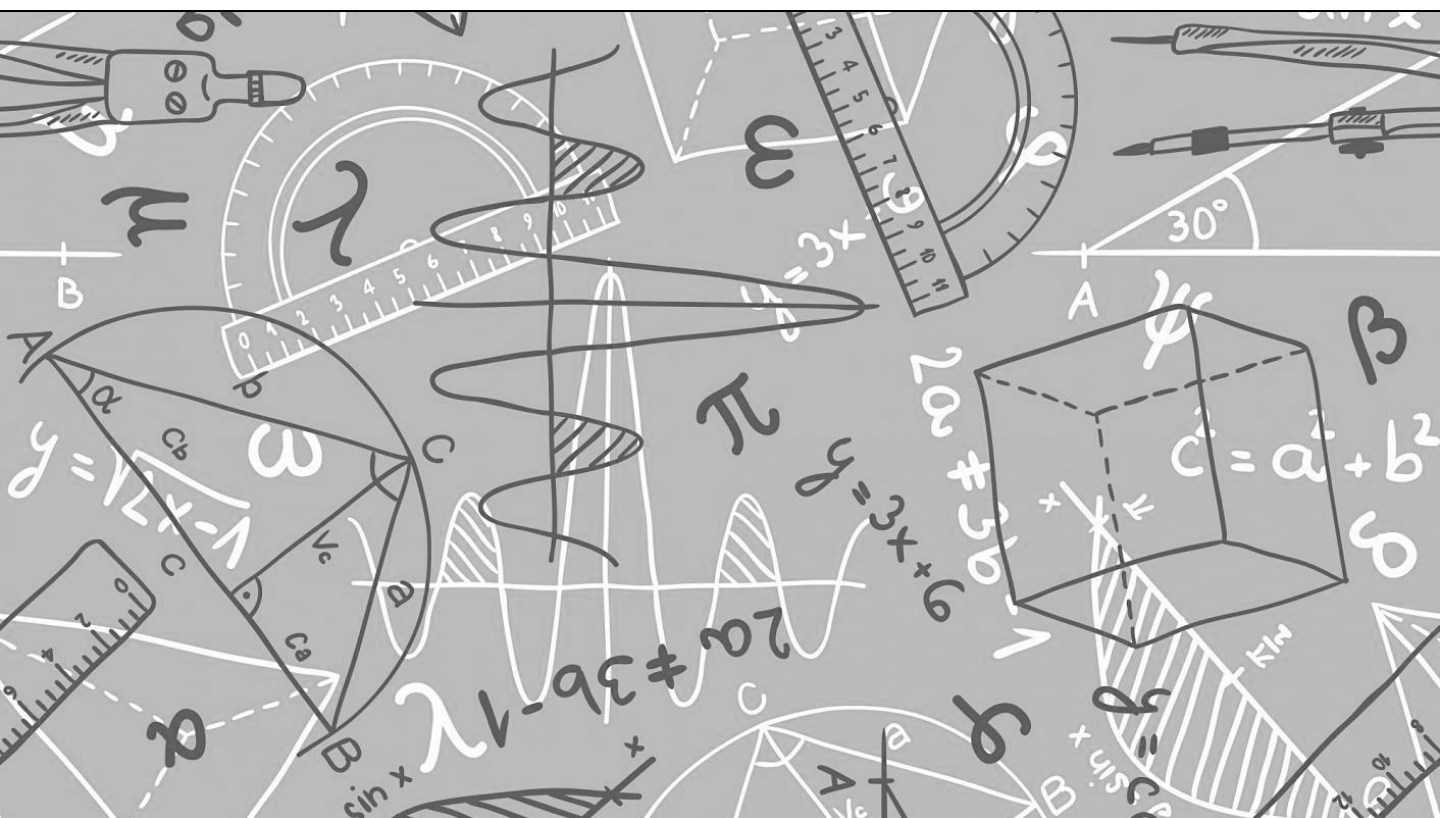# Maths

We can't wait to meet you...

All the Maths teachers at The Stonehenge School are very much looking forward to meeting you, normally during transition weeks you find out about us, we find out about you and together we do some Maths. Unfortunately due to things being different this year we won't meet in person, however hopefully completing this booklet you will be able to find out some facts about the Maths teachers at The Stonehenge School, do some research into some of our favourite mathematicians and do some maths either on your own or with your family/carers.

Meet the department…

In the Maths department we have 9 Maths Teachers, our maths corridor looks like this. Most of our classrooms are in the Upper School building although two are down in Lower School. 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?

Favourite Number:

Favourite Mathematician:

Favourite Number:

Favourite Mathematician:

ROOM 67
MRS COURTNEY

ROOM 65
MISS HAYWARD

ROOM 66
MRS THOMPSON

Favourite Number:

Favourite Mathematician:

ROOM 68
MR CORNELIUS

Favourite Number:

Favourite Mathematician:

ROOM 69
MISS LUCAS

Favourite Number:

Favourite Mathematician:

Favourite Number:

Favourite Mathematician:

ROOM 71
MR SELWOOD

ROOM 3
MR WATERMAN

Favourite Number:

Favourite Mathematician:

Favourite Number:

Favourite Mathematician:

ROOM 4
MRS DOOLE
DR ROSS

Favourite Number:

Favourite Mathematician:

The 24 game...

One of our favourite things to do on transition is to play 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.

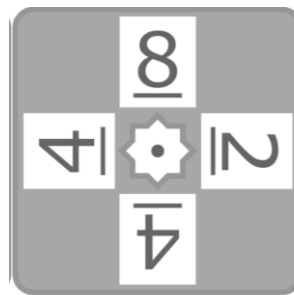Example:

2 2 6 8

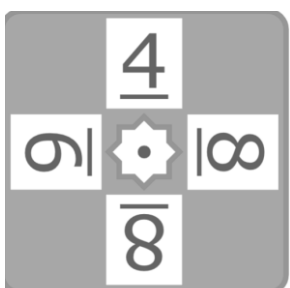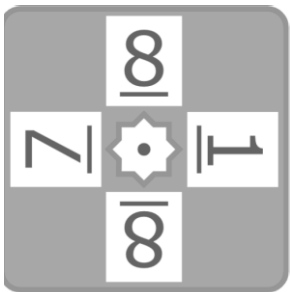To make 24, I can do (8 - 2) x (6 – 2)

8 -2 = 6

6 -2 = 4

6 x 4 = 24

ONE DOT – EASIEST

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

Miss Hayward's favourite number is the sum of 4 and 3


Mrs Courtney's favourite mathematician is **Albert Einstein**. He is most famous for his equation $E = mc^2$ but to begin with Einstein had trouble getting an academic job. Interestingly, it took him 9 years before he could finally land at his first job after graduation from the Zurich Polytechnic in 1900.
His first wife, Mileva, was also a brilliant mathematician.

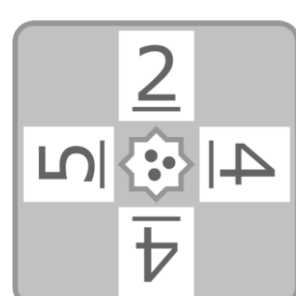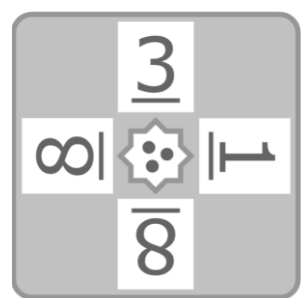# The 24 game…

TWO DOT – MEDIUM

Mr Cornelius' favourite number is the only even prime number
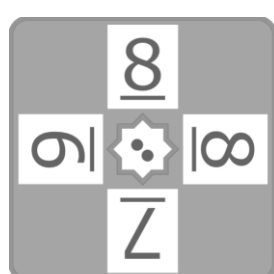
Mr Selwood's favourite mathematician is **Marcus Du Sautoy**. He is a British mathematician, and is known for making mathematics more popular. He has written many books and articles on different topics from symmetry patterns in nature to creativity in artificial intelligence.

THREE DOT – HARDER

Key Skills...

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

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

SKILLS CHECK

Score [   ]

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Miss Lucas' favourite Mathematician is **Leonardo Bonacci**, more famously know as **Fibonacci**. He 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?

Maths Keywords…

Literacy is important for all subjects at school and maths is no exception. Can you find all the keywords you may need in your first year at The Stonehenge School?

```
Y R Y A P F F T Z P M M D Q U M Z L N U
F I J X F U D M E E B U D O N D I M X E
B D P J B K C D B R U F I H I B Y V W J
C K H U T U G Z I I Z M D L T V F S F S
Y P I Z P L N M G M I Q A W S Y V D R Q
H X A T M Y K O P E L S Q W R E P E W K
C O D K Q I A Q D T C T E E S M H R U T
P L A C E V A L U E G Q B T D Z D D M J
J V B S H U K I N R S M D D A T M N K N
Z T R K F S L D L P U C M M N M O U G M
W O O Z D A I P C N R Q E X Z P I H J M
E M N T M N V Y E C C C Q N A R J T Q N
U K E I G T V R C F R N B H D Q H Z S X
P N C X A U A L G N S L B W V I D I D E
S E T F O U K L W Q C T I R Q N N P N E
D Z J D Q P T C A R T B U S O R K G B F
F V N S N I T G B P K G L R W U D J R V
O F V S G P O L Y G O N Q I X R N R O L
O U J V F K T B N Q V Z U D U V A D K O
E L E F T K D W E F Y A C L J T J N R L
```

> Miss Lucas' favourite number is the fourth prime number

ADD	PLACEVALUE
ASCENDING	POLYGON
DECIMAL	ROUND
DESCENDING	SQUARENUMBER
ESTIMATE	SUBTRACT
HUNDREDS	TENS
PERIMETER	UNITS

Mr Cornelius' favourite mathematician is **Florence Nightingale**. She developed the modern circular histogram to present complicated statistical reports in a straightforward way. Nightingale also improved medical care in India through her comprehensive statistical analysis of the country's sanitation system.

Mrs Thompson's Favourite Number

Mrs Thompson has sent me some clues to help you to work out her favourite number. Can you work it out?

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

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

SKILLS CHECK

Score [ ]

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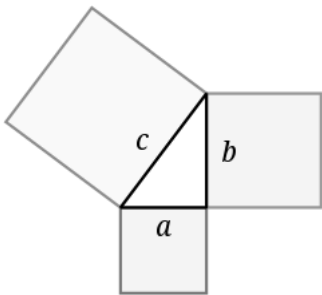
Pythagoras of Samos was a famous Greek mathematician and philosopher (c. 570 – c. 495 BC). He is known best for the proof of the important Pythagorean theorem, which is about right angled triangles. He started a group of mathematicians, called the Pythagoreans, who worshiped numbers and lived like monks.
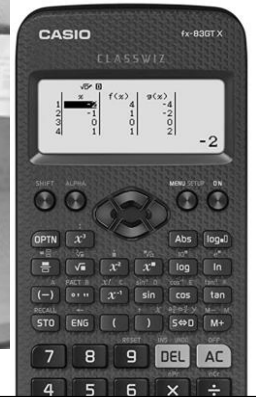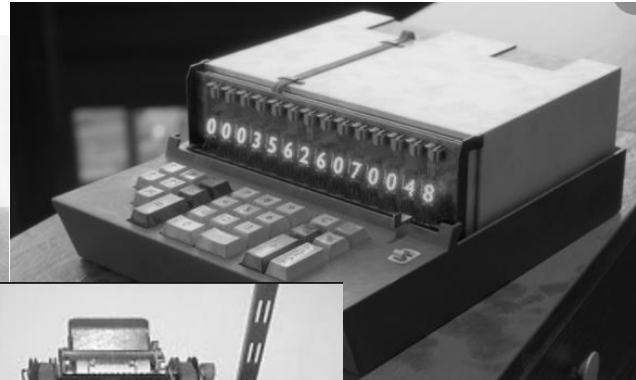
Can you find out what the Pythagorean theorem is? You will use it in Year 9.

The calculator transformation...

Katherine Johnson (August 26, 1918 – February 24, 2020) was an American mathematician whose calculations of orbital mechanics as a NASA employee were critical to the success of the first and subsequent U.S. crewed spaceflights. She was the first African-American woman to attend graduate school at West Virginia University and brought into public knowledge in the 2016 film Hidden Figures.

Although Katherine was initially employed as a 'calculator', the calculators that we picture have changed dramatically over the years.

The modern calculator can now be found everywhere, both mini and large versions and is embedded into devices such as laptops and mobile phones. How many devices that have calculators can you find in your house?

The calculator we use in school

Dr. Ross' favourite mathematician

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. He was posthumously pardoned for his conviction relating to his homosexuality by Queen Elizabeth II in 2009.

Can you crack the code to reveal the two Maths teachers 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

$\sqrt{100}$ =	
3 x 7 =	
$8^2 - 1$ =	
2 x 5 x 5 =	
27 ÷ 3 =	

3 x 7 =	
$10^2 - 6^2$ =	
22 + 41 =	
18 + 8 =	
(5 x 4) - 1 =	
5 x 6 =	
189 ÷ 3 =	
$8^2 + 4^2$ =	

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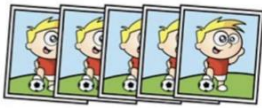
Can you make up your own message for a friend to decode?

Maths Challenges...

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

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

Name : 61.5

Question 1	Question 2	Question 3	Question 4
Write in figures : nineteen thousand, eight hundred and three units	Write in figures : six thousand, eight tens and eight units	List the factors of 99	List the factors of 28

Question 5	Question 6	Question 7	Question 8
Work out 96 × 10 =	Work out 31 × 100 =	Simplify $\frac{6}{33}$	Simplify $\frac{6}{42}$

Question 9	Question 10	Question 11	Question 12
Find 50% of £880	Find 50% of £360	Round 3291 to the nearest 10	Round 1928 to the nearest 100

Question 13	Question 14	Question 15	Question 16
Work out 86 × 6 =	Work out 171 × 2 =	Simplify 7y - 4y - 5y	Simplify 8a + 4b + 5a + 3b

Question 17	Question 18	Question 19	Question 20
Work out 12389 + 9125 =	Work out 29494 + 3633 =	Work out 34 - 3 × 4	Work out 21 - 5 × 2

SKILLS CHECK

Score ☐

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Miss Hayward's favourite mathematician

Paul Erdős

Erdős was referred to as "possibly the most eccentric mathematician in the world". He was the son of two Jewish Maths teachers in Budapest and taught himself to read by using Maths text books. He devoted his waking hours to Maths and died only hours after solving a problem at a conference in Warsaw.

Maths Challenges...

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

Mr Selwood's favourite number is both a square and cube number, a power of 2 and the number of squares on a chess board.

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?
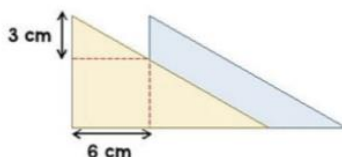
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80 people take part in a race.

- 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.

10 cm

The two triangles are overlapped.

3 cm

6 cm

What is the area of the blue triangle showing?

Cross Number...

USE THE QUESTIONS BELOW TO COMPLETE THE CROSS NUMBER.

ACROSS

1. The number of spots on a standard dice (2)
3. The largest two-digit multiple of 13 (2)
5. One more than 8 Across (2)
7. One quarter of the square of 6 Down (3)
8. $2 \times 2 \times 2 \times 2 \times 2$ (2)
9. A cube number (3)
10. 15 Across + 3 Down + 6 Down + 21 Down + 36 Down (4)
12. 39 Across − 33 Down (2)
13. Twice (1 Across + 1 Down) (2)
15. 1 Down × 38 Across (3)
17. 36 Down − 8 Across (2)
19. A square number (3)
22. The smallest three-digit square number with all its digits different (3)
23. 1 Across + 6 Down (2)
24. A multiple of 4 Down (3)
25. 27 Across + 37 Across (2)
27. 39 Across + 1 Down (2)
29. 200×12 Across + 27 Down (4)
33. 10 times 2 dozen (3)
34. A square of a square number (2)
35. 5×1 Across + one-seventh of 12 Across (3)
37. A half of 8 Across (2)
38. A cube number (2)
39. One less than 6 Down (2)

DOWN

1. A prime number (2)
2. The sum of the first ten prime numbers (3)
3. The number of hours in 39 days (3)
4. $2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$ (3)
5. 22 Across + 28 Down (3)
6. The number of minutes in three-fifths of an hour (2)
10. A multiple of 7 (2)
11. 3×37 Across (2)
12. (22 Across − 6 Down) × 9 (4)
14. A number all of whose digits are the same (4)
15. A prime number (2)
16. 27 Across − 8 Across (2)
17. A multiple of 9 (2)
18. A prime number (2)
20. A square number (2)
21. The square of a square number (2)
26. 3×12 Across (2)
27. Two-thirds of 36 Down (2)
28. 22 Across − 1 Down (3)
30. 1 Across × 26 Down (3)
31. 25 Across + 4 Down + 5 Down (3)
32. 17 Down + 27 Across (3)
33. The sum of the digits of 1 Down, 17 Across and 17 Down (2)
36. One and a half times 27 Down (2)

Maths Equipment...

There are various pieces of equipment that you will need during your maths lessons. Some of them you will need for other subjects...

- Pen
- Pencil
- Rubber
- Pencil Sharpener
- Ruler – 15cm
- Protractor
- Compasses
- Scientific Calculator – we strongly recommend the Casio fx-83GTX or fx-85GTX. This will last you beyond your GCSEs if it is looked after properly.