

### We can't wait to meet you...

All the Maths teachers at Rooks Heath College are very much looking forward to meeting you, normally during transition days you find out about us, we find out about you and together we do some Maths. Unfortunately we won't meet in person before September, however hopefully completing this booklet you will be able to find out some facts about the Maths teachers at Rooks Heath College, do some research into some of our favourite mathematicians and do some maths either on your own or with your family/carers.



### Secondary Ready Course

- When you join us in September, we will be using a few different online resources. It is good for students to get used to using online platforms and therefore I'd like to introduce Numerise. This is a company that have produced a free secondary ready maths course.
- Simply register at numerise.com/secondary-ready and complete the course. It's only twelve lessons and if you complete them all, you will be super ready for your Year 7 maths lessons.
- Let us know if you finish it we can't wait to hear how you get on. You can contact Mrs. Zgripcea at zgripceam@rooksheath.harrow.sch.uk







## Key Skills...

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

Ouestion 1	Ouestion 2	Ouestion 3	Question 4
Write in figures : thirteen thousand	Write in figures : seventy seven	List the factors of 51	List the factors of 36
five hundred and two units	thousand eight tens and three units		
inventuried and two units	thousand, eight tens and three units		
Question 5	Question 6	Question 7	Question 8
Work out 7 × 10 =	Work out 10 × 10 =	Simplify 8	Simplify 12
		16	42 42
Question 9	Question 10	Question 11	Question 12
Find 50% of £180	Find 25% of £120	Round 2084 to the nearest 100	Round 3372 to the nearest 10
	2		
Question 13	Question 14 Work out 620 $\times$ 9 =	Question 15 Simplify $5c + 5c + 6c$	Question 16 Simplify $102 \pm 2b \pm 82 \pm 7b$
Work out 80 × 8 -	Work out 650 × 9 -	Simplify SC+SC+6C	Simping 10a + 20 + 6a + 70
Question 17	Question 18	Question 19	Question 20
Work out 39253 + 15736 =	Work out 30730 + 18364 =	Work out 8 × 2 - 5	Work out 6 + 11 × 3
and a and	2010		
SIGULLS CUI	いてる	Score	www.mathsbox.org.uk

Mrs. Zgripcea' 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?



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 <u>ALL</u> four numbers, you can add, subtract, multiply or divide these to make 24.

Example:



To make 24, I can do  $(8 - 2) \times (6 - 2)$ 8 -2 = 6 6 -2 = 4 6 x 4 = 24

2268

One Dot - Easiest

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











Mrs Subra's favourite number is the Golden Ratio





Albert Einstein (14 March 1879 – 18 April 1955) was a Germanborn physicist who developed the theory of relativity, one of the two pillars of modern physics. His work is also known for its influence on the philosophy of science.





Can you find all the keywords you will need for Year 7 at Rooks Heath College?

Y RY A P  $\mathbf{F}$ F Т  $\mathbf{Z}$ Ρ MMD 0 U Μ Ζ  $\mathbf{L}$ Ν U F Τ J Х Ε Ε U D Ι F U D Μ В 0 Ν D Μ X  $\mathbf{E}$ Ρ J В Κ C D Β R U F Ι Η Ι Β Y V W J В D G Ζ Ι Ι Ζ D  $\mathbf{L}$ Т S S С Κ H U Т U Μ V  $\mathbf{F}$ F Ρ G Y Ι  $\mathbf{Z}$ Ρ  $\mathbf{L}$ Ν Μ Μ Ι Q Α W S Υ V D R 0 S Η Х Α Т Μ Y Κ 0 Ρ Ε  $\mathbf{L}$ Q W R Ε Ρ Ε W Κ С 0 D Κ 0 Ι Α 0 D т С т  $\mathbf{E}$ Ε S Μ Η R U Т L Α C Ε V Α  $\mathbf{L}$ U Ε G Q В т D Ζ D Μ J Ρ D V S Ι S Μ Т J Β Η U Κ Ν R D D Α Μ Ν Κ Ν Κ F S L D L Ρ U С MM G  $\mathbf{Z}$ Т R Ν Μ 0 U Μ Z Ι С R Ε Х Ζ Ι Η J W 0 0 D Α Ρ Ν 0 Ρ Μ С Ε Μ Ν Т Μ Ν V Y Ε С С Q Ν Α R J т 0 Ν Κ Ε Ι G Т V R С F R Ν Β Η Ζ S Х U Η D Q Ρ Ν C XA U Α  $\mathbf{L}$ G Ν S  $\mathbf{L}$ В W V Ι D Ι Ε D  $\mathbf{L}$ C т Ι S Ε Т F 0 U Κ W 0 R 0 Ν Ν Ρ Ν Ε Ζ Ρ т С Α R т S J D 0 Β U 0 R Κ G Β F D S Ν Ι Т G Β Ρ Κ G L F V Ν R W U D J R V  $\mathbf{L}$ F S G Ρ Y G 0 Ν 0 Ι Х 0 V 0 R Ν R 0 т. Ζ 0 U J V F Κ т В Ν 0 V U D U V Α D Κ 0 E L  $\mathbf{E}$ F Т Κ D W Ε F YAC L J т NRL J

Mrs. Haddow's favourite number is 2 squared ADD ASCENDING DECIMAL DESCENDING ESTIMATE HUNDREDS PERIMETER PLACEVALUE POLYGON ROUND SQUARENUMBER SUBTRACT TENS UNITS

Mrs. Lister's favourite mathematician is Maryam Mirzakhani (May 12, 1977 – July 14, 2017), an Iranian mathematician and professor of mathematics at Stanford University. She was acknowledged as one of the top 10 young minds who have pushed their fields in innovative directions.



### Mrs. Zgripcea 's Favourite Number

Mrs. Zgripcea couldn't send her favourite number so instead she has sent some clues. Can you work out her favourite number?

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





**Bertrand Russell** (18 May 1872 – 2 February 1970) was a British polymath, philosopher, logician, mathematician, historian, writer, social critic, political activist and Nobel laureate.





### 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 Write in figures : six thousand, four tens and six units	Question 2 Write in figures : One hundred and twenty six thousand, nine tens and three units	Question 3 List the factors of 30	Question 4 List the factors of 20
Question 5	Question 6	Question 7	Question 8
Work out 306 × 1000 =	Work out 34 × 1000 =	Simplify $rac{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 ch	eck	Score	www.mathsbox.org.uk

Mrs. Syed's favourite mathematician

**Isaac Newton** (4 January 1643 – 31 march 1727) was an English mathematician, physicist, astronomer, theologian and author who is widely recognised as one of the most influential scientists of all time and as a key figure in the scientific revolution.



Mr Thambiah's favourite number is the value of pi to 2 decimal places

#### **Addition and Subtraction**

1) Find the missing number below:



- Joanne says "If I add any two four digit numbers together, it will make a five digit number."
- Do you agree? Explain why.

**Katherine Johnson** (26 August 1918 – 24 February 2020) was an American mathematician whose calculation of orbital mechanics as a NASA employee were critical to the success of the first and subsequent U.S. crewed space flights.



# 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 whose favourite mathematician is Turing?

A	B	C	D	Ε	F	G	H	Ι	J	K	L	M
55	47	84	10	q	75	59	64	32	15	23	50	26
Ν	0	Р	Q	R	S	Т	U	۷	W	X	Y	Z
80	63	19	3	27	30	21	92	18	35	qq	69	199

32 x 2 =	
5 x 11 =	
40 ÷ 4 =	
12 - (78 - 76) =	
9 x 7 =	
49 – 14 =	

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?

Ms. Capper's favourite number is the only even prime number multiplied by 7



**Muhammad ibn Musa al Kwarizmi** was a Persian polymath who produced works on mathematics, astronomy and geography. Around 820 CE he was appointed as the astronomer and head of library of the House of Wisdom in Baghdad.



 Sarah and John are both calculating the answer to
47 ÷ 4

Sarah says "The answer is 36 remainder 3."

John says "The answer is 36.75." Who do you agree with? Explain your answer.

## 2) Jess has £453. She splits her money between four different bank accounts. How much does she put in each bank account?

**Srinivasa Ramanujan** (22 December 1887 – 26 April 1920) was an Indian mathematician who lived during the British Rule in India. Though he had almost no formal training in pure mathematics, he made substantial contributions to many areas of mathematics.

Mrs. Takhar's favourite mathematician



They get more difficult as you get them..

number is 0.508 divided by 10

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.



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...

Mrs. Sritharan's favourite number is 17.29 multiplied by 100

### 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 Write in figures : nineteen thousand, eight hundred and three units	Question 2 Write in figures : six thousand, eight tens and eight units	Question 3 List the factors of 99	Question 4 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 hearest 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 Chi	ECK	Score	www.mathsbox.org.uk

Mr. Thambiah's favourite mathematician

#### G.H. Hardy

G.H. Hardy (7 February 1877 – 1 December 1947) was an English mathematician, known for his achievements in number theory and mathematical analysis.

## Maths Challenges.,

Can you solve all the Maths challenges? They get more difficult as you get them.. Mrs. Syed's favourite number is square root of 49

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.





1) There is a square within a square.



The inner square has a perimeter of 24cm. The outer square is four times the size of the inner square. What is one length of the outer square?

**Mary Jackson** (9 April 1921 – 11 February 2005) was an American mathematician and aerospace engineer at the National Advisory Committee for Aeronautics. She took advanced engineering classes and, in 1958, became NASA'S first African-American female engineer.





Mrs. Farzady's favourite mathematician



#### Multiplication and Division

 Andrew planted 345 bulbs. When each flower grows they should have 15 petals each. How many petals should there be altogether?

2) Solve the missing number below:



**Galileo Galilei** (15 February 1554 – 8 January 1642) was an Italian astronomer, physicist and engineer. Galileo has been called the "father of observational astronomy", the "father of modern physics", the "father of the scientific method", and the "father of modern science".



## Cross Number...

Use the questions below to complete the cross number.



Mrs. Farzady's favourite number is the next number in this sequence 12, 14, 16, 18, ...

#### 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 $\times$ 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. $200 \times 12$ 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.	$2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$	(3)				
5.	22 Across + 28 Down	(3)				
6.	The number of minutes in three-fifths					
	an hour	(2)				
10.	A multiple of 7	(2)				
11.	$3 \times 37$ Across	(2)				
12.	$(22 \text{ Across} - 6 \text{ Down}) \times 9$	(4)				
14.	A number all of whose digits are the	е				
	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.	$3 \times 12$ Across	(2)				
27.	Two-thirds of 36 Down	(2)				
28.	22 Across – 1 Down	(3)				
30.	$1 \text{ Across} \times 26 \text{ Down}$	(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)

ompleted our booklet? That's incredible! Well done. Please bring it in to show vou thinking det 9 Check out nrich.maths.org for more problems