$\begin{array}{|c|c|c|} \hline & 2 & \\ \hline \end{array} + \begin{array}{|c|c|} \hline & 2 \\ \hline \end{array} = 200$$

Write the missing digits in the three boxes to make this addition correct.

6. John buys one toy car and one pack of stickers.

The toy car costs **£1.49**

The pack of stickers costs **£1.64**

He pays with a **£10** note.

How much change does John get?

Show your method.

£ \_\_\_\_\_

7. The list below shows the masses of eight kittens.

305 g      375 g      310 g      255 g

275 g      410 g      360 g      345 g

What is the difference in mass between the heaviest kitten and the lightest kitten?

\_\_\_\_\_ g

The masses of the kittens are to be put in four groups.

Write the missing numbers in the table below.

One has been done for you.

Mass in g	Number of kittens
250 - 299	
300 - 349	
350 - 399	
400 - 449	1

8. Ken is playing a game.

He has **4 289** points.

Then he scores another **355** points.

Ken's target is **6 000** points.

How many **more** points does Ken need to reach his target?

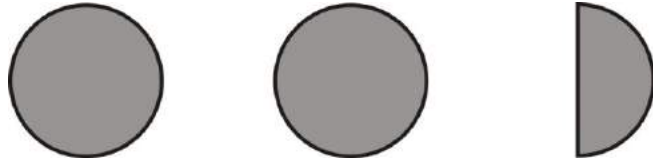
Show your method.

---

9. The pictogram below shows the number of satellites above the Earth in 2016.

Each circle represents **1 000** satellites.

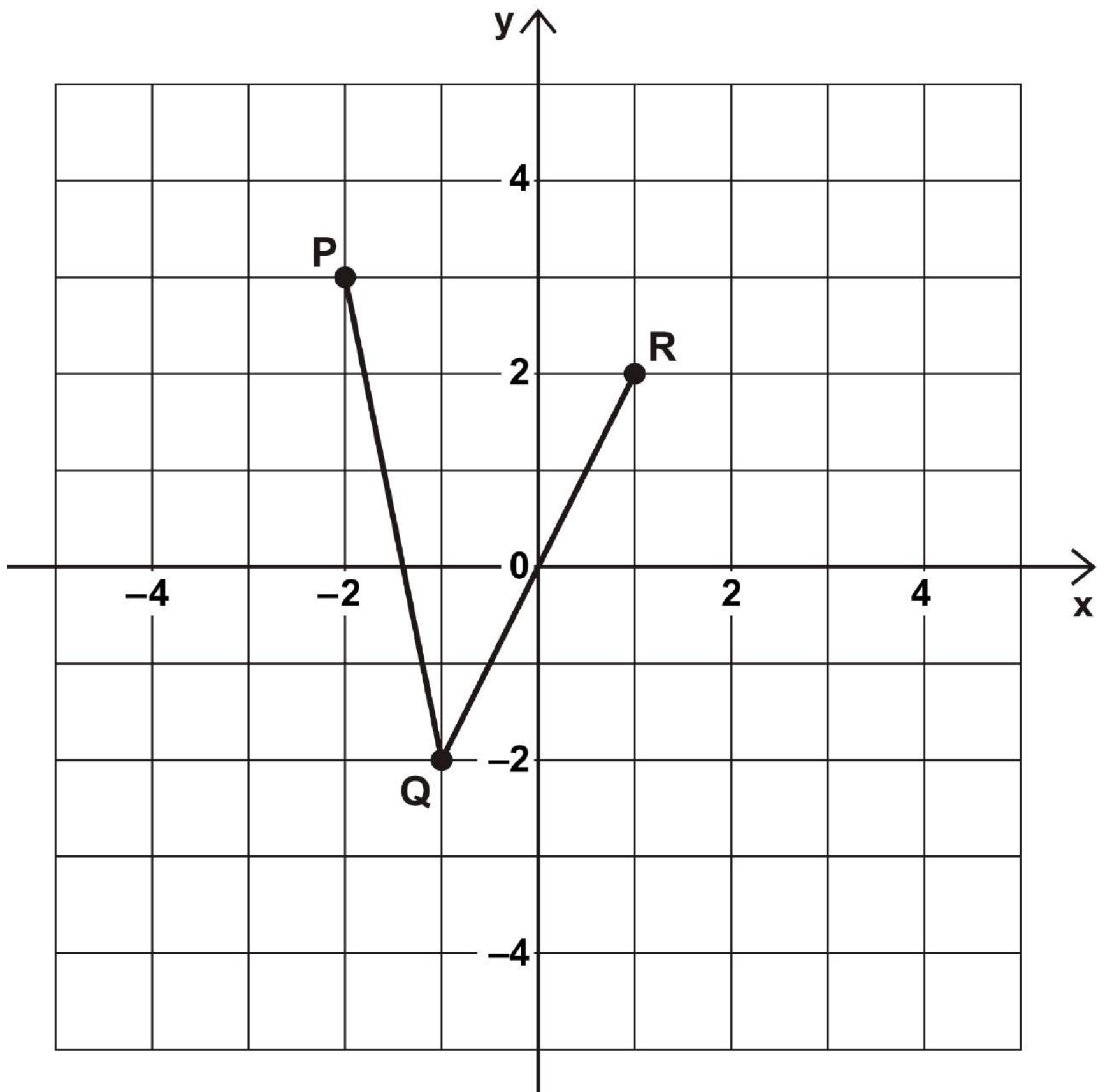
Number of satellites in 2016



How many satellites were above the Earth in 2016?

---

10. Look at the grid below.



Three points **P** **Q** and **R** are joined by two lines.

Lara plots another point **S** on the grid.

The coordinates of **S** are  $(-1, 2)$

She joins the points to make a quadrilateral **PQRS**.

- a) Mark point **S** on the grid.
- b) Lara then translates the quadrilateral **4** squares to the right.  
Write the new coordinates of point **P**.

( \_\_\_\_\_ , \_\_\_\_\_ )

11. In this question, you may use the numbers more than once.

Look at the five numbers below.

**2      3      4      5      6**

Write the prime numbers from the list.

One has been done for you.

**2**  
\_\_\_\_\_

Write the factors of **12** from the list.

One has been done for you.

**2**  
\_\_\_\_\_

Write the factors of **15** from the list.

\_\_\_\_\_



12. Amina's bed is **190 cm** in length and **91 cm** in width.

She is making a one-tenth scale model of the bed.

What are the length and width of Amina's model?

length = \_\_\_\_\_ cm

width = \_\_\_\_\_ cm

13. Kirsty says that when you double the size of an acute angle, you always get an obtuse angle.

Explain why Kirsty is **not** correct.

**14. How many days are there in September, October and November altogether?**

\_\_\_\_\_ **days**

**15. The International Space Station orbits the Earth at a height of 250 miles.**

**What is the height of the International Space Station in kilometres?**

**Use 8 kilometres equals 5 miles.**

\_\_\_\_\_ **km**

16. Potatoes cost **£1.50** per kg.

Carrots cost **£1.80** per kg.

Jack buys  $1\frac{1}{2}$  kg of potatoes and  $\frac{1}{2}$  kg of carrots.

Work out how much change he gets from **£5**

Show your method.

£ \_\_\_\_\_

17.  $x + 2y = 20$

**X** and **y** are whole numbers less than **10**

What could **X** and **y** be?

**x** = \_\_\_\_\_

**y** = \_\_\_\_\_

18. Look at the five fractions below.

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

$$\frac{2}{8}$$

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

$$\frac{7}{16}$$

$$\frac{24}{32}$$

Tick the fractions less than  $\frac{5}{8}$

19. Layla makes jewellery to sell at a school fair.

Each bracelet has **53** beads.

She makes **68** bracelets.

Each necklace has **105** beads.

She makes **34** necklaces.

How many beads does Layla use altogether?

Show your method.

\_\_\_\_\_ beads

20. Adam is making booklets.

Each booklet must have **34** sheets of paper.

He has **2** packets of paper.

There are **500** sheets of paper in each packet.

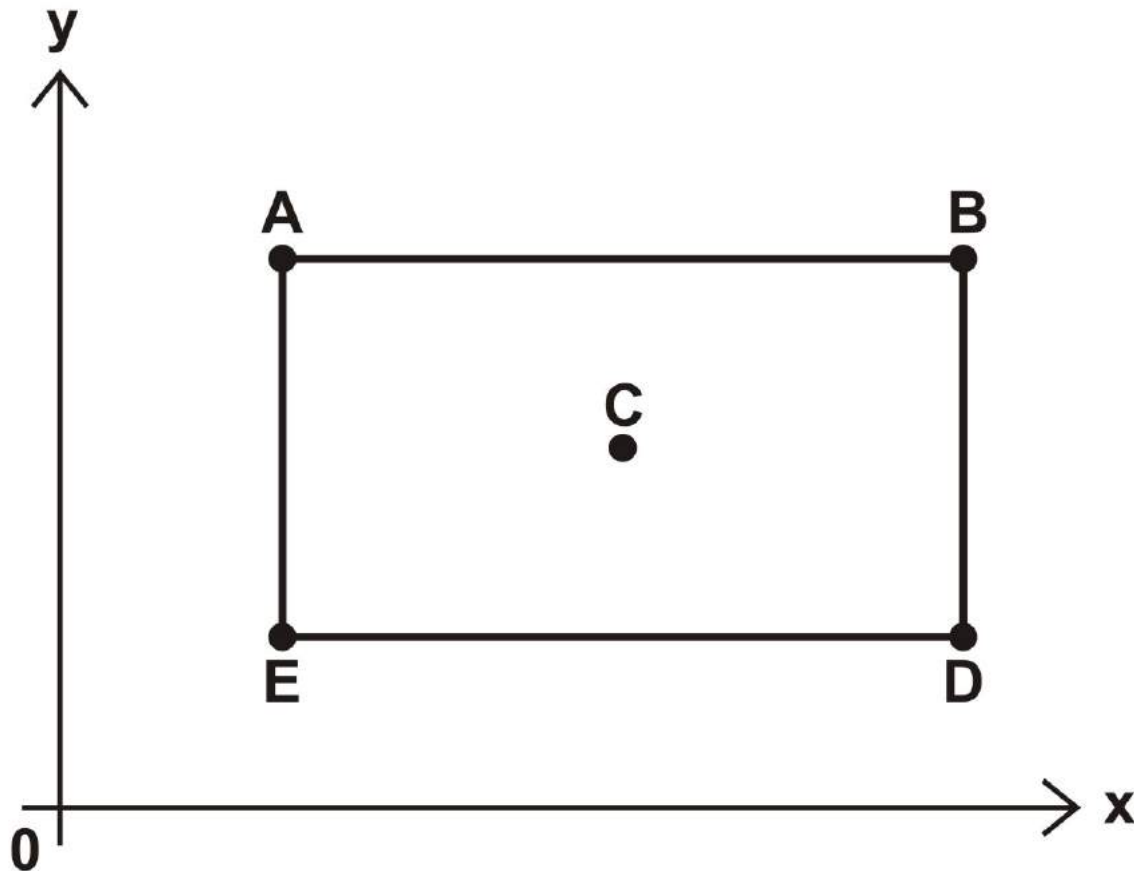
How many complete booklets can Adam make from **2** packets of paper?

Show your method.

\_\_\_\_\_ booklets

21. Look at the diagram below.

It is not to scale.



**ABDE** is a rectangle on coordinate axes.

The sides of the rectangle are parallel to the axes.

The coordinates of **A** are **(25, 30)**

The coordinates of **C** are **(40, 22)**

Point **C** is the centre of the rectangle.

Work out the coordinates of **B** and **D**.

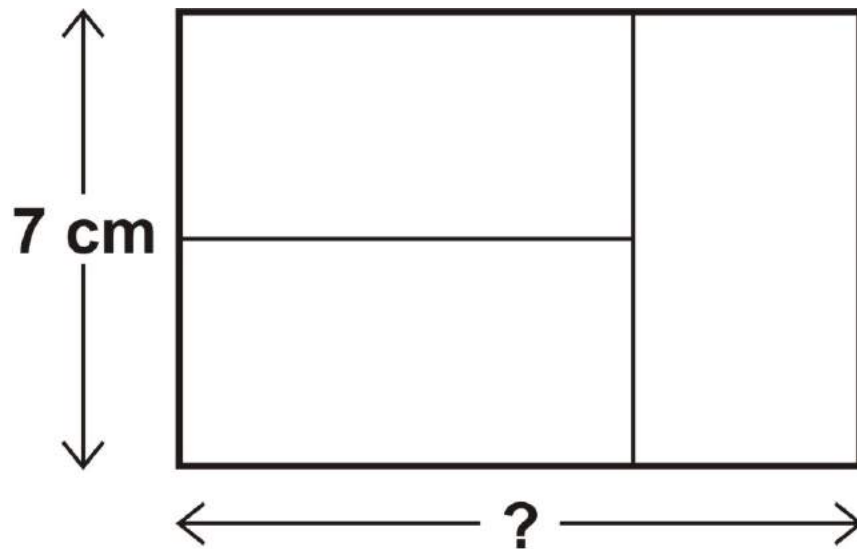
**B** is ( \_\_\_\_\_ , \_\_\_\_\_ )

**D** is ( \_\_\_\_\_ , \_\_\_\_\_ )



22. Look at the diagram below.

It is not actual size.



Three identical rectangles are arranged to make a larger rectangle.

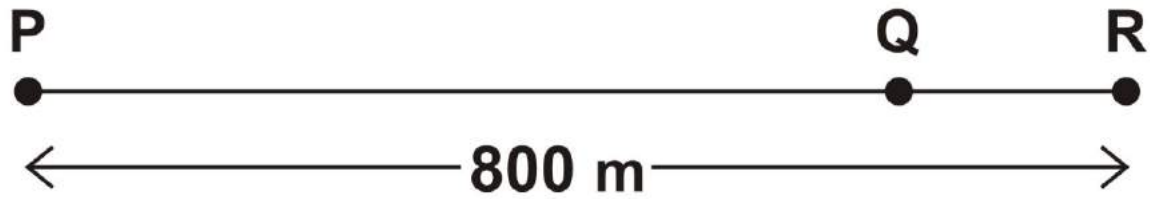
The width of the larger rectangle is **7cm**.

Calculate the length of the larger rectangle.

\_\_\_\_\_ **cm**

23. Look at the diagram below.

It is not to scale.



The distance from point **P** to point **R** is **800** metres.

The distance from point **P** to point **Q** is **4** times the distance from point **Q** to point **R**.

Olivia says that it is **600** metres from point **P** to point **Q**.

Explain why Olivia is **not** correct.

**END OF TEST**

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2019 key stage 2 mathematics

Paper 3: reasoning

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2019 national curriculum tests

# Key stage 2

## Mathematics

Administering the modified large print (MLP) version of Paper 3: reasoning

**THURSDAY 16 MAY 2019**

**CONFIDENTIAL:** This pack must be kept secure and unopened until the start of the test on **Thursday 16 May**.

Early opening, up to 1 hour before the test starts, is only allowed if access to the contents is needed to make adaptations to meet individual pupils' needs. Early opening of more than 1 hour is only allowed if permission has been granted by STA.

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

### Pack contents:

- Administration instructions for the MLP key stage 2 mathematics test Paper 3: reasoning (overleaf)
- 1 copy of the MLP Paper 3: reasoning

**For test administration**



Standards  
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Print: STA/19/8249/p ISBN: 978-1-78957-164-6 Electronic: STA/19/8249/e ISBN: 978-1-78957-176-9

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## 2019 Key stage 2 mathematics test

The following information explains how to administer the modified large print (MLP) version of the key stage 2 mathematics test Paper 3: reasoning. Modified test administration guidance is available at [www.gov.uk/sta](http://www.gov.uk/sta). If you have any questions, you should check with your headteacher or key stage 2 test co-ordinator before you administer the test.

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

### Format

The key stage 2 mathematics test consists of 3 papers. The papers must be administered in order. Pupils can have a break between the papers. Test packs for each test must not be opened until the pupils are in the test room ready to complete the test, unless early opening is required to meet individual pupils' needs.

The scheduled day for the administration of Paper 3 is Thursday 16 May.

Paper 3: reasoning consists of a single MLP test paper.

Pupils will have 40 minutes to complete the paper, plus up to 100% additional time.

You must not refer to the standard test questions when administering this test.

### Equipment

Each pupil will need the equipment specified below:

- a blue/black pen or dark pencil
- a sharp, dark pencil for mathematical drawing
- a ruler (showing centimetres)
- an angle measurer or protractor (papers 2 and 3 only)
- a mirror (papers 2 and 3 only).

Rubbers are allowed, but please encourage pupils to cross out answers they wish to change instead of rubbing them out.

Pupils may use the following equipment, if this is normal classroom practice:

- monolingual English electronic spell checkers
- bilingual word lists
- bilingual dictionaries or electronic translators provided they only give word-for-word translations.

Pupils are **not** allowed:

- calculators
- tracing paper.

### Assistance

You must ensure that nothing you say or do during a test could be interpreted as giving pupils an advantage, e.g. indicating an answer is correct or incorrect, or suggesting the pupil looks at an answer again.

If a pupil requests it, you may read a question to the pupil on a one-to-one basis. If reading to a pupil, you may only read words and numbers, but not mathematical symbols. This is to ensure pupils are not given an unfair advantage by having the function inadvertently explained by reading its name.

At a pupil's request, 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.

The following examples illustrate how to deal with some common situations:

**Q.** What does 'quadrilateral' or '>' or '<' mean?

**A.** I can't tell you, but think hard and try to remember. We can talk about it after the test.

**Q.** What is '0.6'?

**A.** That's nought point six.

You must not explain any subject-specific terminology. If any context or words related to a question are unfamiliar to a pupil, you may show them related objects or pictures, or describe the context.

### Guidance for specific questions

For **question 21**, there are no grid lines on the graph. This is intentional. This is part of the demand of the question.

### Before the test begins

Review the list of pupils with any particular individual needs, e.g. pupils who may need a rest break, a scribe or a transcript made at the end of the test.

Ensure you know how to administer any access arrangements correctly. Please refer to the 2019 key stage 2 access arrangements guidance.

It is important that the pupils' names on their tests match the names on the test attendance register. Check with your test co-ordinator whether any pupil in your group is known by a different name in school, or has changed their name since pupil registration. This is so you can ensure the pupil writes the correct name on their test paper.

Write the school's name and DfE number on a board that is visible to all pupils. Leave space on the board to write the start and finish times of the test.

### What to do at the start of the test

Check that seating is appropriately spaced.

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 each pupil who needs it has 1 MLP copy of mathematics Paper 3: reasoning.

Write the start and finish times on a board so that all the pupils can see them.

### How to introduce the test

It is important to brief pupils fully at the start of each test. Use this script to introduce mathematics Paper 3: reasoning.

*This is the key stage 2 mathematics Paper 3: reasoning.*

*You will need a blue or black pen, a sharp, dark pencil, a ruler, a protractor and a mirror.*

*Write your name, school name and DfE number on the front of your mathematics test Paper 3: reasoning.*

*[If any pupil's name differs from the name provided during pupil registration, instruct the pupil to write both names on the paper.]*

*Open your test paper to page 3. I will read the instructions to you.*

*You must **not** use a calculator to answer any questions in this test.*

*You have up to 80 minutes to complete this test. This includes your additional time allowance.*

*Follow the instructions for each question.*

*Work as quickly and as carefully as you can.*

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*Remember to check your work carefully.*

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*Do you have any questions?*

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*You may now start the test.*

### 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, a group of pupils 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 the pupils are kept under test conditions and that they are supervised

- if the pupils have to leave the room, ensure they do not talk about the test
- speak to your test co-ordinator or a senior member of staff for advice on 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

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.

Ensure you inform your senior member of staff/test co-ordinator if you have made a transcript, or if a pupil has used a scribe, word processor or other electronic or technical device. This is so they can complete the appropriate online notification.

Make sure you have collected every test script. Return them immediately to the senior member of staff who is responsible for collating the tests.

Do not look at, review or amend pupils' answers in any way (unless it is necessary to make a transcript). If you tamper with or make changes to pupils' answers, it will be considered maladministration and results could be annulled.

Do not keep or photocopy test scripts for any reason.

All test materials, including any unused test papers, must be stored securely until Monday 3 June.

2019 national curriculum tests  
Key stage 2

**Mathematics**  
**Amendments to the mark schemes (AMS)**

**Modified large print (MLP)**



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## Introduction

This guidance details the amendments made to the mark schemes for questions which have been adapted, or replaced, in the modified large print (MLP) version of the key stage 2 mathematics test materials.

This guidance must be used in conjunction with the standard version of the key stage 2 mathematics mark schemes. Refer to the standard mark schemes when marking the MLP test papers unless an alternative is given in this guidance.

## Amendments to the mark scheme

Amendments to the standard test mark schemes are only provided where amendments to a question are such that the question cannot be marked using the standard test mark scheme.

Amendments to the mark schemes are not provided where the only change has been to further divide the question into subsections or where the layout of the question is different.

The mark schemes have been amended in some respects for the following questions:

Paper 1	23, 25, 30, 36
Paper 2	1, 3, 4, 13, 21
Paper 3	3, 9, 10a, 10b



## General guidance to be applied throughout the MLP papers

- You should make every effort to understand what the pupil has written in an answer, without reading into the answer anything that the pupil did not intend.
- Some pupils with visual impairment find it difficult to get their answers across clearly. It may take you longer to read their answers. Apply the mark schemes, but be sympathetic to their difficulties.
- Pupils with visual impairment find it difficult to draw accurately. Often thick pens or pencils are used by these pupils. You should make every effort to be fair in marking these questions and take into account what appears to be the pupil's intention.
- Unless otherwise indicated in this document, there should be an increased tolerance level for all drawing and measuring. In general, pupils will only be expected to measure lengths to the nearest 0.5cm and angles to the nearest 5°.
- If children have missed any answer lines or spaces within the text, their answers may be elsewhere on the page. Any unambiguous indication of the correct answer should be credited, working within the parameters of the mark scheme.
- Questions that appear as horizontal tick boxes in the standard version of the test may have been changed to vertical in the MLP version, in order to make it easier for pupils to track across the page. The correct answer will be the same as in the standard mark schemes.
- Markers should contact their supervisors if they have any problems applying the mark scheme to MLP scripts, or with specific responses. All supervisors have contact details of markers who will provide specialist advice.

## Content domain

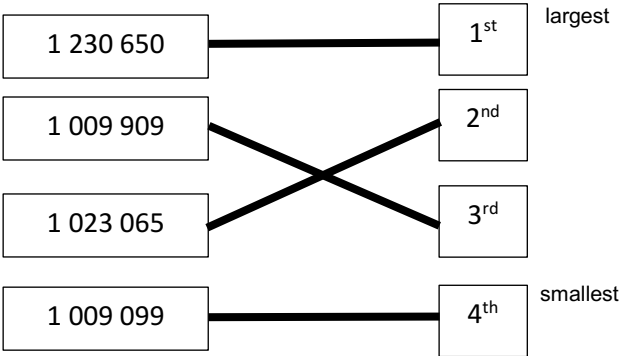
Please note that due to modifications to question 22a paper 2, the National Curriculum Reference (NCR) has changed for the MLP version of this question. The primary NCR for Q22a for MLP Paper 2 is 5S1. There is no mark scheme amendment for this question and it can be marked using the standard mark scheme.

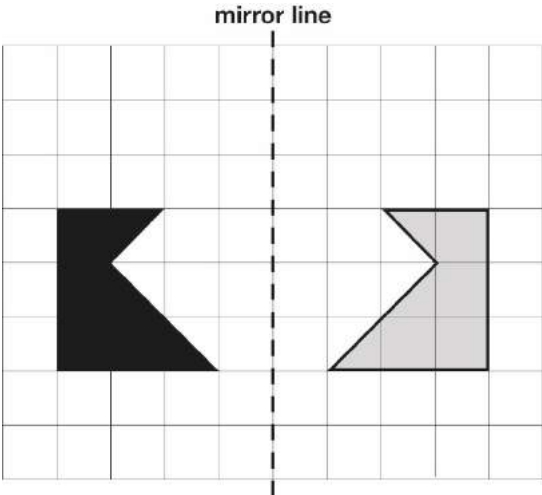
## Amendments to mark schemes for Paper 1: arithmetic

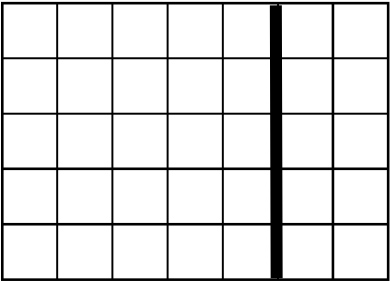
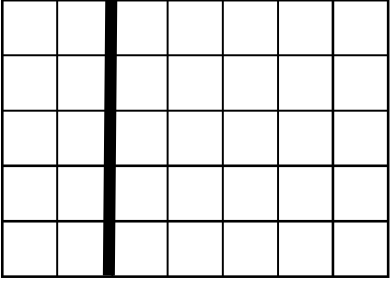
Please use the standard mark schemes to mark Paper 1: arithmetic.

For questions 23, 25, 30 and 36 the standard mark schemes expect a ‘formal method’ for long multiplication or long division. If the answer is incorrect, visually impaired pupils should be credited the method mark if they have used **any** appropriate method with no more than **ONE** arithmetic error; a formal method is not required. Working must be carried through to reach a final answer for the award of **ONE** mark.

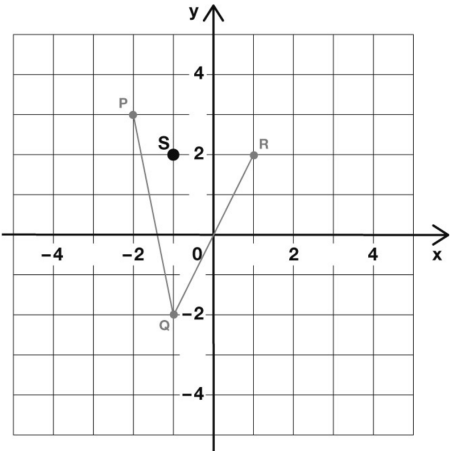
## Amendments to mark schemes for Paper 2: reasoning

Qu.	Requirement	Mark	Additional guidance
1	Award <b>ONE</b> mark for three correct numbers given in this order, as shown: 32 7 7	1m	
3	Award <b>ONE</b> mark for the four numbers matched correctly, as shown: 	1m	Lines need not touch the numbers and ordinals, provided the intention is clear.  <b>Do not</b> accept any number that has been matched to more than one ordinal.

<p><b>4</b></p>	<p>Diagram completed, as shown:</p> 	<p><b>1m</b></p>	<p>Accept inaccuracies in drawing provided the intention is clear.</p> <p>Shape need not be shaded for the award of <b>ONE</b> mark.</p>
<p><b>13</b></p>	<p>Award <b>TWO</b> marks for a completed triangle that has <b>all</b> three of the following points:</p> <ul style="list-style-type: none"> <li>• an angle in the range of <math>30^\circ</math> to <math>40^\circ</math> inclusive for angle marked <math>35^\circ</math></li> <li>• an angle in the range of <math>85^\circ</math> to <math>95^\circ</math> inclusive for angle marked <math>90^\circ</math></li> <li>• the triangle has been drawn on an 8cm line (either on the given line or a line drawn), provided they have constructed both angles within the tolerance of the line 7.5cm to 8.5cm.</li> </ul> <p>If the answer is incorrect, award <b>ONE</b> mark for a completed triangle and two of the three points correct.</p>	<p><b>Up to 2m</b></p>	<p>Accept drawings where any side has been extended past a vertex.</p> <p>When considering the point for a completed triangle, <b>do not</b> accept either:</p> <ul style="list-style-type: none"> <li>• a completed quadrilateral or another shape drawn</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>• a curved line that is used to complete the shape</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>• sides not meeting to form a vertex.</li> </ul>

<b>21</b>	<p>Rectangle divided, as shown:</p>  <p>OR</p> 	<b>1m</b>	Accept inaccuracies in drawing provided the intention is clear.
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## Amendments to mark schemes for Paper 3: reasoning

Qu.	Requirement	Mark	Additional guidance
3	Award <b>ONE</b> mark for: 10 - p (written)	1m	Accept alternative unambiguous positive indication of the correct answer.
9	2500	1m	<b>Do not</b> accept $2000\frac{1}{2}$ <b>OR</b> $2\frac{1}{2}$ <b>OR</b> 2.5
10a	Point S is located correctly, as shown: 	1m	Accept inaccuracies in drawing provided the intention is clear.
10b	(2,3)	1m	

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2019 national curriculum tests  
Key stage 2

**Mathematics**  
**Amendments to the mark schemes (AMS)**

**Braille**



Standards  
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## Introduction

This guidance details the amendments made to the mark schemes for questions which have been adapted, or replaced, in the braille version of the key stage 2 mathematics test materials.

The standard version of the key stage 2 mathematics mark schemes, should be used in conjunction with the additional guidance in this document. Markers should refer to the standard mark schemes when marking the braille test papers unless an alternative is given in this guidance.

## Amendments to the mark scheme

Amendments to the standard test mark schemes are only provided where amendments to a question are such that the question cannot be marked using the standard test mark scheme.

Amendments to the mark schemes are not provided where the only change has been to further divide the question into subsections or where the layout of the question is different.

The mark schemes have been amended in some respects for the following questions:

Paper 1	23, 25, 30, 36
Paper 2	1, 3 ,4, 10, 13, 21
Paper 3	3, 9, 10a, 10b, 11



## General guidance to be applied throughout the braille papers

- You should make every effort to understand what the pupil has written in an answer, without reading into the answer anything that the pupil did not intend.
- Some pupils with visual impairment find it difficult to get their answers across clearly. It may take you longer to read their answers. Apply the mark schemes, but be sympathetic to their difficulties.
- Pupils with visual impairment find it difficult to draw accurately. Often thick pens or pencils are used by these pupils. You should make every effort to be fair in marking these questions and take into account what appears to be the pupil's intention.
- Unless otherwise indicated in this document, there should be an increased tolerance level for all drawing and measuring. In general, pupils will only be expected to measure lengths to the nearest 0.5cm and angles to the nearest 5°.
- Any unambiguous indication of the correct answer should be credited.
- Some braille questions are asked differently to the standard version, but the differences are sufficiently small that you should still be able to apply the standard mark scheme, for example, pupils are asked to write rather than circle the answer.

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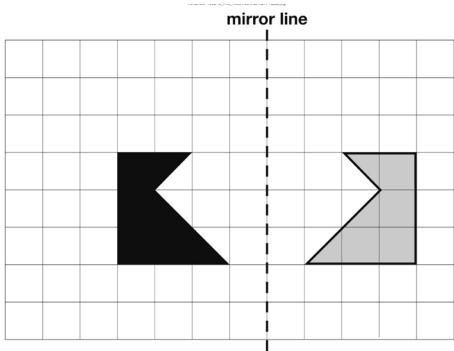
Please note that due to modifications to question 22a paper 2, the National Curriculum Reference has changed for the braille version of this question. The primary NCR for Q22a for braille Paper 2 is 5S1. There is no mark scheme amendment for this question and it can be marked using the standard mark scheme.

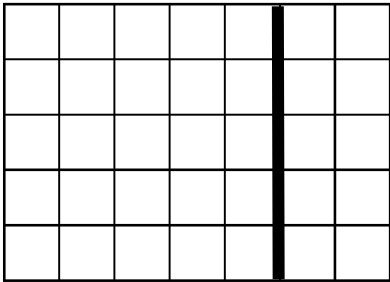
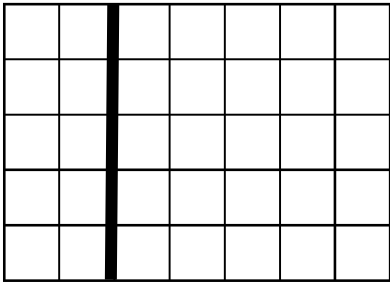
## Amendments to mark schemes for Paper 1: arithmetic

Please use the standard mark schemes to mark Paper 1: arithmetic.

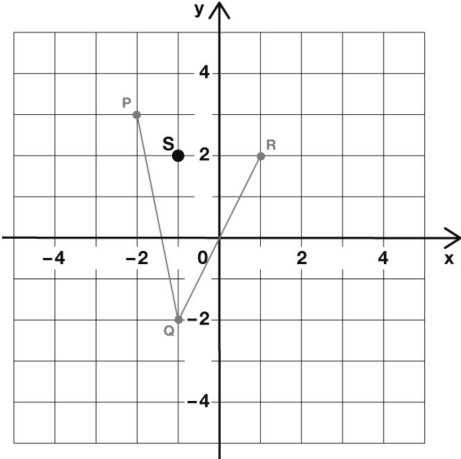
For questions 23, 25, 30 and 36 the standard mark schemes expect a ‘formal method’ for long multiplication or long division. If the answer is incorrect, visually impaired pupils should be credited the method mark if they have used **any** appropriate method with no more than **ONE** arithmetic error; a formal method is not required. Working must be carried through to reach a final answer for the award of **ONE** mark.

## Amendments to mark schemes for Paper 2: reasoning

Qu.	Requirement	Mark	Additional guidance
1	Award <b>ONE</b> mark for three correct numbers given in this order, as shown: 32 7 7	1m	
3	Award <b>ONE</b> mark for the four letters written in the correct order, as shown: S (written) Q (written) P (written) R (written)	1m	Accept alternative unambiguous positive indication of the correct answer.
4	Diagram completed, as shown: 	1m	Accept inaccuracies in drawing provided the intention is clear.  Shape need not be shaded for the award of <b>ONE</b> mark.
10	Q (written)	1m	Accept alternative unambiguous positive indication of the correct answer.

Qu.	Requirement	Mark	Additional guidance
13	<p>Award <b>TWO</b> marks for a completed triangle that has <b>all</b> three of the following points:</p> <ul style="list-style-type: none"> <li>• an angle in the range of <math>30^\circ</math> to <math>40^\circ</math> inclusive for angle marked <math>35^\circ</math></li> <li>• an angle in the range of <math>85^\circ</math> to <math>95^\circ</math> inclusive for angle marked <math>90^\circ</math></li> <li>• the triangle has been drawn on an 8cm line (either on the given line or a line drawn), provided they have constructed both angles within the tolerance of the line 7.5cm to 8.5cm.</li> </ul> <p>If the answer is incorrect, award <b>ONE</b> mark for a completed triangle and two of the three points correct.</p>	<b>Up to 2m</b>	<p>Accept drawings where any side has been extended past a vertex.</p> <p>When considering the point for a completed triangle, <b>do not</b> accept either:</p> <ul style="list-style-type: none"> <li>• a completed quadrilateral or another shape drawn</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>• a curved line that is used to complete the shape</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>• sides not meeting to form a vertex.</li> </ul>
21	<p>Rectangle divided, as shown:</p>  <p><b>OR</b></p> 	<b>1m</b>	<p>Accept inaccuracies in drawing provided the intention is clear.</p>

## Amendments to mark schemes for Paper 3: reasoning

Qu.	Requirement	Mark	Additional guidance
3	Award <b>ONE</b> mark for: 10 - p (written)	1m	Accept alternative unambiguous positive indication of the correct answer.
9	2500	1m	<b>Do not</b> accept $2000\frac{1}{2}$ <b>OR</b> $2\frac{1}{2}$ <b>OR</b> 2.5
10a	Point S is located correctly, as shown: 	1m	Accept inaccuracies in drawing provided the intention is clear.
10b	(2,3)	1m	

<p><b>11</b></p>	<p>Award <b>TWO</b> marks for all four given numbers placed correctly, as shown:</p> <p>a) 3, 5 b) 3, 4, 6 c) 3, 5</p> <p>If the answer is incorrect, award <b>ONE</b> mark for three of the given numbers all placed correctly, e.g.</p> <p>a) 3, 5 b) 3, 4 c) 3, 5</p> <p><b>OR</b></p> <p>a) 3, 5, 6 b) 3, 4, 6 c) 3, 5</p> <p><b>OR</b></p> <p>a) 3 b) 3, 4, 6 c) 3, 5</p>	<p><b>Up to 2m</b></p>	<p>Accept the numbers in any order.</p> <p>Ignore any additional numbers not given in the question.</p>
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