

National curriculum tests

Key stage 2

Mathematics

Paper 1: arithmetic

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

SAMPLE BOOKLET

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This sample test indicates how the national curriculum will be assessed from 2016. Further information is available on GOV.UK at www.gov.uk/sta.



PUPIL ID NUMBER



S 0 0 0 8 0 A 0 1 2 0

★ Remember → always put your answer in the box !! 😊

1

$979 + 100 =$

mental addition

$$\begin{array}{r} 979 \\ + 100 \\ \hline 1079 \end{array}$$

(if absolutely necessary)

1079

1 mark

2

$123 \times 2 =$

mental multiplication

$$\begin{array}{r} 123 \\ \times 2 \\ \hline 246 \end{array}$$

(if absolutely necessary)

246

1 mark

3

$6.1 + 0.3 = \frac{1}{10} + \frac{3}{10} = \frac{4}{10}$

mental addition

$$\begin{array}{r} 6.1 \\ + 0.3 \\ \hline 6.4 \end{array}$$

6.4

1 mark



4

$24 \times 3 =$

	2	4
x		3
	7	2

72



1 mark

5

$1,034 + 586 =$ *Make sure your place value is correct!*

	TH	H	T	O
	↓	↓	↓	↓
		5	8	6
+	1	0	3	4
	1	6	2	0
		+	+	

1620



1 mark

6

$48 \div 6 =$ *Times tables knowledge is essential!*
(mentally)

8



1 mark



S 0 0 0 8 0 A 0 5 2 0

7

472 - 9 =

mentally (-10, +1
(subtract ten, plus one))

463

1 mark

8

2.5 + 0.05 =

Place value!

decimal not in a separate box

0.1/10 1/100 1/1000

2.5
+ 0.005

2.505

can insert 'place'
holding' 0's if you
need to

2.505

1 mark

9

5 x 4 x 7 = 20 x 7 = 140
20

140

1 mark



Always make note of
the operation!

10

As the denominators (bottom number) are the same, you can subtract the numerator (top number) straight away! 😊

$$\frac{4}{5} - \frac{1}{5} = \frac{3}{5}$$

$$\frac{3}{5}$$

1 mark

11

$$630 \div 9 =$$

Mental division

Short division if necessary

$$\begin{array}{r} 70 \\ 9 \overline{) 630} \\ \underline{63} \\ 0 \end{array}$$

70

1 mark

12

$$1.28 \times 100 =$$

number gets bigger...
 $\times 100$
 jump 2 place values

$$\begin{array}{r} 1.28 \\ \leftarrow \leftarrow \leftarrow \leftarrow \\ 128 \end{array}$$

12.8

1 mark



13

4² multiply the number by itself.

$$4 \times 4 = 16$$

16

1 mark

14

$$50,000 - 500 =$$

mental subtraction

(if necessary)

$$\begin{array}{r} 49 \\ \cancel{50},000 \\ - \quad \quad 500 \\ \hline 49500 \end{array}$$

49,500

1 mark

15

$$100 \times 100 =$$

T H T O

$$\begin{array}{r} 100 \\ 10000 \end{array}$$

10,000

1 mark



Can do this mentally, knowing $144 \div 12 = 12$
 Simply add the zero to the end of your
 answer = 120

16

$1,440 \div 12 =$

Long division

$$\begin{array}{r}
 120 \\
 12 \overline{) 1440} \\
 \underline{-12} \\
 24 \\
 \underline{-24} \\
 00
 \end{array}$$

$$\begin{array}{r}
 12 \\
 24 \\
 36 \\
 48
 \end{array}$$

Skeleton chart

120



1 mark

17

20% of 1,500 =

To find 20% either $\div 10$
 then \times by 2
 (or just divide by 5)

$$\frac{2 \downarrow 1}{10 = 5}$$

$$\begin{aligned}
 150 &= 10\% \\
 150 \times 2 &= 300 \\
 \therefore 20\% &= 300
 \end{aligned}$$

or
$$\begin{array}{r}
 300 \\
 5 \overline{) 1500} \\
 \underline{15} \\
 00
 \end{array}$$

300



1 mark

18

$1.52 \times 6 =$

How many behind the decimal point?
 Will be how many you have in your
 answer.
 Multiply normally then add it in.

$$\begin{array}{r}
 1.52 \\
 6 \\
 \hline
 9.12 \\
 3
 \end{array}$$

9.12



1 mark



S 0 0 0 8 0 A 0 9 2 0

19

$$\frac{1}{9} + \frac{4}{9} =$$

As the denominators (bottom number) are the same \rightarrow add the numerator (top number) straight away.

$$\frac{1}{9} + \frac{4}{9} = \frac{5}{9}$$

$$\frac{5}{9}$$



1 mark

20

$$5,756 + 8,643 =$$

Column addition \rightarrow Remember your place value...

$$\begin{array}{r} 5756 \\ + 8643 \\ \hline 14399 \\ + \end{array}$$

14,399



1 mark

21

$$7,505 \div 5 =$$

Short division / bus stop

$$\begin{array}{r} 1501 \\ 5 \overline{) 7505} \end{array}$$

1501



1 mark



22

12 - 6.01 =

Place value! You will need place holding zeros. Then subtract as normal.

			11	9	
			12	0	0
-			6	0	1
<hr/>					
			5	9	9

Remember to exchange/borrow if you need to.

5.99



1 mark

23

			5	4
x			2	3

			1	6	2	
			1	0	8	0
			1	2	4	2

(20 not 2) place holder

Separate your working out

Show your method

Stage 2 (+them)

1242



2 marks

Long multiplication Remember to keep your place value and you will need a place holding zero



24

15.4 - 8.88 =

$$\begin{array}{r}
 \overset{14}{1} \overset{13}{5} \cdot \overset{10}{4} \\
 - 8.88 \\
 \hline
 6.52
 \end{array}$$

Insert a place holder
 Remember to exchange/
 borrow if you need to.

6.52

1 mark

long division

25

$$\begin{array}{r}
 232 \\
 13 \overline{) 3016} \\
 \underline{-26} \\
 34 \\
 \underline{-39} \\
 26 \\
 \underline{-26} \\
 0
 \end{array}$$

$$\begin{array}{r}
 13 \\
 26 \\
 39 \\
 52 \\
 65
 \end{array}$$

skeleton chart

Show your method

232

2 marks



26

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

multiplying fractions \rightarrow simply
multiply the numerators together and
then multiply the denominators

$$\frac{1}{4} \times \frac{1}{8} = \frac{1}{32}$$

$$\frac{1}{32}$$



1 mark

27

$$95\% \text{ of } 240 =$$

Use your knowledge of 10%
10% = 24 \therefore 5% = 12

$$\begin{array}{r} 240 \\ \downarrow 12 \\ \hline 228 \end{array} \quad \begin{array}{l} 100\% \\ (5\%) \end{array}$$

$$228$$



1 mark

28

$$234,897 - 45,996 =$$

make sure your place
value is correct

$$\begin{array}{r} 123 \\ 234897 \\ - \downarrow 45996 \\ \hline 188901 \end{array}$$

$$188,901$$



1 mark



S 0 0 0 8 0 A 1 3 2 0

Long multiplication

29

$$\begin{array}{r} 678 \\ \times 54 \\ \hline \end{array}$$

so not 5

Remember the place holder

$$\begin{array}{r} 2712 \\ \times 54 \\ \hline 33900 \\ \times 3390 \\ \hline 36612 \end{array}$$

Now
ADD

Show your method

35,612

2 marks

30

$$17 \times 1\frac{1}{2} =$$

convert to an improper (top-heavy) fraction.

$$\frac{17}{1} \times \frac{3}{2} = \frac{51}{2} = 25\frac{1}{2}$$

convert back

Now multiply like normal

25 $\frac{1}{2}$

1 mark

Any whole number is $\frac{x}{1}$ e.g. $22 = \frac{22}{1}$

$$17 = \frac{17}{1}$$

$$103 = \frac{103}{1}$$



(in order of priority)

1st 2nd 3rd 4th
Brackets, order - division, multiplication, addition, subtraction

31

$20 - (4 \times 2) = 8$ **BODMAS/BIDMAS**
multiplication before subtraction.
Place brackets around this part!

$20 - 8 = 12$

12

1 mark

32

$\frac{2}{5} \div 2 = \frac{2}{5} \div \frac{2}{1}$ **KFC**
KEEP, FLIP, CHANGE
• keep first fraction
• flip second fraction
• change operation \div to \times

$\frac{2}{5} \times \frac{1}{2} = \frac{2}{10}$ Simplify if you can
but not essential
 $\frac{2}{10} = \frac{1}{5}$

$\frac{1}{5}$

1 mark

Convert to improper fraction ($1 \times 5 + 1$)

33

$1\frac{1}{5} - \frac{1}{4} =$ Need to find the lowest common multiple
5 4
10 20
20 20

$\frac{6}{5} - \frac{1}{4} = \frac{24}{20} - \frac{5}{20} = \frac{19}{20}$

$\frac{19}{20}$

1 mark

Do the same to the top as you do to the bottom!



34

$$\begin{array}{r}
 63 \\
 37 \overline{) 2331} \\
 \underline{- 222} \quad \downarrow \\
 0111 \\
 \underline{- 111} \\
 0
 \end{array}$$

- ① 37
- ② 74
- ③ 111
- ④ 148
- ⑤ 185
- ⑥ 222

Show your method

63

2 marks

35

No need to change

$$\frac{3}{4} + \frac{7}{8} =$$

Find a common denominator (LCM)

$$\frac{3}{4} \times 2 + \frac{7}{8} = \frac{6}{8} + \frac{7}{8} = \frac{13}{8}$$

$1 \frac{5}{8}$

1 mark

LCM = lowest common multiple

$$\begin{array}{l}
 4 \\
 \underline{8} \\
 12 \\
 \underline{16}
 \end{array}
 \quad
 \begin{array}{l}
 \underline{8} \\
 \underline{16}
 \end{array}$$

Although 16 is a common multiple I want the smallest possible.

Convert to mixed number

$$\frac{13}{8}$$

How many 8's fit in to 13? 1 the left over amount remains as a fraction

$$\therefore \frac{13}{8} = 1 \frac{5}{8}$$

cannot be simplified



36

$$\frac{3}{4} \div \frac{2}{1} = \text{K.F.C} \quad \frac{3}{4} \times \frac{1}{2} = \frac{3}{8}$$

$$\frac{3}{8}$$

1 mark

$\frac{3}{8}$ cannot be simplified as there are no common factors, therefore it is already in its simplest form! 😊

I hope this was helpful!

P.S. P.M.A!!!



S 0 0 0 8 0 A 1 7 2 0