Stepping-Up to Secondary School

Welcome to

MATHS

at Ripley St. Thomas

We can't wait to meet you...

The maths teachers at Ripley are very much looking forward to meeting you. Normally, at this time of year, you find out about us, we find out about you and together we do some maths.

Unfortunately, due to this year's transition activities having to be cancelled, we won't meet in person until September. However, hopefully this booklet will help you find out about your maths teacher whilst doing some fun puzzles on the way.

You can complete these on your own or with your family.

Complete as much as you can in time for September and bring into school for your first lesson. We look forward to meeting you!

Meet the Department...

There are 15 teachers in the Maths Department at Ripley. Throughout this booklet you will find out some of our favourite maths related things. Can you list an interesting fact for each teacher or find out which puzzles they like doing? Make a note of them all here and bring this answer sheet with you on your first day.

Miss Hirst

FACT

Miss Morphet

FACT

Mrs Best

FACT

Mr Cameron

FACT

Mr Robinson

FACT

Mrs Beeden

FACT

Mrs Backhouse

FACT

Mrs Harris

FACT

Miss Turley

FACT

Miss Montgomery

FACT

Mrs Pyle

FACT

Mr Sim

FACT

Mr Merritt

FACT

Miss Demetriou

FACT

Mr Tailyour

FACT

SIGN UP

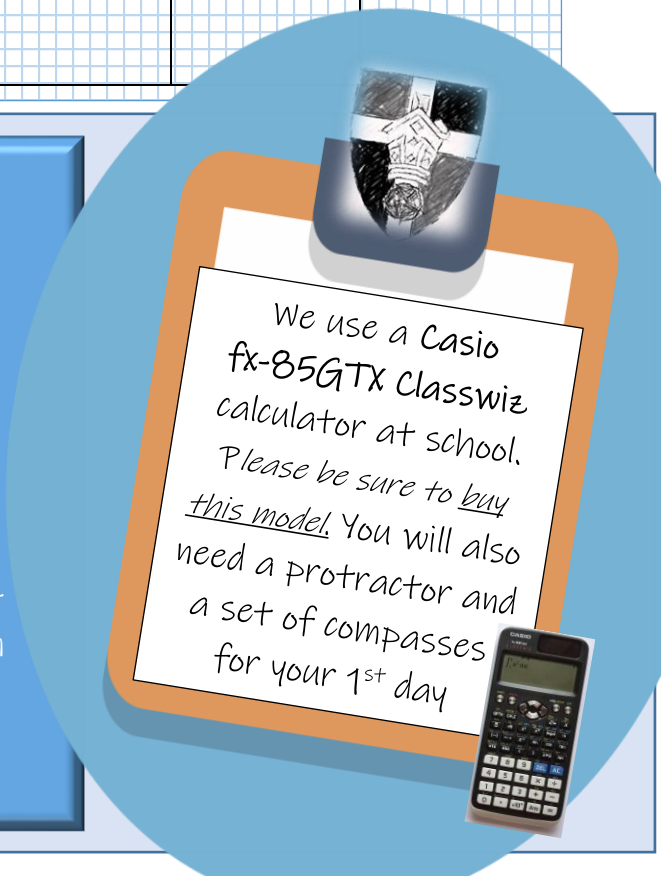
Try Numerise for free

Be 'Secondary-Ready' with

'Numerise' from hegartymaths

Registration is free and there are lots of practise activities for some of the work you have been doing already, plus some extra ones to try.

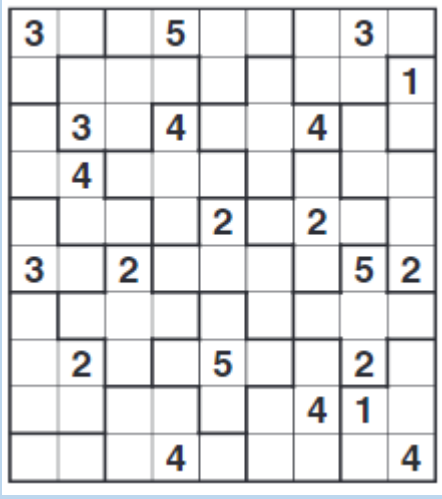
We recommend trying something every week if you can – this will help keep your core maths skills fresh for when you join us. Register for **Numerise** here: https://www.numerise.com/secondary-ready/

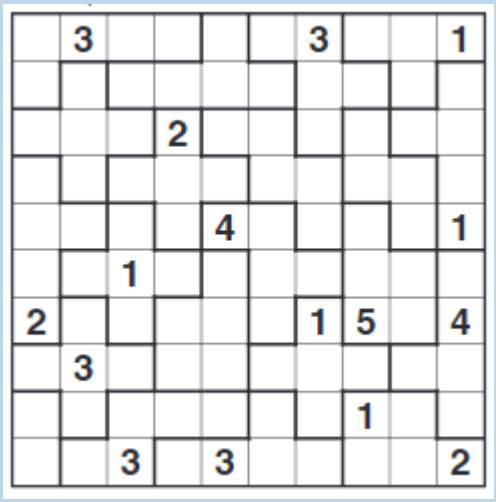


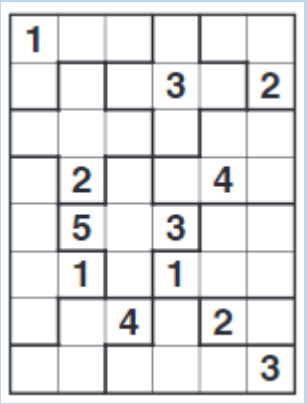
We use a Casio fx-85GTX Classwiz calculator at school. Please be sure to buy this model. You will also need a protractor and a set of compasses for your 1st day

Miss Turley's **Touch-Me-Not** Teasers:

Complete the grid using digits 1-5. The number of cells in a block defines the numbers to be placed in it… for example, a block of three cells will contain the digits 1-3. A digit can occur only once in each block. Identical digits cannot touch each other, even diagonally.





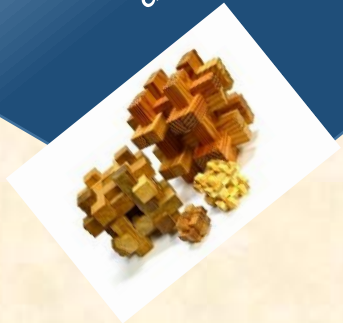


MISS TURLEY'S favourite number is **13**. Miss Turley says "I first wanted to teach because my cousin did a maths degree and always gave me little puzzles to solve, which I enjoyed. I also enjoy car rallying – using average speed calculations, accuracy of measurement and calculation helps gain a good result!"

Mr Tailyour's favourite number is 9801 because it is 99x99!

He has always enjoyed maths and teaching it to his friends.

Mr Tailyour likes to do wooden assembly puzzles and games like 3D 4-in-a-row!



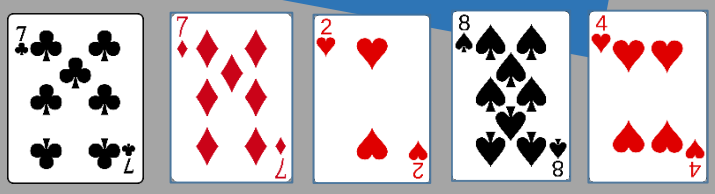
Mr Robinson's favourite problem is "How many squares are there on a chess board?"

It's a **lot more** than 64 – look again, you may have missed a few!

Miss Morphet's TIME PUZZLE

If it were 2 hours later, it would be half as long until midnight as it would be if it were an hour later. What time is it now?

MRS PYLE loves a PLAYING CARD PUZZLE!

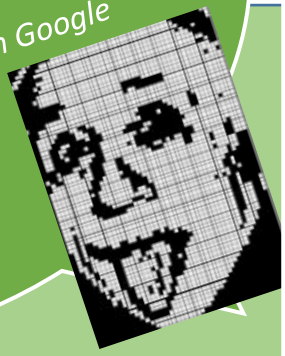


Try to find out which one of these cards I am thinking of. Here are some clues:

- The value of the card is a prime number
- The values of my two neighbours add up to a multiple of 3
- My card is next to a card which is next to the 2 of hearts

Mr Sim has recently been trying out **"nonograms"** which are maths puzzles that involve logic but create different pictures by completing them.

Try searching **nonograms** on Google and have a go!



MRS BEEDEN'S TRUE OR FALSE FACTORS FUN...Is each statement true or false?

a) 8 is a factor of 12	b) 26 is a factor of 13
c) 31 is a prime number	d) 15 is a composite number
e) 2 is a factor of 3960	f) 10 has four factors
g) All positive integers have 1 as a factor	h) All prime numbers have exactly 1 factor

Goldbach's Conjecture

"Every **even number** greater than two can be written as the **sum of two prime numbers**."

$4 = 2 + 2$ $6 = 3 + 3$ $8 = 3 + 5$ ... Can you keep going?

MRS BACKHOUSE loves teaching **prime numbers**!!

Why have all the prime numbers not yet been found?

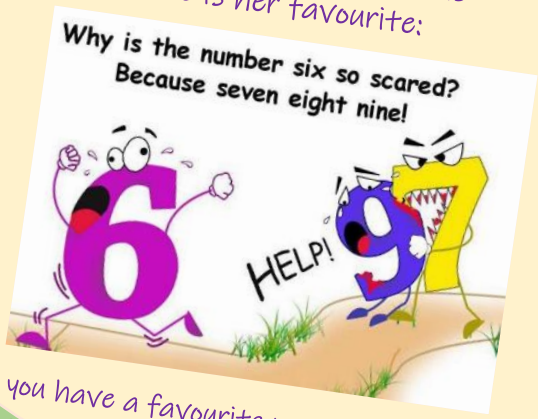
What is the **largest** known prime?

How are prime numbers used when shopping with credit cards?

Do you think the number 1 should be prime?

Mrs Best loves completing logic puzzles and Sudoku puzzles – very satisfying when you finally finish a tricky problem!

Mrs Best also likes a good maths joke... here is her favourite:



Do you have a favourite maths joke? Be sure to tell Mrs Best when you see her!

MR ROBINSON'S '9 Pieces of Paper' challenge...

TASK 1

Arrange all your cards to make all three of these sums true at the same time:

$\square + \square = \square$

$\square - \square = \square$

$\square \times \square = \square$

Take a piece of paper, divide it into nine parts and number it like this →

Then cut out the numbers so you have 9 cards, numbered 1-9

1	2	3
4	5	6
7	8	9

TASK 2 - Arrange your cards to make this sum true:

$$\begin{array}{r} \square\square\square \\ \square\square\square \\ \square\square\square + \\ \hline 999 \end{array}$$

Speedy Maths

Question 1
What is the value of $9-8+6-5+4-3+2-1$?

Question 2
In a class of 30 pupils, 60% are boys. How many girls are in the class?

Question 3
I buy 3 CD's at £5.29 each and pay with a £20 note. Hoe much change should I get?

Question 4
What is the smallest number of coins needed to make up the amount of change in question 3?

Question 5
What is $\frac{1}{3}$ of 45 + $\frac{1}{5}$ of 55 + $\frac{1}{13}$ of 65?

Question 6
In a class of 30 pupils, 20 pupils like rock music, 15 like rap music, including 10 who like both. How many do not like either rock or rap music?

Question 7
We know that 9 X 8 = 72. What is the value of 7200 ÷ 8000?

Question 8
What is the value of $\frac{2}{3}+\frac{5}{7}$?

Question 9
What is the value of $1+\frac{1}{2}+\frac{1}{4}+\frac{1}{8}$?

Question 10
What is 20% of 20% of 350?

MR CAMERON loves **fast mental maths.** How many of these can you answer in 10 minutes? Mr Cameron managed *all 20* in just *13 minutes and 41 seconds!*

Mr Merritt loves riddles and puzzles. His favourite maths number is 'i' as it has so many uses in maths and physics – but what is 'i'?

Question 11
A train arrives in York at 15:05 after a journey of 2 hours 15 minutes from London. At what time did the train leave London?

Question 12
3 choc boxes and 2 drinks cost £3.40 while 2 choc boxes and 3 drinks cost £3.10. How much will 1 choc box and 1 drink cost?

Question 13
I have to run 1500 metres in 10 minutes for my gold award. I run at an average of 3m/s. By how many seconds do I succeed or fail in my quest for a gold award?

Question 14
You are told that x = 2 and y = 3. What is the value of $2x^2 + 3y^2$?

Question 15
What is $\frac{1}{2}$ of $\frac{1}{3}$ of 96?

Question 16
What is the sum of all the square numbers greater than 100 but less than 200?

Question 17
We know that 11^2 is 121. What is the value of 111^2?

Question 18
What 3-digit number is both a square number and a cube number?

Question 19
It takes 7.5 hours to fly to New York. The return flight takes 90% of the outward flight time. How long is the return flight?

Question 20
A computer priced at £325 has its price increased by 25%. A month later it is reduced by 20% in the sale. What is the sale price?

is **MRS HARRIS'** favourite number.

It is a *prime number* and a *palindromic*...

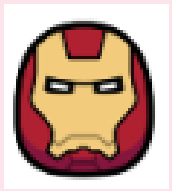
Mrs Harris' favourite maths is **GEOMETRY**, especially angles.

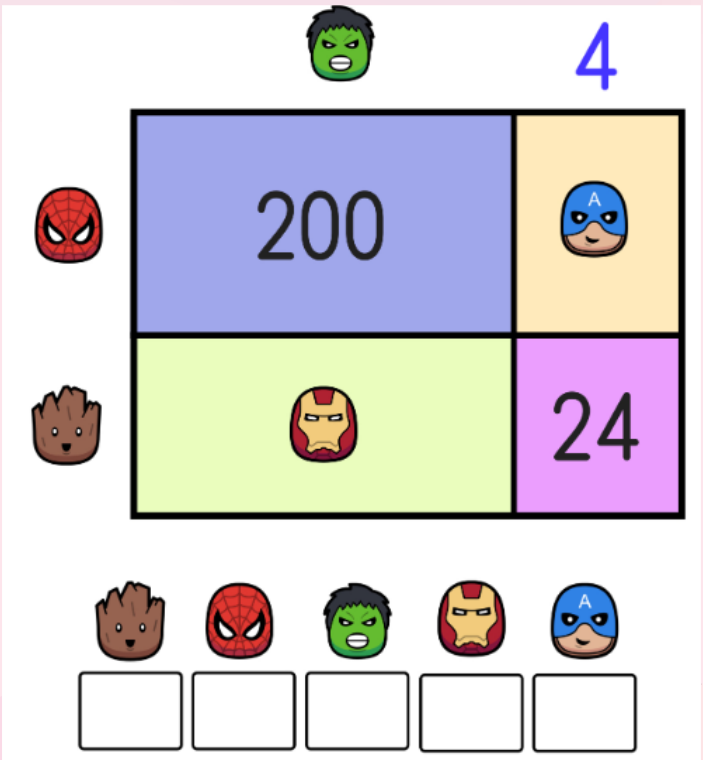
For fun she likes doing logic puzzles

MISS MONTGOMERY'S MATHS MARVELS MASH UP

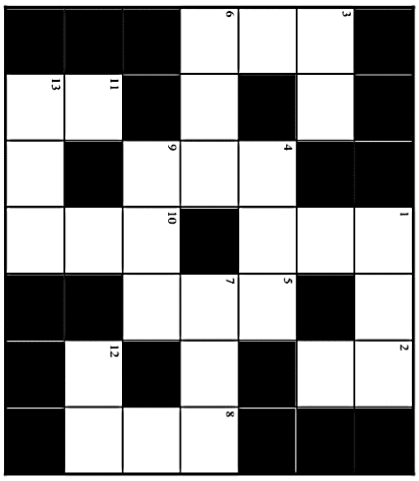
Instructions

Find the value of each icon in the area model below, so that it is equal to 384.





MISS HIRST'S CROSS NUMBERS



Across

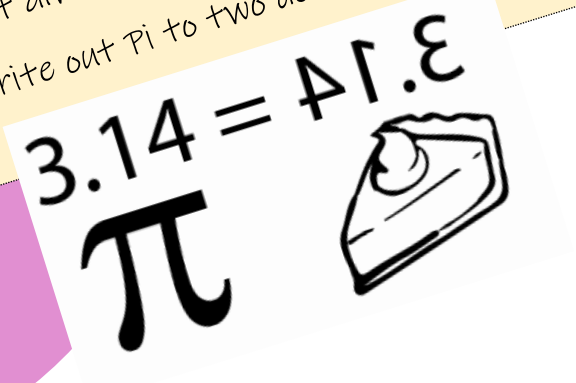
1. 13 across times two
3. Two times 11 down
4. 4 down minus one
6. 4 across plus forty
7. 6 across minus 187
9. Seconds in eight minutes
12. 48 plus 36
13. 9 across minus one

Down

1. 1 across minus fifty-five
2. Months in seven years
3. 5 down plus sixty-eight
4. 10 down plus twenty-five
5. Seconds in six minutes
8. 7 across minus sixty-two
10. 1 across minus 149
11. Months in two years

21 is Miss Demetriou's favourite number – she doesn't know why, it just always has been since being a child.

FUN FACT – If you write out Pi to two decimal places, its reflection spells "pie"



MISS HIRST LOVES PROBLEMS THAT MAKE HER THINK! CAN YOU COME UP WITH A PROBLEM FOR MISS HIRST TO SOLVE?