2025 national curriculum tests

Key stage 2

Mathematics

Paper 1: arithmetic

First name						
Middle name						
Last name						
Date of birth	Day		Month		Year	
School name						
DfE number						

Please note that these worked solutions have neither been provided nor approved by the Standards and Testing Agency and may not necessarily constitute the only possible solutions. Please refer to the original mark schemes for full guidance.

Any writing in blue should be written in the exam.

Anything written in green in a rectangle doesn't have to be written in the exam.

If you find any mistakes or have any requests or suggestions, please send an email to curtis@cgmaths.co.uk

.CG Maths.

[BLANK PAGE]

Please do not write on this page.

Instructions

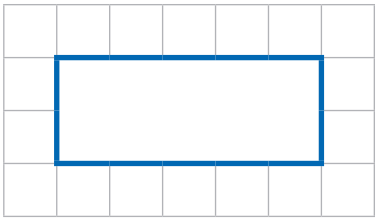
You **must not** use a calculator to answer any questions in this test.

Questions and answers

You have **30 minutes** to complete this test.

Work as quickly and as carefully as you can.

Put your answer 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 answer as a common fraction, a mixed number or a whole number as appropriate.

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

The number under each box at the side of the page tells you the number of marks available for each question.

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 a formal method.

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

1 $7{,}549 = 7{,}000 +$ [500] $+ 40 + 9$

The 7 is worth 7000. The 5 is worth 500. The 4 is worth 40. The 9 is worth 9

1 mark

2 $456 - 385 =$

$$\begin{array}{rrrr} & {}^{3}\cancel{4} & {}^{1}5 & 6 \\ - & 3 & 8 & 5 \\ \hline & 0 & 7 & 1 \end{array}$$

71

1 mark

3 [0] $\times 233 = 0$

Any number multiplied by 0 gives an answer of 0

1 mark

4 47.65 + 51.783 =

	4	7	.	6	5	0
+	5	1	.	7	8	3
	9	9	.	4	3	3
		1		1		

99.433

1 mark

5 904 – 8 =

Counting back 8 from 904:
903, 902, 901, 900, 899, 898, 897, 896

896

1 mark

6 84 ÷ 12 =

1	2
2	4
3	6
4	8
6	0
7	2
8	4

Counting in 12s until 84 is reached.
7 lots of 12 make 84 so 84 ÷ 12 = 7

7

1 mark

7 $6 \times 832 =$

	8	3	2
×			6
4	9 (1)	9 (1)	2

4992

1 mark

8 $12 \times 3 \times 10 =$

	1	2
×		3
	3	6

12 × 3 = 36 then 36 × 10 = 360

360

1 mark

9 $326 + \boxed{54} = 380$

	3	8 (7)	10
-	3	2	6
	0	5	4

Subtracting the 326 from 380 works out that the difference is 54. This is what must be added to 326 to give 380

1 mark

10 $72 \div$ [8] $= 9$

$9 \times 8 = 72$ so $72 \div 8 = 9$

1 mark

11 $\frac{2}{5} \times \frac{5}{6} =$

To multiply fractions: multiply the numerators and multiply the denominators.
$2 \times 5 = 10$ and $5 \times 6 = 30$. There is no need to simplify the answer

$\frac{10}{30}$

1 mark

12 $540 \div 6 =$

$$\begin{array}{r|lll} & 0 & 9 & 0 \\ \hline 6 & 5 & {}^{5}4 & 0 \end{array}$$

90

1 mark

13 $807 \times 8 =$

	8	0	7
×			8
6	4	5^{5}	6

6456

1 mark

14 614×32

		6	1	4	
×			3	2	
	1	2	2	8	
1	8	4^{1}	2	0	← Remember to add a 0 on the 2nd row
1	9	6	4	8	

Show your method

19648

2 marks

15 2,000 ÷ 4 =

$$\begin{array}{r} 0\,5\,0\,0 \\ 4\overline{)\,2\,{}^{2}0\,0\,0} \end{array}$$

500

1 mark

16 3 × 8.9 =

$$\begin{array}{r} 8.9 \\ \times\quad 3 \\ \hline 2\,6.{}_{2}7 \end{array}$$

26.7

1 mark

17 326.8 ÷ 10 =

Moving the decimal point one place to the left divides it by 10

32.68

1 mark

18 $\frac{1}{3} - \frac{1}{9} =$

$\frac{3}{9} - \frac{1}{9}$

Multiplying both the numerator and denominator of the 1/3 by 3 gets 9 as the denominator. Now the denominators of both fractions are the same the numerators can be subtracted

$\frac{2}{9}$

1 mark

19 $896 \div 7 =$

```
   1 2 8
7 | 8 ¹9 ⁵6
```

128

1 mark

20 $1{,}004{,}235 - 52{,}346 =$

```
    0  9     3  11 12
    1  ¹0  ¹0  4  2  3  ¹5
-           5  2  3  4  6
    0  9  5  1  8  8  9
```

951889

1 mark

21 $4{,}104 \div 9 =$

$$\begin{array}{r} 0456 \\ 9\overline{)4^{4}1^{5}0^{5}4} \end{array}$$

456

1 mark

22 $\frac{1}{6} + \frac{2}{3} + \frac{3}{12} =$

$\frac{2}{12} + \frac{8}{12} + \frac{3}{12}$

Multiplying both the numerator and denominator of the 1st fraction by 2 and multiplying both the numerator and denominator of the 2nd fraction by 4 makes the denominator of all 3 fractions 12. Now that they are the same, the numerators can be added and the denominator stays the same

$\frac{13}{12}$

1 mark

23 $17 - 3.6 =$

$$\begin{array}{r} 1\ {}^{6}\cancel{7}.{}^{1}0 \\ -\ \ 3.6 \\ \hline 1\ 3.4 \end{array}$$

Adding a decimal point and a 0 here so that all digits in both numbers can be put into the same decimal places and that they can be subtracted

13.4

1 mark

24 $2\frac{3}{5} + 1\frac{3}{5} =$

$\frac{6}{5}$ ← Adding the 3/5 and 3/5 gives 6/5

$1\frac{1}{5}$ ← Converting 6/5 to a mixed number by dividing the 6 by the 5 to get the whole number and leaving the remainder in the fraction

Adding the whole numbers 2 and 1 → $4\frac{1}{5}$

1 mark

25 5% of 860 =

$\begin{array}{r} 43 \\ 2\overline{)\,86} \end{array}$ ← 10% = 1/10 so dividing the 860 by 10 finds that 10% of 860 is 86. 5% is half of 10% so dividing the 86 by 2 finds that 5% of 860 is 43

43

1 mark

26 $\frac{5}{8} \div 3 =$

$\frac{5}{8} \div \frac{3}{1}$ ← Putting the 3 over 1 expresses it as a fraction

$\frac{5}{8} \times \frac{1}{3}$ ← To divide by a fraction: keep the 1st number, change the division to a multiplication, flip the 2nd fraction

To multiply fractions: multiply the numerators and multiply the denominators → $\frac{5}{24}$

1 mark

27 19% of 2,300 =

	2	3
×	1	9
2	0	7
2	3	0
4	3	7

Dividing 2300 by 100 finds that 1% of 2300 is 23.
Multiplying this by 19 finds that 19% of 2300 is 437

437

1 mark

28

Show your method

			0	5	2
	1	7	8	8	4
	3	4			
	5	1			
	6	8			
	8	5			
1	0	2			

Using short division. Listing the 17 times table helps with this

52

2 marks

29

$2\frac{1}{6} + \frac{2}{5} =$

$\frac{5}{30} + \frac{12}{30}$ ← Ignoring the whole number 2 for now. Multiplying both the numerator and denominator of the 1st fraction by 5 and multiplying both the numerator and denominator of the 2nd fraction by 6 makes the denominator of both fractions the same so that they can be added

Adding the numerators and the denominators stay the same. Putting the whole number 2 back in → $2\frac{17}{30}$

1 mark

30

		6	4	1	9
×				7	4
	2	5 (1)	6	7 (3)	6
4	4 (2)	9 (1)	3 (6)	3	0
4	7 (1)	5 (1)	0 (1)	0	6

Show your method

475006

2 marks

31 $(5^2 + 3) - 12 \div 4 =$

2 5 + 3 ← The order of operations (BIDMAS) must be followed. Doing the brackets first. $5^2 = 5 \times 5 = 25$ then $25 + 3 = 28$

2 8 - 3 ← The division must be done before the subtraction. $12 \div 4 = 3$. Subtracting this from the 28

25

1 mark

32 65% of 540 =

Dividing the 540 by 100 finds that 1% of 540 is 5.4. Multiplying this by 65 finds that 65% of 540 is 351

$$\begin{array}{r} 5.4 \\ \times\ 65 \\ \hline 27.0 \\ 324.0 \\ \hline 351.0 \\ {\scriptstyle 1} \end{array}$$

351

1 mark

33

$3\frac{1}{3} \times 12 =$

$\frac{10}{3} \times \frac{12}{1}$ ← Converting the mixed number into an improper fraction by multiplying the whole number 3 by the denominator 3 and adding the result to the numerator. Putting 12 over 1 to express it as a fraction

$\frac{120}{3}$ ← To multiply fractions: multiply the numerators and multiply the denominators

The numerator can be divided by the denominator to get a whole number so it must be simplified to 40 → 40

1 mark

34

Show your method

```
      0 1 8 2
   4 5|8 1 9 0
      9 0
    1 3 5
    1 8 0
    2 2 5
    2 7 0
    3 1 5
    3 6 0
```

Using short division. Writing the 45 times table helps

182

2 marks

35 $\frac{3}{8} \times 240 =$

	0	3	0	×	3
8	2	$^{2}4$	0		

To multiply a whole number by a fraction: divide the whole number by the denominator then multiply the result by the numerator

90

1 mark

36 $4\frac{3}{7} - 1\frac{1}{6} =$

$\frac{18}{42} - \frac{7}{42}$ ← Ignoring the whole numbers for now. Multiplying both the numerator and denominator of the 1st fraction by 6 and multiplying both the numerator and denominator of the 2nd fraction by 7 so that the denominators are the same and they can be subtracted

Subtracting the numerators and the denominators stay the same. Then including the whole numbers: 4 - 1 = 3 → $3\frac{11}{42}$

1 mark

[END OF TEST]

Please do not write on this page.

[BLANK PAGE]

Please do not write on this page.

Standards & Testing Agency

Key stage 2 mathematics Paper 1: arithmetic
Print version product code: STA/25/8917/p ISBN: 978-1-83507-248-6
Electronic PDF version product code: STA/25/8917/e ISBN: 978-1-83507-269-1

For more copies
Additional printed copies of this booklet are not available. It can be downloaded after the test window from www.gov.uk/government/collections/national-curriculum-assessments-practice-materials.

If you have any queries regarding these test materials, please contact the national curriculum assessments helpline on 0300 303 3013 or email assessments@education.gov.uk.