



# Meet the department...

In the Maths department we have 7 Maths teachers, our maths corridor in E block looks like this. Throughout this booklet you will find out about some of our favourite Maths related things. Come back to this page to fill those in, can you find them all?

The diagram shows a corridor with seven teachers' boxes and speech bubbles. The boxes are arranged as follows: E12 (UPSTAIRS) MR GRAY, E5 MISS TRIM, E6 MR DHRUEV, E4 MISS PEATY, E3 MISS MCLELLAN, E2 MRS SOUTHERN, and E1 MR THATCHER. Each teacher has a speech bubble containing 'Favourite Number:' and 'Favourite Mathematician:'.

**E12 (UPSTAIRS)  
MR GRAY**

Favourite Number:  
Favourite Mathematician:

**E4  
MISS PEATY**

Favourite Number:  
Favourite Mathematician:

**E3  
MISS MCLELLAN**

Favourite Number:  
Favourite Mathematician:

**E5  
MISS TRIM**

Favourite Number:  
Favourite Mathematician:

**E6  
MR DHRUEV**

Favourite Number:  
Favourite Mathematician:

**E2  
MRS SOUTHERN**

Favourite Number:  
Favourite Mathematician:

**E1  
MR THATCHER**

Favourite Number:  
Favourite Mathematician:

**Challenge:** Can you create a poster on one of our favourite mathematicians, or one of your own? Try to include what they are famous for and why their work was important. We'll look forward to displaying these in E block in September!

# The 24 game...

Try this with your family – who is the quickest?

One of our favourite games to play is the 24 game. The aim of the game is to be the first person to make the number 24.

For each game you have 4 numbers, you have to use **ALL** four numbers, you can add, subtract, multiply or divide these to make 24.

Example:



**2 2 6 8**

To make 24, I can do  $(8 - 2) \times (6 - 2)$

$$8 - 2 = 6$$

$$6 - 2 = 4$$

$$6 \times 4 = 24$$

## ONE DOT - EASIEST

Now it's your turn, the 24 cards are below they get harder as you go



Galois, aged about 16

Mr Dhruv's favourite mathematician, **Évariste Galois** (25 October 1811-31 May 1832) was a French mathematician. He died from a gunshot wound he received in a duel. Today, he is known for his theory about algebraic equations which is known as Galois theory.

# The 24 game...

## TWO DOT - MEDIUM



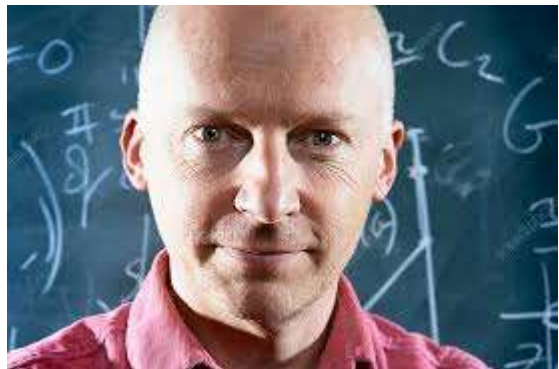
Mrs Southern's favourite number...

"I am worthless as a leader, but when I follow a group their strength increases tenfold. By myself I am practically nothing, neither positive nor negative."

## THREE DOT - HARDER



Mr Gray's favourite mathematician, **Marcus du Sautoy** (born 26 August 1965) is a British mathematician, author, and populariser of science and mathematics. He often appears in the media and his written work includes *The Num8er My5eries: A Mathematical Odyssey Through Everyday Life* (2010) and *The Music of the Primes* (2003). He co-hosts the TV series *School of Hard Sums* with Dara Ó Briain where he poses three mathematical questions with real-world application.



Mr. Thatcher's favourite number is  $900 \div 30 \times 6 + 43 - 100$

# Key Skills...

When you get to a page like this, spend 10 minutes completing the skills check questions based on topics from Y6.

<b>Question 1</b> Write in figures : thirteen thousand, five hundred and two units	<b>Question 2</b> Write in figures : seventy seven thousand, eight tens and three units	<b>Question 3</b> List the factors of 51	<b>Question 4</b> List the factors of 36
<b>Question 5</b> Work out $7 \times 10 =$	<b>Question 6</b> Work out $10 \times 10 =$	<b>Question 7</b> Simplify $\frac{8}{16}$	<b>Question 8</b> Simplify $\frac{12}{42}$
<b>Question 9</b> Find 50% of £180	<b>Question 10</b> Find 25% of £120	<b>Question 11</b> Round 2084 to the nearest 100	<b>Question 12</b> Round 3372 to the nearest 10
<b>Question 13</b> Work out $86 \times 8 =$	<b>Question 14</b> Work out $630 \times 9 =$	<b>Question 15</b> Simplify $5c + 5c + 6c$	<b>Question 16</b> Simplify $10a + 2b + 8a + 7b$
<b>Question 17</b> Work out $39253 + 15736 =$	<b>Question 18</b> Work out $30730 + 18364 =$	<b>Question 19</b> Work out $8 \times 2 - 5$	<b>Question 20</b> Work out $6 + 11 \times 3$

## SKILLS CHECK

Score

[www.mathsbox.org.uk](http://www.mathsbox.org.uk)

Miss Trim's favourite Mathematician is Fibonacci who was an Italian man who studied math and theories back in the 11th century. He discovered a pattern called the Fibonacci sequence. It's a series of numbers that starts with 0 and 1, and each number after is found by adding the two previous numbers (0, 1, 1, 2, 3, 5...)The sequence just keeps going on and on.

Can you find the first 10 numbers in the sequence?  
Can you find any examples where this sequence appears in nature?



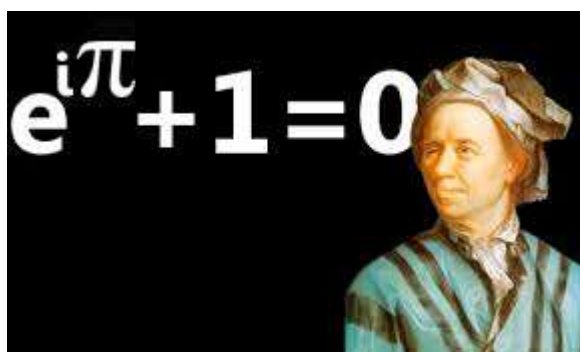
# Maths Keywords...

Can you find some of the keywords you will need in your first half term at Shaftesbury School? Do you know what any of them mean? Highlight any of the words that may be new to you.

A	R	R	G	R	L	E	M	I	R	P	D	C	F	INVERSE
B	V	E	U	R	O	T	T	R	E	D	N	S	E	REMAINDER
I	L	M	R	O	O	T	C	C	I	E	O	U	L	SUM
N	A	A	P	O	I	R	C	F	E	R	I	M	P	DIFFERENCE
D	M	I	P	T	R	I	F	A	M	E	T	S	I	PRODUCT
I	I	N	U	P	P	E	E	C	F	R	A	O	T	OPERATION
C	C	D	A	O	R	O	A	I	I	A	R	P	L	FACTOR
E	E	E	E	E	O	O	N	R	O	U	E	E	U	MULTIPLE
F	D	R	N	E	U	V	D	C	E	Q	P	P	M	SQUARE
I	I	C	D	A	E	O	O	U	E	S	O	F	P	CUBE
A	E	E	T	R	C	T	U	D	C	T	R	I	I	ROOT
E	E	E	S	O	O	R	E	G	E	T	N	I	M	PRIME
I	S	E	E	P	C	U	B	E	R	P	M	M	A	INDICE
E	C	E	R	P	C	A	E	V	A	M	C	A	D	INTEGER
														DECIMAL

Miss McLellan's favourite mathematician

Leonhard **Euler** (pronounced Oiler) (April 15, 1707 – September 7, 1783) was a Swiss mathematician and physicist. He spent most of his life in Russia and Germany. **Euler** made important discoveries in fields like calculus and topology. He also made many of the words used in math today.



# Miss McLellan's Favourite Number

Miss McLellan loves a puzzle! She has given some clues to work out her favourite number....can you work out what it is?

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Guess my number 1

The number is a multiple of 3

ATM

Guess my number 1

The digital sum is 6

ATM

Guess my number 1

Find the number between 1 and 99

ATM

Guess my number 1

It is more than 5 squared

ATM

Guess my number 1

One of the digits is a 2

ATM

Guess my number 1

It is less than 55

ATM

Guess my number 1

It is not a square number

ATM

# Key Skills...

When you get to a page like this, spend 10 minutes completing the skills check questions based on topics from Y6.

Name :

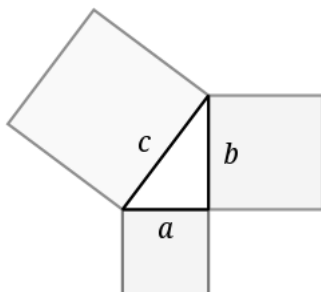
61.2

<b>Question 1</b> Write in figures : six thousand, four tens and six units	<b>Question 2</b> Write in figures : One hundred and twenty six thousand, nine tens and three units	<b>Question 3</b> List the factors of 30	<b>Question 4</b> List the factors of 20
<b>Question 5</b> Work out $306 \times 1000 =$	<b>Question 6</b> Work out $34 \times 1000 =$	<b>Question 7</b> Simplify $\frac{20}{70}$	<b>Question 8</b> Simplify $\frac{18}{63}$
<b>Question 9</b> Find 75% of £720	<b>Question 10</b> Find 75% of £500	<b>Question 11</b> Round 6199 to the nearest 100	<b>Question 12</b> Round 2096 to the nearest 1000
<b>Question 13</b> Work out $77 \times 9 =$	<b>Question 14</b> Work out $397 \times 6 =$	<b>Question 15</b> Simplify $9x + 4x - 3x$	<b>Question 16</b> Simplify $10a + 3b + 7a + 6b$
<b>Question 17</b> Work out $37959 + 32050 =$	<b>Question 18</b> Work out $24509 + 19451 =$	<b>Question 19</b> Work out $5 \times 2 + 2$	<b>Question 20</b> Work out $5 \times 4 + 3$

## SKILLS CHECK

Score

[www.mathsbox.org.uk](http://www.mathsbox.org.uk)



Miss Peaty's  
favourite  
mathematician

**Pythagoras** of Samos was a famous Greek mathematician and philosopher (c. 570 – c. 495 BC). He is known best for the proof of the important Pythagorean theorem, which is about right angled triangles. He started a group of mathematicians, called the Pythagoreans, who worshiped numbers and lived like monks.

Can you find out what the Pythagorean theorem is?  
You will use it in Year 9.



# Code Breaking...

## Alan Turing

Alan Turing was a British mathematician. He made major contributions to the fields of mathematics, computer science, and artificial intelligence. He worked for the British government during World War II, when he succeeded in breaking the secret code Germany used to communicate.



In September 1939 Great Britain went to war against Germany. During the war, Turing worked at the Government Code and Cypher School at Bletchley Park. Turing and others designed a code-breaking machine known as the Bombe. They used the Bombe to learn German military secrets. By early 1942 the code breakers at Bletchley Park were decoding about 39,000 messages a month. At the end of the war, Turing was made an Officer of the Most Excellent Order of the British Empire.

Can you crack the code to reveal the Maths teacher who's favourite mathematician is Turing?

A	B	C	D	E	F	G	H	I	J	K	L	M
55	47	84	10	9	75	59	64	32	15	23	50	26
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
80	63	19	3	27	30	21	92	18	35	99	69	199

$3 \times 7 =$	
$8 \text{ squared} =$	
$\text{Half of } 110 =$	
$1 + 2 + 3 + 4 + 5 + 6 =$	
$100 - 16 =$	
$2 \times 2 \times 2 \times 2 \times 2 \times 2 =$	
$72 \div 8 =$	
$6^2 - 9 =$	

Mr Dhruv's  
favourite  
number is  
 $187 \div 11$

Can you make up some calculations to spell out your name using the same code breaker grid? Can you make up your own message for a friend to decode?

# Maths Challenges...

Miss Trim's favourite number is the smallest odd prime number

Can you solve all the Maths challenges?  
They get more difficult as you go through them..

Stickers come in packs of 5.

Max buys 12 packs.



He gave his three friends some stickers.

They each receive the same number.

He has 27 stickers left.

How many stickers did Max give each of his friends?

Here are 3 containers.












- The jug can hold 1500 mL.
- The bucket can hold 2 litres.
- The barrel can hold 15 litres.

Anisa wants to fill the barrel with water.

Find 2 ways that Anisa can fill the barrel using the jug and bucket.

Here is a 3 x 3 grid with some shapes in.

			108
			102
			95

Each shape represents a number.

The sum of each row is shown at the right of the table.

Find the value of each of the shapes.

# Key Skills...

Mr Gray's favourite number is  
 In the three times table but not the six.  
 It is two more than a square number but less than 30  
 What is it?

When you get to a page like this, spend 10 minutes completing the skills check questions based on topics from Y6.

Name :

61.5

<b>Question 1</b> Write in figures : nineteen thousand, eight hundred and three units	<b>Question 2</b> Write in figures : six thousand, eight tens and eight units	<b>Question 3</b> List the factors of 99	<b>Question 4</b> List the factors of 28
<b>Question 5</b> Work out $96 \times 10 =$	<b>Question 6</b> Work out $31 \times 100 =$	<b>Question 7</b> Simplify $\frac{6}{33}$	<b>Question 8</b> Simplify $\frac{6}{42}$
<b>Question 9</b> Find 50% of £880	<b>Question 10</b> Find 50% of £360	<b>Question 11</b> Round 3291 to the nearest 10	<b>Question 12</b> Round 1928 to the nearest 100
<b>Question 13</b> Work out $86 \times 6 =$	<b>Question 14</b> Work out $171 \times 2 =$	<b>Question 15</b> Simplify $7y - 4y - 5y$	<b>Question 16</b> Simplify $8a + 4b + 5a + 3b$
<b>Question 17</b> Work out $12389 + 9125 =$	<b>Question 18</b> Work out $29494 + 3633 =$	<b>Question 19</b> Work out $34 - 3 \times 4$	<b>Question 20</b> Work out $21 - 5 \times 2$

## SKILLS CHECK

Score

[www.mathsbox.org.uk](http://www.mathsbox.org.uk)



Mrs Southern's favourite mathematician, **Eratosthenes** (276 BC–194 BC) was a Greek mathematician, geographer and astronomer. His contemporaries nicknamed him *Beta*, (the second letter of the Greek alphabet), because he was the second best in the world in almost any field.

Eratosthenes made several remarkable discoveries and inventions. He was the first person to calculate the circumference of the Earth, invented a system of latitude and longitude and calculated the tilt of the earth's axis. He may also have accurately calculated the distance from the earth to the sun and invented the leap day. He created a map of the world based on the available geographical knowledge of the era.

# Maths Challenges...

Miss Peaty's favourite number is  $\frac{2}{7}$  of 84

Can you solve all the Maths challenges?  
They get more difficult as you get them..

Connor has five times as much money as Jayden.

Connor gives some money to Jayden.

They now have £8.52 each.

How much did Connor have at the start?

80 people take part in a race.

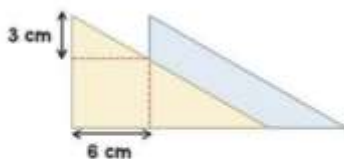
- The ratio of children to adults in the race is **2:3**.
- The mean time for the adults is **2 minutes 15 seconds**.
- The mean time for all 80 people is **3 minutes**.

Find the mean time for the children.

Here are two triangles identical in size.



The two triangles are overlapped.



What is the area of the blue triangle showing?

# Cross Number...

USE THE QUESTIONS BELOW TO COMPLETE THE CROSS NUMBER.

1	2			3	4		5	6
2	1							
7				8			9	
			10			11		
		12				13	14	
15	16			17	18		19	20
22				23			24	
		25	26			27		
	28		29	30	31		32	
33				34			35	36
37				38			39	

## ACROSS

- The number of spots on a standard dice (2)
- The largest two-digit multiple of 13 (2)
- One more than 8 ACROSS (2)
- One quarter of the square of 6 DOWN (3)
- $2 \times 2 \times 2 \times 2 \times 2$  (2)
- A cube number (3)
- $15 \text{ ACROSS} + 3 \text{ DOWN} + 6 \text{ DOWN} + 21 \text{ DOWN} + 36 \text{ DOWN}$  (4)
- $39 \text{ ACROSS} - 33 \text{ DOWN}$  (2)
- Twice (1 ACROSS + 1 DOWN) (2)
- $1 \text{ DOWN} \times 38 \text{ ACROSS}$  (3)
- $36 \text{ DOWN} - 8 \text{ ACROSS}$  (2)
- A square number (3)
- The smallest three-digit square number with all its digits different (3)
- $1 \text{ ACROSS} + 6 \text{ DOWN}$  (2)
- A multiple of 4 DOWN (3)
- $27 \text{ ACROSS} + 37 \text{ ACROSS}$  (2)
- $39 \text{ ACROSS} + 1 \text{ DOWN}$  (2)
- $200 \times 12 \text{ ACROSS} + 27 \text{ DOWN}$  (4)
- 10 times 2 dozen (3)
- A square of a square number (2)
- $5 \times 1 \text{ ACROSS} + \text{one-seventh of } 12 \text{ ACROSS}$  (3)
- A half of 8 ACROSS (2)
- A cube number (2)
- One less than 6 DOWN (2)

## DOWN

- A prime number (2)
- The sum of the first ten prime numbers (3)
- The number of hours in 39 days (3)
- $2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$  (3)
- $22 \text{ ACROSS} + 28 \text{ DOWN}$  (3)
- The number of minutes in three-fifths of an hour (2)
- A multiple of 7 (2)
- $3 \times 37 \text{ ACROSS}$  (2)
- $(22 \text{ ACROSS} - 6 \text{ DOWN}) \times 9$  (4)
- A number all of whose digits are the same (4)
- A prime number (2)
- $27 \text{ ACROSS} - 8 \text{ ACROSS}$  (2)
- A multiple of 9 (2)
- A prime number (2)
- A square number (2)
- The square of a square number (2)
- $3 \times 12 \text{ ACROSS}$  (2)
- Two-thirds of 36 DOWN (2)
- $22 \text{ ACROSS} - 1 \text{ DOWN}$  (3)
- $1 \text{ ACROSS} \times 26 \text{ DOWN}$  (3)
- $25 \text{ ACROSS} + 4 \text{ DOWN} + 5 \text{ DOWN}$  (3)
- $17 \text{ DOWN} + 27 \text{ ACROSS}$  (3)
- The sum of the digits of 1 DOWN, 17 ACROSS and 17 DOWN (2)
- One and a half times 27 DOWN (2)

# Y6 Statistical Project

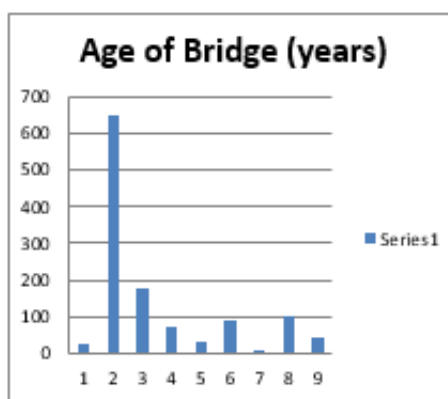
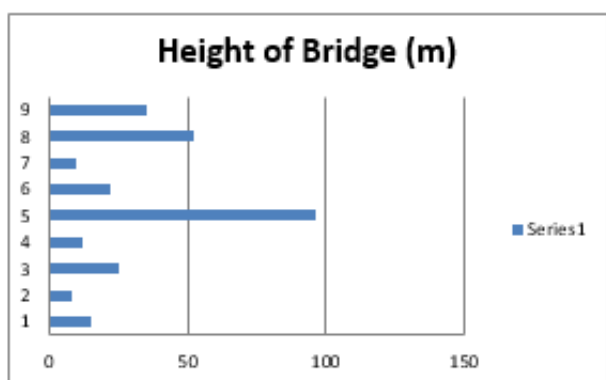
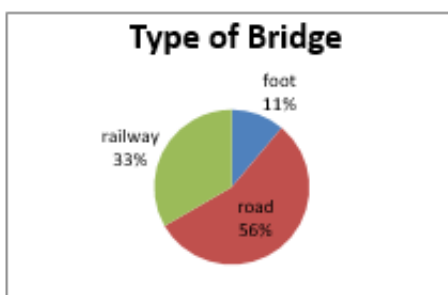
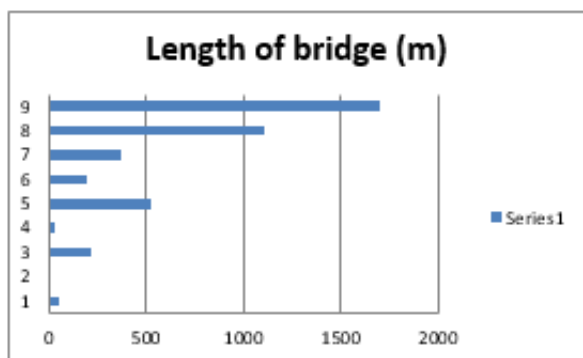
Mr Gray has an interest in the **Bridges of Belgium**. Here are his favourite nine **bridges** and their **names**.

	<a href="#"><u>Antoing Bridge</u></a>
	<a href="#"><u>Execution Bridge (Ghent)</u></a>
	<a href="#"><u>Hammer Bridge (Hergenrath)</u></a>
	<a href="#"><u>Joe's Bridge</u></a>
	<a href="#"><u>Pont de Wandre</u></a>
	<a href="#"><u>Pont-barrage de Monsin</u></a>
	<a href="#"><u>Temse Bridge (East Flanders)</u></a>
	<a href="#"><u>Viaduct of Moresnet</u></a>
	<a href="#"><u>Vilvoorde Viaduct</u></a>

He knows lots of information about them and he has decided to do some work with the information.

He has started with tables and charts and then he has written a summary of his findings.

Bridge	Type	Age (years)	Length	Height
Antoing (1)	railway	25	50m	15m
Execution (2)	foot	649	12m	8m
Hammer (3)	railway	177	220m	25m
Joe's (4)	road	75	30m	12m
Pont de Wandra (5)	road	31	527m	96m
Pont-barrage de Monsin (6)	road	90	196m	22m
Temse (7)	road	11	374m	10m
Moresnet (8)	road	104	1107m	52m
Vivoorde (9)	railway	43	1700m	35m
Averages		134 years	468m	30m



Have a look at the different ways that he has presented his data. He has also calculated the averages for his data.

YOUR TASK is to choose your own area of interest, anything that interests you really like the Burger Bars of Bournemouth or the Baseball Teams of Boston ...

- 1) Collect some information
- 2) Display the information, using tables, charts or graphs
- 3) Write a summary of what the information shows, you can include averages if you wish.