2022 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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Instructions

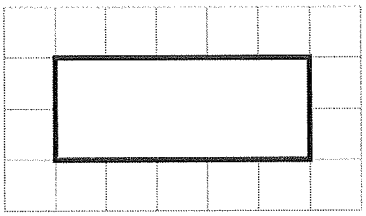
You **must not** use a calculator to answer any questions in this test.

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.**

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1 6,155 + 501 + 649 =

```
  6155
+  501
+  649
------
  7305
  1 1 1
```

7305

1 mark

2 0 × 989 =

```
  989
x   0
-----
  000
```

Any number multiplied by zero is zero.

0

1 mark

3 10 + 292 = 302

```
   2
  302
-  10
-----
  292
```

1 mark

K 0 0 0 6 0 A 0 4 2 0

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4 2,400 ÷ 2 =

```
  1200
2|2400
```

1200

1 mark

5 415 + 70 = 485

```
  485
- 70
  415
```

1 mark

6 6.48 + 8.6 =

```
  6.48
+ 8.60
  15.08
  '
```

15.08

1 mark

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7 30 = 240 ÷ 8

$$8\overline{)240} = 30$$

1 mark

8 840 ÷ 5 =

$$5\overline{)8^{3}4^{4}0} = 168$$

168

1 mark

9 7,306 – 1,847 =

$$\begin{array}{r} 6\,12\,9 \\ 7\,\cancel{3}\,\cancel{0}\,16 \\ -\;1\,8\,4\,7 \\ \hline 5\,4\,5\,9 \end{array}$$

5459

1 mark

K 0 0 0 6 0 A 0 6 2 0

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10 $1{,}010 \times 10 =$

1010 x 10 = 10100

10100

1 mark

11 $560 \div 7 =$

$$\begin{array}{r} 80 \\ 7\overline{)560} \end{array}$$

80

1 mark

12 $6 \times 10 \times 11 =$

6 x 10 = 60

$$\begin{array}{r} 60 \\ \times\ 11 \\ \hline 60 \\ +600 \\ \hline 660 \end{array}$$

660

1 mark

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13 1,080 ÷ 9 =

$$\begin{array}{r} 120 \\ 9\overline{)1080} \end{array}$$

120

1 mark

14 500,000 – 5,000 =

$$\begin{array}{r} 49 \\ 50\,0000 \\ -\quad 5000 \\ \hline 495000 \end{array}$$

495000

1 mark

15 4172 = 596 × 7

$$\begin{array}{r} 596 \\ \times \quad 7 \\ \hline 4172 \\ {\scriptstyle 6\ 4} \end{array}$$

1 mark

K 0 0 0 6 0 A 0 8 2 0

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16 $2.12 \div 10 =$

$2.12 \div 10 = 0.212$

0.212

0.212

1 mark

17 Show your method

$$\begin{array}{r} 32 \\ 21\overline{)672} \\ -63 \\ \hline 42 \\ -42 \\ \hline 0 \end{array}$$

$21 \times 2 = 42$

$21 \times 3 = 63$

$21 \times 4 = 84$

$21 \times 5 = 105$

32

2 marks

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18 $\frac{4}{9} + \frac{2}{3} =$

$\frac{4}{9} + \frac{2^{\times 3}}{3^{\times 3}}$

$\frac{4}{9} + \frac{6}{9} = \frac{10}{9}$ or $1\frac{1}{9}$

$1\frac{1}{9}$

1 mark

19

Show your method

$$\begin{array}{r} 607 \\ \times \quad 83 \\ \hline 1821 \\ +\,48560 \\ \hline 50381 \\ {\scriptstyle 1\ 1} \end{array}$$

50381

2 marks

K 0 0 0 6 0 A 0 1 0 2 0

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20 $13.05 \times 1{,}000 =$

3 places left

13.05×1000

13050.0

Move each digit 3 places to the left when multiplying by 1000.

13050

1 mark

21 $\frac{2}{3} + 2\frac{1}{3} =$

$\frac{2}{3} + 2\frac{1}{3} = 2\frac{3}{3}$ or 3

3

1 mark

22 $\frac{7}{10}$ of 30 =

$30 \div 10 = 3$

$3 \times 7 = 21$

21

1 mark

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23 $8 - 5.123 =$

$$\begin{array}{r} 7\ \ 9\ 9 \\ 8 \cdot 0\ 0\ 0 \\ -\ 5 \cdot 1\ 2\ 3 \\ \hline 2 \cdot 8\ 7\ 7 \end{array}$$

2.877

1 mark

24 $\frac{1}{8} \div 2 =$

$$\frac{1}{8} \div 2 = \frac{1}{8} \times \frac{1}{2} = \frac{1}{16}$$

$\frac{1}{16}$

1 mark

25 $\frac{1}{2} + \frac{1}{3} =$

Find a common denominator e.g. 6

$$\frac{1^{\times 3}}{2^{\times 3}} + \frac{1}{3}$$

$$\frac{3}{6} + \frac{2}{6} = \frac{5}{6}$$

$\frac{5}{6}$

1 mark

K 0 0 0 6 0 A 0 1 2 2 0

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26 26 – 2.012 =

```
   5  9 9
 2 6 . 0 0 0
-  2 . 0 1 2
 2 3 . 9 8 8
```

23.988

1 mark

27 15% of 3,200 =

10% of 3200 = 3200 ÷ 10 = 320

5% of 3200 = 320 ÷ 2 = 160

```
  3 2 0
+ 1 6 0
  4 8 0
```

480

1 mark

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28 2% of 3,000 =

1% of 3000 = 30~~0~~~~0~~ ÷ 100 = 30

2% of 3000 = 30 x 2 = 60

$\boxed{60}$

1 mark

29

Show your method

$$\begin{array}{r} 42 \\ 73\overline{)3066} \\ -292 \\ 146 \\ -146 \\ 0 \end{array}$$

$$\begin{array}{r} 73_1 \\ 146_2 \\ 219_3 \\ 292_4 \end{array}$$

$\boxed{42}$

2 marks

K00060A01420

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30 80% of 115 =

10% of 115 = 115 ÷ 10 = 11.5

80% of 115 = 11.5 × 8 = 92

$$\begin{array}{r} 11.5 \\ \times \quad 8 \\ \hline 92.0 \end{array}$$

92

1 mark

4

31 $\frac{2}{7} - \frac{1}{9} =$

Find a common denominator eg 63

$\frac{2^{\times 9}}{7^{\times 9}} - \frac{1^{\times 7}}{9^{\times 7}}$

$\frac{18}{63} - \frac{7}{63} = \frac{11}{63}$

$\frac{11}{63}$

1 mark

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

$2\frac{1^{\times 3}}{2^{\times 3}} - \frac{2^{\times 2}}{3^{\times 2}}$

Find a common denominator eg 6
Then form an improper fraction.

$2\frac{3}{6} - \frac{4}{6} = \frac{15}{6} - \frac{4}{6} = \frac{11}{6}$ or $1\frac{5}{6}$

$1\frac{5}{6}$

1 mark

33

Show your method

$$\begin{array}{r} 4078 \\ \times \quad 67 \\ \hline 28546 \\ +\,244560 \\ \hline 273226 \end{array}$$

Remember to use a place holder

273226

2 marks

K 0 0 0 6 0 A 0 1 6 2 0

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34 $10 - 2\frac{1}{4} =$

10 - 2 = 8

$10 - 2\frac{1}{4}$

$8 - \frac{1}{4} = 7\frac{4}{4} - \frac{1}{4} = 7\frac{3}{4}$

$7\frac{3}{4}$

1 mark

35 $6 + 4 \div 2 =$

$4 \div 2 = 2$

$6 + 2 = 8$

BODMAS
Remember the correct order of operations.

8

1 mark

36 $\frac{4}{5} \times 400 =$

$$5 \overline{)400} = 80$$

$80 \times 4 = 320$

320

1 mark

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Standards & Testing Agency

2022 key stage 2 mathematics
Paper 1: arithmetic
Print version product code: STA/22/8417/p ISBN: 978-1-78957-265-0
Electronic PDF version product code: STA/22/8417/e ISBN: 978-1-78957-286-5

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