

Year 6 SATs Parent Workshop - Maths

26.01.23

Dates for diary

Key stage 2 tests

The statutory [key stage 2 tests](#) are timetabled from Monday 13 May to Thursday 16 May 2024:

Date	Activity
Monday 13 May 2024	English grammar, punctuation and spelling papers 1 and 2
Tuesday 14 May 2024	English reading
Wednesday 15 May 2024	Mathematics papers 1 and 2
Thursday 16 May 2024	Mathematics paper 3

Times Tables Rock Stars



- ▶ Times Tables Rock Stars is a carefully sequenced programme of regular times tables practice
- ▶ Develops fluency of times tables and division facts
- ▶ Bespoke programme set by staff
- ▶ Play against other children from all over
- ▶ Enthusiastic - earn coins to buy features for avatar
- ▶ Practice at home – all children have an account
- ▶ <https://trockstars.com/>

Maths SATs papers

- ▶ Paper 1 is the arithmetic paper which will last for 30 minutes. It will contain fixed response questions where children have to give the correct answers to calculations, including long multiplication and division. **40 marks**
- ▶ Papers 2 and 3 will involve a wider range of question types including multiple choice, true or false and reasoning based. Both papers will last 40 minutes each. **35 marks each**
 - Constrained questions, e.g. giving the answer to a calculation, drawing a shape or completing a table or chart
 - Less constrained questions, where children will have to explain their approach for solving a problem

Mathematics – Arithmetic paper

- ▶ An Arithmetic test worth 40 marks to test the child's number and calculation skills.
- ▶ Children will have 30 minutes to complete the test
- ▶ Children will need to know number facts, such as multiplication tables
- ▶ Some questions will test the use of calculating methods
- ▶ Towards the end of the paper there are more challenging questions and some are worth 2 marks.
- ▶ If the child's answer is not correct but they have shown correct use of the formal long multiplication or division methods they may still earn a mark

Year 6 Arithmetic skills

- ▶ Multiply and divide numbers by 10/100/1000
- ▶ Use negative numbers in context, and calculate intervals across zero.
- ▶ Add whole numbers and decimals using formal written methods
- ▶ Subtract whole numbers and decimals using formal written methods
- ▶ Use knowledge of the order of operations to carry out calculations.
- ▶ Solve missing number problems using all 4 operations.
- ▶ Multiply multi-digit numbers up to 4 digits by a two digit whole number using the formal written method
- ▶ Multiply one-digit numbers with up to two decimal places by whole numbers.
- ▶ Divide numbers up to 4 digits by a two-digit whole number using the formal written methods of short or long division
- ▶ Multiply 3 numbers together
- ▶ Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.
- ▶ Multiply simple pairs of proper fractions, writing the answer in its simplest form
- ▶ Calculate percentages of amounts

Have a go

- ▶ Have a look at the type of questions that will appear in the arithmetic paper so you can get a feel of the expectation.
- ▶ Accuracy of strategies is key!

Answers

question	answer	marks
1	126	1
2	$\frac{1}{2}$ or $\frac{6}{12}$	1
3	6516	1
4	69	1
5	644	1
6	4.444	1
7	3029	1
8	489 552	1
9	80	1
10	125	1
11	83.88	1
12	$\frac{11}{20}$	1
13	428 403	2
14	156	2
15	$\frac{14}{25}$	1
16	$\frac{1}{40}$	1
17	23.76	1
18	661.5	1

Common mistakes during arithmetic:

- ▶ Not understanding when to use the inverse e.g.
 $\underline{\quad} - 100 = 1,059$ compared to $602 - \underline{\quad} = 594$
- ▶ Omitting a 0 as the place value holder on the second line of the long multiplication method.
- ▶ Not aligning the decimal points correctly using the 4 operations.
- ▶ not recognising that some calculations can be completed mentally e.g. 0.5×28 or 600×8
- ▶ Not completing the operations in the correct order!
- ▶ Forgetting to simplify fraction answers.

Regrettable errors (far too common!)

- ▶ Misreading the operation (usually addition as subtraction or vice versa)
- ▶ Omitting decimal points
- ▶ Missing out questions
- ▶ Missing out WHOLE PAGES!
- ▶ Illegible digits (usually 6s as 0s and vice versa, or 7s as 1s)
- ▶ Getting the answer correct in the working out box but not copying it correctly into the answer box

Mathematics – Reasoning papers

- ▶ The reasoning papers are to test the child's problem solving/reasoning skills.
- ▶ Children will have 40 minutes to complete the test.
- ▶ In order of difficulty so not all children will finish.
- ▶ Covers geometry and statistics, arithmetic and number knowledge to solve problems.

Types of questions

Arithmetic:

- ▶ formal methods for calculating answers (+ - x ÷)
- ▶ FDP
- ▶ fractions – adding and subtracting with different denominators
- ▶ fractions – multiplying and dividing
- ▶ BODMAS

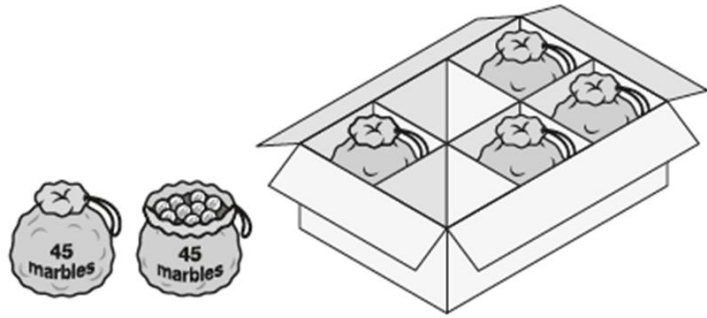
Reasoning:

- ▶ + - x ÷ problems – 11 marks
- ▶ FDP
- ▶ Measurement
- ▶ Number and PV

A toy shop orders 11 boxes of marbles.

Each box contains 6 bags of marbles.

Each bag contains 45 marbles.



How many **marbles** does the shop order in total?

Lara chooses a number less than 20

She divides it by 2 and then adds 6

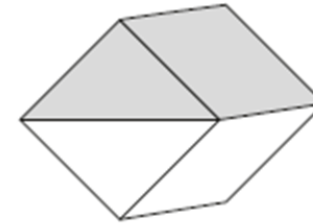
She then divides this result by 3

Her answer is 4.5

What was the number she started with?

Here is a cube.

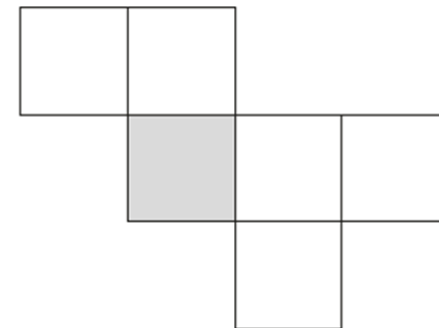
The top half of the cube has been shaded all the way round.



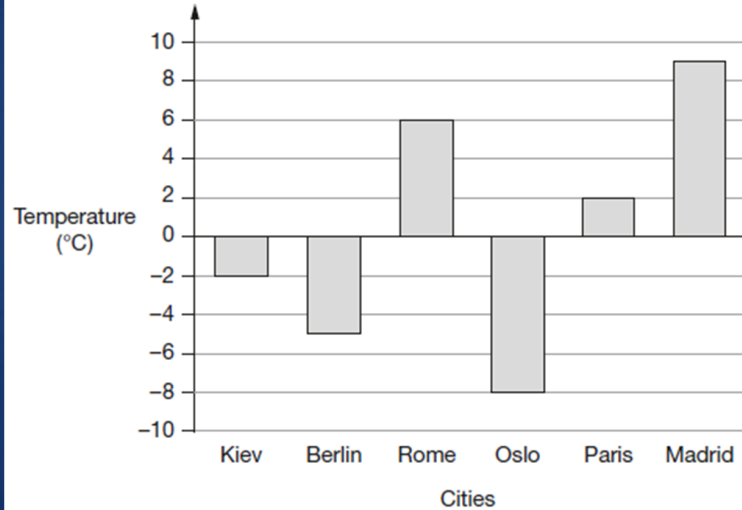
Here is a net for the cube.

One square has been shaded for you.

Shade more of the net so that it could fold to make the cube above.



This graph shows the temperature in six cities on one day in January.



Which city was 4 degrees **warmer** than Kiev?