

MATHS AT RAVENSCOTE

YEAR 6



Our aim for this session

To help you to understand the methods we use to teach your child

To help you understand the vocabulary specific to maths in Year 6

To help you feel more confident with helping your child with maths at home



Maths

- Make maths a casual part of what you do while you're doing something else
- Make maths 'hands on' and fun if you can
- Don't expect children to 'get it' after you've explained to once—it can take a long time for the penny to drop
- When a child gets a question wrong, it is tempting to tell them they are wrong and how to correct it. Why not ask them to explain their method and help them spot their mistake?
- Similarly if a child gets a question right, get them to explain how they reached their answer, perhaps pretending not to understand their reasoning

SATS – arithmetic paper

4 $459 \div 1 =$

1 mark

5 $560 - 74 =$

1 mark

6 $4.7 + 1.045 =$

1 mark

7 $= 2,200 + 900$

1 mark

8 $7 \times 22 =$

1 mark

9 $63 \div 9 =$

1 mark

SATS – arithmetic paper

- **Roughly 60% of SATs papers are covering year 3, 4, 5 content!!!!**
- Key areas to secure fluency:
- **Place value** (including decimals)
- **Four operations:** add, subtract, **multiply (long multiplication)**, divide (whole numbers and decimals)
- **Fractions:** equivalent ($3/4 = 0.75$), proper, improper, mixed numbers, **unit and non-unit fractions on a number line**
- **Decimals & Percentage basics**
These topics repeatedly appear in arithmetic questions, often with fractions/percentages making up a high proportion of marks.

SATS – reasoning papers

1 Write the missing number.

R8

One is done for you.

140 is 70 more than 70

is 70 more than 218

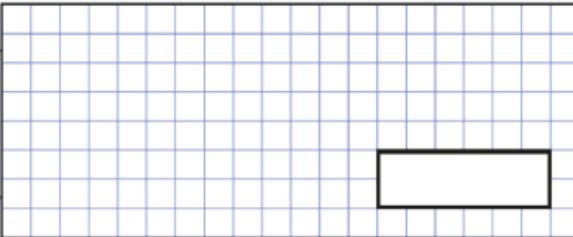
1 mark

2 A packet of paper has 300 sheets

4 children each take 7 sheets

How many sheets of paper are left in the packet?

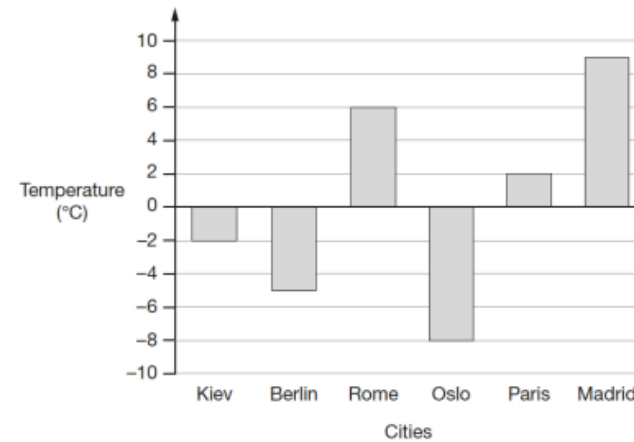
Show your method



2 marks

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

R8



Which city was 11 degrees colder than Madrid?

1 mark

What was the difference between the temperature in Rome and the temperature in Oslo?

°C

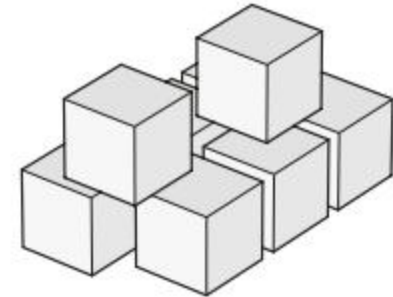
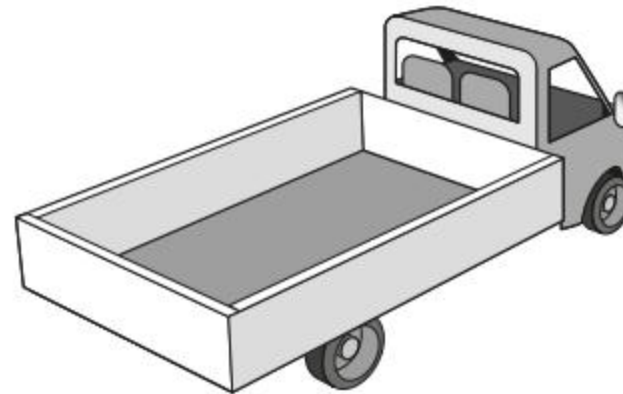
1 mark

RUCSAC

The mass of the empty truck is 2,250 kilograms.

It is then loaded with 8 boxes.

The mass of each box is 25 kilograms.



SOLVING PROBLEMS



Read the question. What is the important information?



Understand the question. What do you need to find out?



Choose the correct method of calculation and operation(s).



Solve the problem. Make sure you follow the steps.



Answer the question. What were you meant to find out?



Check your answer. Use the inverse to check your working out.

What is the **total** mass of the truck and its load?



R8

10

Write the missing digits to make this long multiplication correct.

$$\begin{array}{r}
 4 \square \\
 \times \square 7 \\
 \hline
 294 \\
 840 \\
 \hline
 1134
 \end{array}$$

Fill in the missing numbers

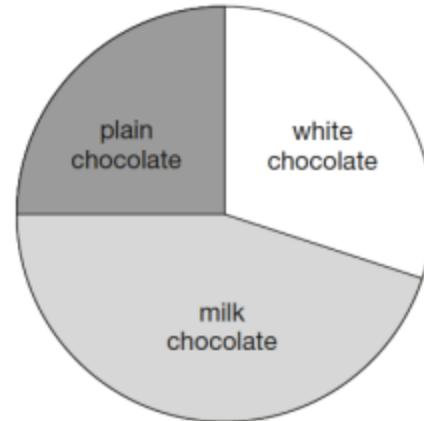
2 marks

Explaining questions

17

90 girls and 220 boys were asked which kind of chocolate they like best.

These two pie charts show the results.



90 girls



220 boys

Steve says,

"The pie charts show that more girls than boys liked milk chocolate best."

Steve is wrong.

Explain how you know.

1 mark

SATS – reasoning papers

- Reasoning Papers (Papers 2 & 3)
- Problem-solving types to practise:
 - **Multi-step questions** drawing on multiple skills
 - **Fractions/Decimals/Percentages in context**
 - **Measurement:** area, perimeter, time, money
 - **Geometry:** shapes, angles, coordinates
 - **Statistics:** interpreting tables and graphs
 - **Ratio & proportion basics**
 - **Word problems** that combine operations and reasoning. Show just the calculations and get them to solve it, then add in the words to the same problem.

How to revise

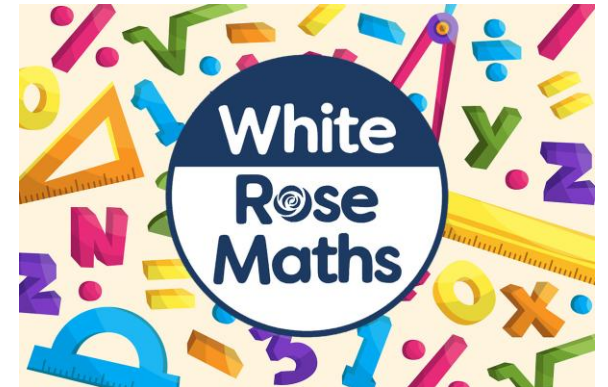
- **Start with arithmetic fluency** — ability with basic calculations unlocks reasoning success.
- Daily short quizzes (10–15 mins).
- Use number bonds & times tables up to 12×12 until they are automatic – times tables practice daily if needed.
 - ◇ **Reasoning practice:**
- Underline key information in word problems.
- Encourage writing *all steps* of working — often converts reasoning into marks even if final answer is tricky.
 - ◇ **Use past papers sequence – all accessible online, or Maths Bot generate arithmetic and reasoning papers**

Thank you for coming



CENTURY

- There are many resources available online for SATS practice
- Times tables are paramount to progress in maths so this is always a good place to start



Extra help/ reminders if need

ADDITION

$$\begin{array}{r} 789 \\ + 642 \\ \hline 1431 \\ \hline 11 \end{array}$$

First add up the ONES:

$$9 + 2 = 11$$

The 1 is written in the ONES column and the 1 is carried into the TENS column.

You write the numbers you carry over below the answer bar.

Continue to add up the digits in the TENS and the HUNDREDS.

SUBTRACTION

$$\begin{array}{r} 8 \quad 12 \quad 1 \\ \cancel{9} \quad \cancel{3} \quad 2 \\ - \quad 4 \quad 5 \quad 7 \\ \hline 4 \quad 7 \quad 5 \end{array}$$

First subtract the ONES:

$2 - 7$. You cannot do this so we need to exchange (borrow) from the number in the TENS. So, the 3 now becomes a 2 and we carry over the 1 so it is now $12 - 7 = 5$

Next subtract the TENS:

$2 - 5$. You cannot do this so we need to exchange again from the number in the HUNDREDS. So, the 9 becomes an 8 and we carry over the 1 so it is now $12 - 5 = 7$.

Finally subtract the HUNDREDS:

$8 - 4 = 4$.

LONG

	1	2	4	
×		2	6	
<hr/>				
	7	4	4	
2	4	8	0	
<hr/>				
3	2	2	4	
<hr/>				

Multiply by the ONES first.

$6 \times 4 = 24$. The 4 is written in ONES column and the 2 is written on the first line (in the TENS column)

$6 \times 2 = 12$ and add on the 2. The 4 is written in the TENS column and the 1 is written on the first line (in the HUNDREDS column)

$6 \times 1 = 6$ and add on the 1. The 7 is written in the HUNDREDS column.

Now it's time to multiply by 20. Place a zero in the TENS column and then just multiply by 2.

$2 \times 4 = 8$. Place the 8 in the TENS column.

$2 \times 2 = 4$. Place the 4 in the HUNDREDS column.

$2 \times 1 = 2$. Place the 2 in the THOUSANDS column.

Finally, add the two rows of numbers together and place the answer in the answer bar.

DIVISION

SHORT

$$5 \overline{) 2565}$$

2565 divided by 5 is written like this.

The children may know this method as short division or 'the bus stop' method.

$$5 \overline{) 2565} \begin{array}{r} 513 \\ 25 \\ \underline{25} \\ 6 \\ 15 \\ \underline{15} \\ 0 \end{array}$$

To work this out, divide 5 into 2565 one digit at a time – starting with the digit 2 (which represents 2000 in 2565). The result of each division is written on the top of the line.

How many 5s are in 2? – There are none so the 2 is carried over into the next column. Now how many 5s are in 25? – There are 5. So, the 5 is written on top of the line.

Next: How many 5s are in 6? – There is 1. So, the 1 is written on top of the line. But there is 1 left over (a remainder) so this is carried over into the next column.

Finally, how many 5s are in 15? – There are 3. So, the 3 is written on top of the line.

2565 divided by 5 = 513.

DIVISION

LONG

$$15 \overline{) 8640}$$

$$\begin{array}{r} 5 \\ 15 \overline{) 8640} \\ - 75 \\ \hline 11 \end{array}$$

This is the traditional way of long division. It is set out just like a short division (bus stop method)

Please note: we recommend that the children create a fact box to help them. As we are dividing by 15, the children would write down the 15 times table.

To start, how many 15s are in 8? There are none so we look at the next digit.

How many 15s are in 86? There are 5. So, the 5 is written on the top line.

$15 \times 5 = 75$. So, take 75 away from 86.
 $86 - 75 = 11$.

