

# 2017 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 for marking:

This paper should be marked using the MODIFIED LARGE PRINT amendments to the mark schemes – MLP.

**BLANK PAGE**

# **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. Write the missing number to make the division below correct.

$$75 \div \underline{\hspace{2cm}} = 7.5$$

2. A group of friends earns **£80** by washing cars.

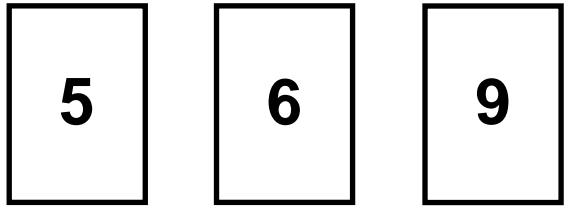
They share the money equally.

They get **£16** each.

How many friends are in the group?

---

3. Chen uses the three digit cards shown below.

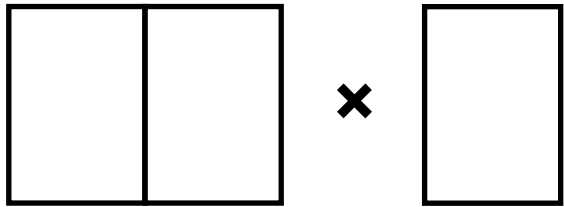


She makes a **2**-digit number and a **1**-digit number.

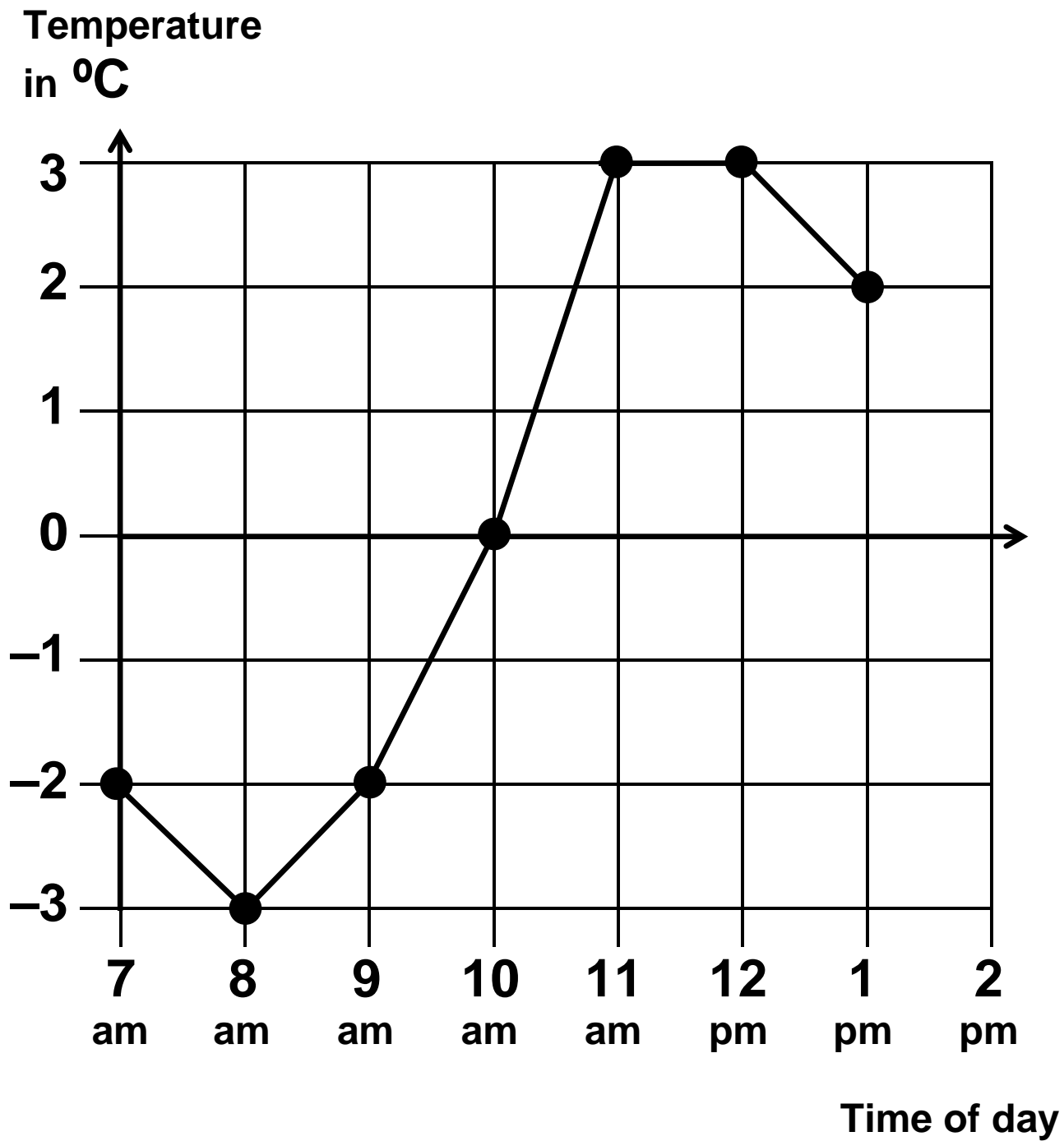
She multiplies them together.

Her answer is a multiple of **10**

What could Chen's multiplication be?



4. The graph below shows the temperature in  $^{\circ}\text{C}$  from 7 am to 1 pm on a cold day.



a) How many degrees warmer was it at **1 pm** than at **7 am**?

\_\_\_\_\_ °C

b) At **2 pm** the temperature was  
**4 degrees lower** than at **1 pm**.

What was the temperature at **2 pm**?

\_\_\_\_\_ °C

5. The children at Farmfield School are collecting money for charity.

Their target is to collect **£360**

So far they have collected **£57.73**

How much more money do they need to reach their target?

£ \_\_\_\_\_

6. The timetable below is for train journeys from London to Paris.

Leaves London	Arrives Paris
12:01	15:22
12:25	15:56
14:01	17:26
14:31	17:53
15:31	18:53

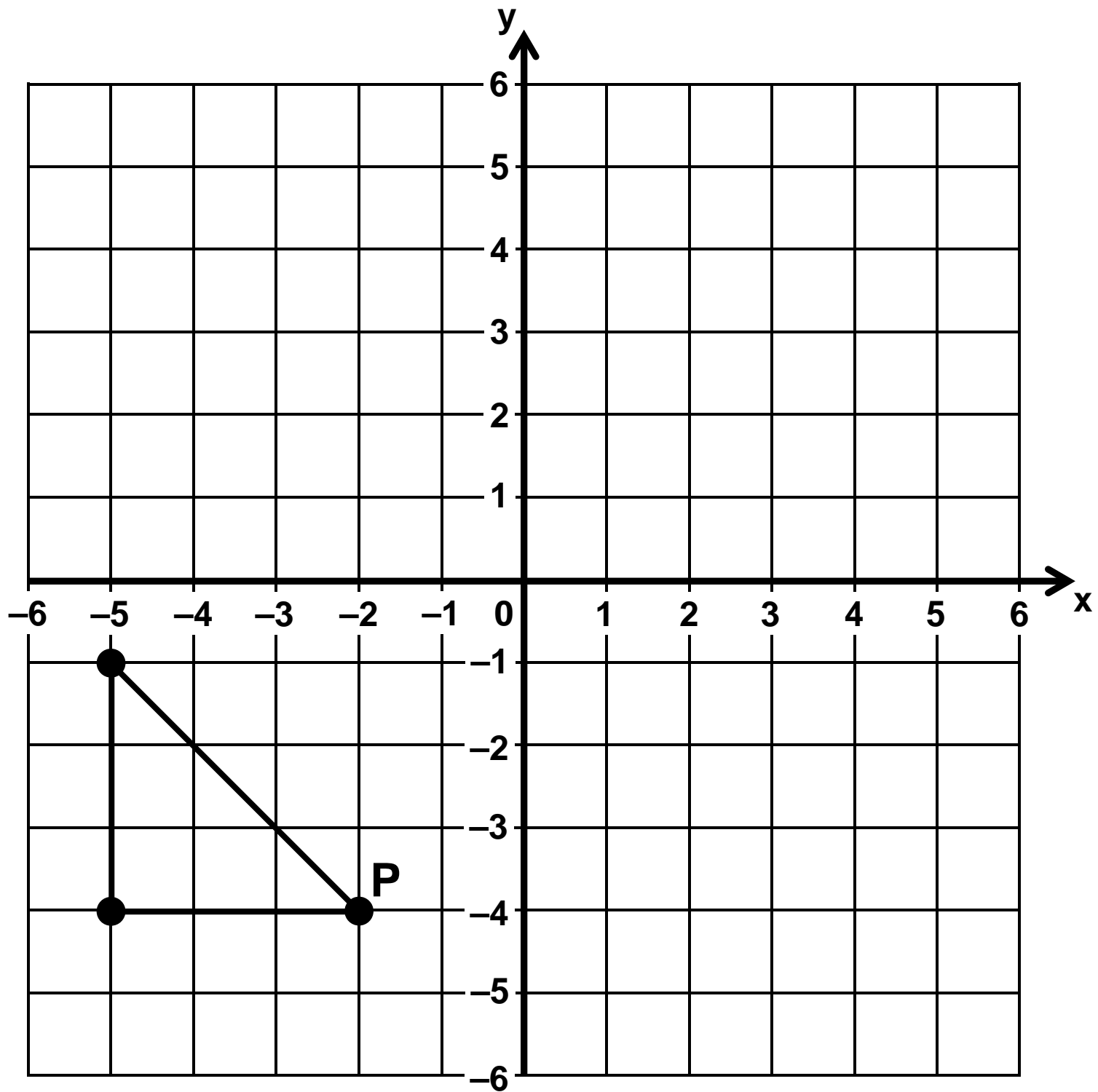
William wants to travel to Paris by train.  
He needs to arrive in Paris by 5.30pm.

Tick the latest time that William can leave London.



7. Look at the diagram below.

A triangle is drawn on a coordinate grid.



The triangle is translated **7** right and **5** up.

Mark the new position of the point labelled **P**

8. Write three factors of **30** that are **not** factors of **15**

\_\_\_\_\_ and \_\_\_\_\_ and \_\_\_\_\_

9. Look at the morning timetable below for Chen's class this week.

Time	09:00 – 10:30	10:30 – 11:00	11:00 – 12:00
Mon	Maths	Break	English
Tue	English	Break	Maths
Wed	Maths	Break	Science
Thu	English	Break	Maths
Fri	Maths	Break	English

What is the total number of hours for English on this timetable?

\_\_\_\_\_ hours

10. A bottle contains **568** millilitres of milk.

Jack pours out half a litre.

How much milk is left?

\_\_\_\_\_

11. A bicycle wheel has a diameter of **64** cm.

What is the radius of the bicycle wheel?

\_\_\_\_\_ cm

**12. White balloons are sold in bags of 24**

**Red balloons are sold in bags of 12**

**Adam buys 6 bags of white balloons.**

**Chen buys 3 bags of red balloons.**

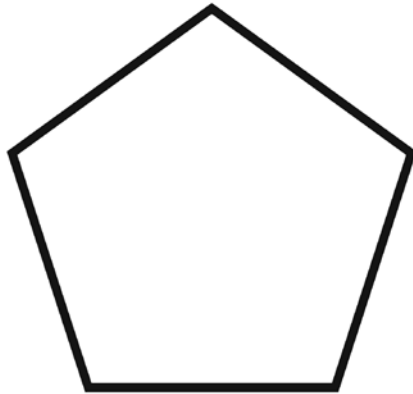
**Adam says that he has four times as many balloons as Chen.**

**Explain why Adam is correct.**

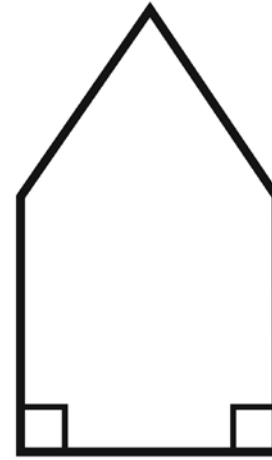
13. Look at the four shapes below.

They are labelled **P** **Q** **R** and **S**

**P**



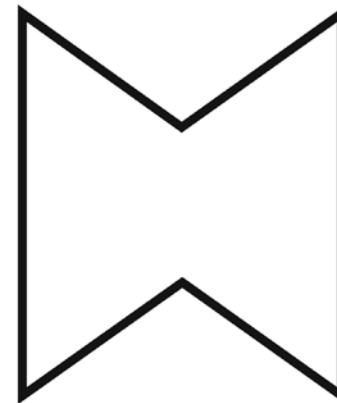
**Q**



**R**



**S**



Write the letter of the **pentagon** with exactly four acute angles.

---

14. **3** pineapples cost the same as **2** mangoes.

pineapple pineapple pineapple  
mango mango

One mango costs **£1.35**

How much does one pineapple cost?

Show your method.

£ \_\_\_\_\_

15. Look at the four letters below.



Tick the letter that has both parallel and perpendicular lines.

16. There are **2400** leaflets in a box.

William and Ally take **450** leaflets each.

Adam and Chen share the rest of the leaflets equally.

How many leaflets does Adam get?

Show your method.

---

17. In each box below, draw a ring around the number that is greater.

$1\frac{1}{2}$	$1\cdot 2$
----------------	------------

$1\frac{1}{4}$	$1\cdot 3$
----------------	------------

$1\frac{5}{100}$	$1\cdot 4$
------------------	------------

$1\frac{3}{5}$	$1\cdot 5$
----------------	------------



18. A square number and a prime number have a total of **22**

What are the two numbers?

$$\begin{array}{ccc} \underline{\hspace{2cm}} & + & \underline{\hspace{2cm}} = 22 \\ \text{square number} & & \text{prime number} \end{array}$$

19. Dev thinks of a **whole** number.

He multiplies it by **4**

He rounds his answer to the nearest **10**

The result is **50**

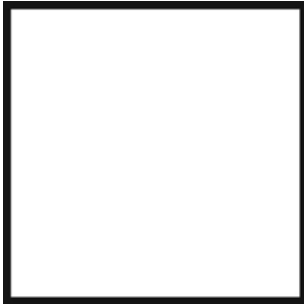
Write all the possible numbers that Dev could have started with.

---

20. A square tile measures **20 cm** by **20 cm**.

Look at the drawing of the tile below.

It is not actual size.



Look at the rectangular tile below. It is not actual size.



The rectangular tile is **3 cm** longer and **2 cm** narrower than the square tile.

What is the difference in area between the two tiles?

Show your method.

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

21. The numbers in the sequence below increase by the same amount each time.

	1	$1\frac{5}{8}$	$2\frac{1}{4}$	
--	---	----------------	----------------	--

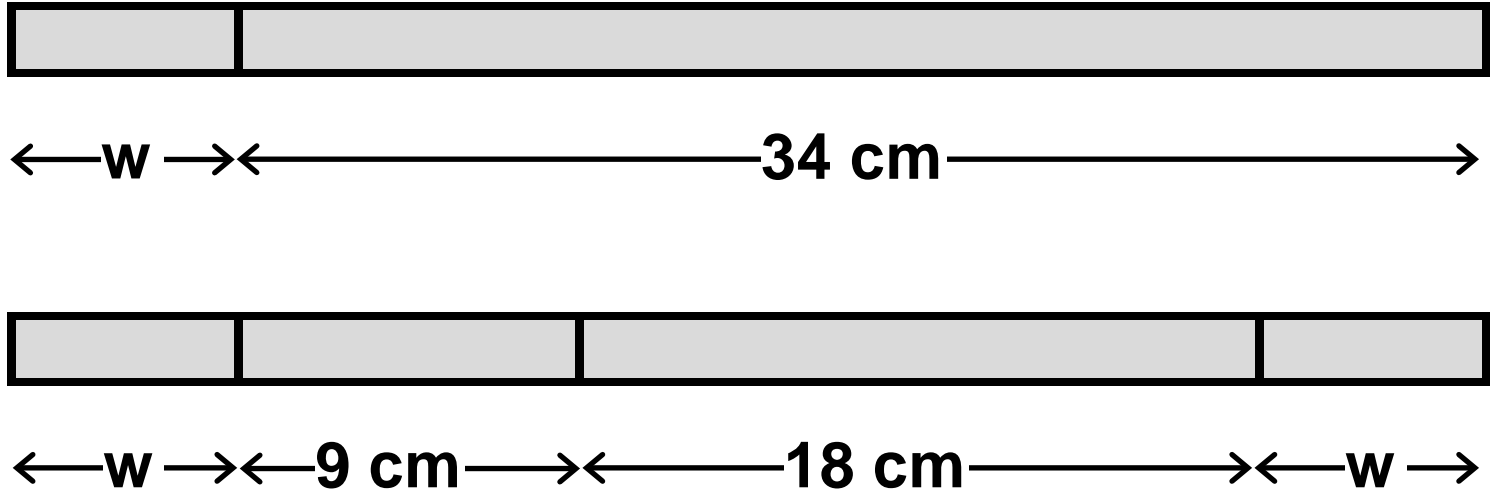
Write the missing numbers in the boxes.

22. Look at the diagram below.

It shows two sticks, made up of different lengths.

Each stick has the same total length.

The length  $W$  is the same on each stick.



Calculate the length  $W$

\_\_\_\_\_ cm

23. Look at the pattern of number pairs below.

a	b
1	9
2	19
3	29
4	39

Complete the rule for the pattern.

$$b = \underline{\hspace{2cm}} \times a - \underline{\hspace{2cm}}$$

24. The volume of a cuboid is  $216 \text{ cm}^3$

It is **4 cm** high.

It is **6 cm** wide.

What is its length?

Show your method.

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

**END OF TEST**

**BLANK PAGE**



Standards  
& Testing  
Agency



2017 key stage 2 mathematics

Paper 3: reasoning

Print version product code: STA/17/7738/MLp ISBN: 978-1-78644-340-3

© Crown copyright and Crown information 2017

**Re-use of Crown copyright and Crown information in test materials**

Subject to the exceptions listed below, the test materials on this website are Crown copyright or Crown information and you may re-use them (not including logos) free of charge in any format or medium in accordance with the terms of the Open Government Licence v3.0 which can be found on the National Archives website and accessed via the following link: [www.nationalarchives.gov.uk/doc/open-government-licence](http://www.nationalarchives.gov.uk/doc/open-government-licence). When you use this information under the Open Government Licence v3.0, you should include the following attribution: 'Contains public sector information licensed under the Open Government Licence v3.0' and where possible provide a link to the licence.

**Exceptions – third-party copyright content in test materials**

You must obtain permission from the relevant copyright owners, as listed in the '2017 key stage 2 tests copyright report', for re-use of any third-party copyright content which we have identified in the test materials, as listed below. Alternatively you should remove the unlicensed third-party copyright content and/or replace it with appropriately licensed material.

**Third-party content**

These materials contain no third-party copyright content.

If you have any queries regarding these test materials contact the national curriculum assessments helpline on 0300 303 3013 or email [assessments@education.gov.uk](mailto:assessments@education.gov.uk).