

2024 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						

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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.

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Instructions

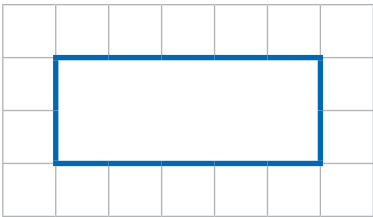
You **must not** use a calculator to answer any questions in this test.

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

$689 + 38 =$

$$\begin{array}{r} 689 \\ + 38 \\ \hline 727 \\ \begin{array}{l} \small{1} \quad \small{1} \end{array} \end{array}$$

727

1 mark

2

$72 \div 3 =$

$$\begin{array}{r} 24 \\ 3 \overline{) 72} \\ \underline{6} \\ 12 \\ \underline{12} \\ 0 \end{array}$$

24

1 mark

3

$23 \times 6 =$

$$\begin{array}{r} 23 \\ \times 6 \\ \hline 138 \\ \begin{array}{l} \small{1} \quad \small{1} \end{array} \end{array}$$

138

1 mark

4

$4,532 - 19 =$

$$\begin{array}{r}
 4\ 5\ \overset{2}{\cancel{3}}\ 12 \\
 - \quad \quad 1\ 9 \\
 \hline
 4\ 5\ 1\ 3
 \end{array}$$

4513

1 mark

5

$3 \times 391 =$

$$\begin{array}{r}
 3\ 9\ 1 \\
 \times \quad \quad 3 \\
 \hline
 1\ 1\ \underset{2}{7}\ 3
 \end{array}$$

1173

1 mark

6

= 9,171 - 530

$$\begin{array}{r}
 \overset{8}{\cancel{9}}\ 11\ 7\ 1 \\
 - \quad \quad 5\ 3\ 0 \\
 \hline
 8\ 6\ 4\ 1
 \end{array}$$

1 mark

7

$6,600 \div 6 =$

$$\begin{array}{r} 1100 \\ 6 \overline{) 6600} \\ \underline{6} \\ 0 \\ \underline{0} \\ 0 \end{array}$$

1100

1 mark

8

$99 \times 10 \times 1 =$

99 can be multiplied by 10 by adding a 0 on the end. So $99 \times 10 = 990$. Then multiplying by 1 does not change it

990

1 mark

9

$7.68 + 13.493 =$

$$\begin{array}{r} 7.680 \\ + 13.493 \\ \hline 21.173 \end{array}$$

← Adding a 0 here so that it has 3 decimal places

21.173

1 mark

10

$9 \times 752 =$

$$\begin{array}{r}
 752 \\
 \times 9 \\
 \hline
 6768 \\
 \begin{array}{l}
 4 \\
 1
 \end{array}
 \end{array}$$

6768

1 mark

11

$640 \div 8 =$

$$\begin{array}{r}
 080 \\
 8 \overline{)640} \\
 \hline
 64 \\
 0
 \end{array}$$

80

1 mark

12

= 357 - 89

$$\begin{array}{r}
 2 \quad 14 \\
 357 \\
 - 89 \\
 \hline
 268
 \end{array}$$

1 mark

13

$561 \div 3 =$

$$\begin{array}{r} 187 \\ 3 \overline{) 561} \\ \underline{3} \\ 26 \\ \underline{21} \\ 5 \end{array}$$

187

1 mark

14

$\frac{4}{6} \times \frac{1}{8} =$

Fractions can be multiplied by multiplying the numerators and multiplying the denominators. $4 \times 1 = 4$ and $6 \times 8 = 48$. There is no need to simplify the answer

 $\frac{4}{48}$

1 mark

15

$$\boxed{90} = 630 \div 7$$

$$\begin{array}{r} 090 \\ 7 \overline{) 630} \\ \underline{6} \\ 30 \\ \underline{28} \\ 20 \\ \underline{21} \\ 0 \end{array}$$

1 mark

16

$$6,020,070 = 6,000,000 + 20000 + 70$$

The 6 is worth 6000000. The 2 is worth 20000. The 7 is worth 70

1 mark

17

$$2,671 \times 1,000 =$$

Whole numbers can be multiplied by 1000 by adding three 0s to the end

2671000

1 mark

18

$$\frac{5}{12} + \frac{1}{3} =$$

$$\frac{5}{12} + \frac{4}{12}$$

Multiplying both the numerator and denominator of $\frac{1}{3}$ by 4 to make the denominator 12, which is the same as $\frac{5}{12}$

The numerators can be added and the denominator stays the same

$\frac{9}{12}$

1 mark

19

$$\frac{2}{3} + \frac{4}{5} =$$

$$\frac{10}{15} + \frac{12}{15}$$

A common multiple of 3 and 5 is 15, which could be found by doing 3×5 . Multiplying both the numerator and denominator of $\frac{2}{3}$ by 5 and multiplying both the numerator and denominator of $\frac{4}{5}$ by 3 gives both fractions with the same denominator of 15

The numerators can be added and the denominator stays the same

$$\frac{22}{15}$$

1 mark

20

$$\begin{array}{r} 6312 \\ \times 14 \\ \hline \end{array}$$

$$25248 \leftarrow \text{Doing } 4 \times 6312$$

$$63120 \leftarrow \text{Doing } 10 \times 6312 \text{ (add a 0 then do } 1 \times 6312)$$

$$88368 \leftarrow \text{Adding them together}$$

Show your method

$$88368$$

2 marks

21

$2 + 3^3 =$

3, 9, 27

Going through the powers of 3 by starting with 3 and keep multiplying by 3. So $3^1 = 3$, $3^2 = 9$, $3^3 = 27$

$3^3 = 27$ and $2 + 27 = 29$

29

1 mark

22

$15.5 \div 100 =$

Moving the decimal point 2 times to the left divides it by 100

0.155

1 mark

23

$90 - 56 \div 8 =$

The order of operations (BIDMAS) needs to be followed. So doing the division first. $56 \div 8 = 7$ then $90 - 7 = 83$

83

1 mark

24

$$63 - 5.8 =$$

$$\begin{array}{r} \overset{5}{\cancel{6}} \quad \overset{12}{\cancel{3}} \cdot 10 \\ - \quad \quad 5.8 \\ \hline 57.2 \end{array}$$

Making 63 into 63.0 and putting both the 3 and 5 in the units column

57.2

1 mark

25

$$\begin{array}{r} 418 \\ \times 47 \\ \hline 2926 \\ 16720 \\ \hline 19646 \end{array}$$

Show your method

19646

2 marks

26

$$\frac{6}{7} - \frac{11}{21} =$$

$$\frac{18}{21} - \frac{11}{21}$$

Multiplying both the numerator and denominator of 6/7 by 3 so that it has a denominator of 21, which is the same as 11/21

The numerators can be subtracted and the denominator stays the same

$$\frac{7}{21}$$

1 mark

27

$$\frac{7}{10} \div 2 =$$

Multiplying the denominator by 2

$$\frac{7}{20}$$

1 mark

28

$$2\frac{3}{8} - \frac{5}{8} =$$

$$\frac{19}{8} - \frac{5}{8}$$

Converting the mixed number into an improper fraction by multiplying the whole number (2) by the denominator (8) to get 16 then adding this to the numerator (3) to get 19

The numerators can be subtracted and the denominator stays the same

$$\frac{14}{8}$$

1 mark

29

$0.7 \times 26 =$

$$\begin{array}{r} 26 \\ \times 7 \\ \hline 182 \\ 4 \end{array}$$

← Ignoring the decimal point and doing 7×26

There was 1 decimal place in 0.7 so bringing the decimal point back 1 time

→ 18.2

1 mark

30

$$\begin{array}{r} 029 \\ 34 \overline{) 986} \\ \underline{68} \\ 102 \\ \underline{136} \\ 170 \\ \underline{204} \\ 238 \\ \underline{272} \\ 306 \end{array}$$

← Using short division

Show your method

← Listing the 34 times table to help

29

2 marks

31

99% of 600 =

99% is 1% less than 100% (the full amount). 1% can be found by doing $600 \div 100$ (take of two 0s in this case) so 1% of 600 is 6. Subtracting the value of 1% from the 600 works out that 99% of 600 = $600 - 6 = 594$

594

1 mark

32 $\frac{1}{2} \div 3 =$

Multiplying the denominator by 3

 $\frac{1}{6}$

1 mark

33

43% of 900 =

$$\begin{array}{r} 43 \\ \times 9 \\ \hline 387 \end{array}$$

1% of 900 = $900 \div 100 = 9$. Then 43% of 900 = 9×43

387



1 mark

34

$$2\frac{1}{6} - \frac{2}{3} =$$

$$\frac{13}{6} - \frac{4}{6}$$

Converting the mixed number into an improper fraction by multiplying the whole number (2) by the denominator (6) to get 12 then adding this to the numerator (1) to get 13.

Multiplying both the numerator and denominator of $\frac{2}{3}$ by 2 to get $\frac{4}{6}$, which has the same denominator as $\frac{13}{6}$

The numerators can be subtracted and the denominator stays the same

$$\frac{9}{6}$$


1 mark

35 $1\frac{1}{4} \times 39 =$

	0	9	.	7	5	
4	3	39	.	30	20	← Dividing the 39 by 4 works out that 1/4 of 39 is 9.75
	3	9	.	0	0	
+		9	.	7	5	← Adding the value of 1/4 of 39 to 1 lot of 39 works out 1 1/4 lots of 39
	4	8	.	7	5	
	₁					

48.75

1 mark

36

			0	0	5	8	
	7	3	4	2	3	4	← Using short division

Show your method

1	4	6				
2	1	9				
2	9	2				
3	6	5	← Listing the 73 times table to help			
4	3	8				
5	1	1				
5	8	4				

58

2 marks

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