

Maths



We can't wait to meet you...

All the maths teachers at Holy Family 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, this could not happen this year! Hopefully, by completing this booklet you will be able to do some research into some of our favourite mathematicians and do some maths! Towards the back of this booklet you'll find some knowledge organisers with keywords and maths facts which you'll find useful to remember. Keep up practicing your times tables and try to learn your square and cube numbers if you can. We hope you all have a lovely Summer and we look forward to welcoming you all to Holy Family school in September. See you soon!

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:



2268 To make 24, I can do (8 - 2) x (6 - 2) 8 - 2 = 66 - 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 through.













Try this with your family -

who is the quickest?

The 24 game...

TWO DOT - MEDIUM







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	Question 6	Question 7	Question 8
Work out 7 × 10 =	Work out 10 × 10 =	Simplify $\frac{8}{16}$	Simplify $\frac{12}{42}$
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
Question 13	Question 14	Question 15	Question 16
Work out 86 × 8 =	Work out 630 × 9 =	Simplify 5c + 5c + 6c	Simplify 10a + 2b + 8a + 7b
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
skills ch	eck	Score	www.mathsbox.org.uk

A favourite Mathematician of ours 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?

Maths Keywords...

In maths lesson you will be asked to write the maths keywords down in your book, we have a special section in books for you to do this. Can you find all these keywords?

Y	R	Y	Α	Ρ	\mathbf{F}	\mathbf{F}	\mathbf{T}	\mathbf{Z}	Ρ	Μ	М	D	Q	U	М	\mathbf{Z}	\mathbf{L}	Ν	U
\mathbf{F}	Ι	J	Х	\mathbf{F}	U	D	М	Ε	Ε	В	U	D	0	Ν	D	Ι	М	Х	Ε
В	D	Ρ	J	В	Κ	С	D	В	R	U	\mathbf{F}	Ι	Η	Ι	В	Y	V	W	J
С	Κ	Η	U	т	U	G	\mathbf{Z}	Ι	Ι	\mathbf{Z}	Μ	D	L	т	V	\mathbf{F}	S	\mathbf{F}	S
Y	Ρ	Ι	\mathbf{Z}	Ρ	L	Ν	Μ	G	Μ	Ι	Q	Α	W	S	Y	V	D	R	Q
Η	Х	Α	т	Μ	Y	Κ	0	Ρ	Ε	\mathbf{L}	S	Q	W	R	Ε	Ρ	Ε	W	K
С	0	D	Κ	Q	Ι	Α	Q	D	т	С	т	Ε	Ε	S	Μ	Η	R	U	т
Ρ	\mathbf{L}	Α	С	Ε	V	Α	\mathbf{L}	U	Ε	G	Q	В	т	D	\mathbf{Z}	D	D	Μ	J
J	V	В	S	Η	U	Κ	Ι	Ν	R	S	Μ	D	D	Α	т	Μ	Ν	Κ	N
Ζ	т	R	Κ	F	S	L	D	L	Ρ	U	С	Μ	Μ	Ν	Μ	0	U	G	М
W	0	0	\mathbf{Z}	D	Α	Ι	Ρ	С	Ν	R	Q	Ε	Х	\mathbf{Z}	Ρ	Ι	Η	J	М
Ε	Μ	Ν	т	Μ	Ν	V	Y	Ε	С	С	С	Q	Ν	Α	R	J	т	Q	N
U	Κ	Ε	Ι	G	\mathbf{T}	V	R	С	\mathbf{F}	R	Ν	В	Η	D	Q	Η	\mathbf{Z}	S	Х
Ρ	Ν	С	Х	Α	U	Α	L	G	Ν	S	L	В	W	V	Ι	D	Ι	D	Ε
S	Ε	\mathbf{T}	\mathbf{F}	0	U	Κ	\mathbf{L}	W	Q	С	т	Ι	R	Q	Ν	Ν	Ρ	Ν	Ε
D	\mathbf{Z}	J	D	Q	Ρ	т	С	Α	R	т	В	U	S	0	R	Κ	G	В	F
F	V	Ν	S	Ν	Ι	т	G	В	Ρ	Κ	G	\mathbf{L}	R	W	U	D	J	R	V
0	\mathbf{F}	V	S	G	Ρ	0	L	Y	G	0	Ν	Q	Ι	Х	R	Ν	R	0	\mathbf{L}
0	U	J	V	\mathbf{F}	Κ	т	В	Ν	Q	V	\mathbf{Z}	U	D	U	V	Α	D	Κ	0
Ε	\mathbf{L}	Ε	F	Т	Κ	D	W	Ε	F	Y	Α	С	\mathbf{L}	J	Т	J	Ν	R	\mathbf{L}

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

Another 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 maths today.

Favourite Number

Mr. Smith has shared some clues about his favourite number, can you work out what it is?



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 Ch	eck	Score	www.mathsbox.org.uk



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 <u>Pythagorean theorem</u>, 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..** Blaise Pascal, in his short 39 years of life, made many contributions

and inventions in several fields. He is well known in both the mathematics and physics fields. In mathematics, he is known for contributing Pascal's triangle and probability theory. He also invented an early digital calculator and a roulette machine.



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?

calculators we use in school

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.



26 + 6 =

13 + 17 =

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.

		Ca	in you	crack 1	the cod	le to re	eveal th	ne 3 na	mes?				
Α	В	С	D	Е	F	G	Η	Ι	J	K	L	Μ	
55	47	84	10	9	75	59	64	32	15	23	50	26	
Ν	0	Ρ	Q	R	S	Т	U	V	W	Х	Y	Z	
80	63	19	3	27	30	21	92	18	35	99	69	19	9
					12 x 7	=]					
72 ÷	8 =			!	9 x 3 =	:			8 >	(8 =			
14 +	12 =				220 ÷	4 =			39	+ 16 =	=		
54 –	45 =				18 + 17	7 =			54	÷ 2 =			
9 x 3	=				15 x 5	=			19	+ 8 =			

|--|

12 X / -	
9 x 3 =	
220 ÷ 4 =	
18 + 17 =	
15 x 5 =	
80 – 17 =	
243 ÷ 9 =	
5 ² – 15 =	

breaker grid?

Can you make up your own message for a friend to decode?

Can you make up some calculations to spell out your name using the same code

Maths Challenges...

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



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.	Write in figures : six thousand, eight	List the factors of 99	List the factors of 28
eight hundred and three units	tens and eight units		
Question 5	Ouestion 6	Question 7	Ouestion 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 chi	ECK	Score	www.mathsbox.org.uk

René Descartes

Descartes is considered the father of modern philosophy, a key figure in the scientific revolution of the 17th Century, and a pioneer of modern mathematics. Many people also call him the father of analytic geometry, which connects the fields of algebra and geometry.

Maths Challenges...

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.



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 \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. 200×12 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-fifth	s of
	an hour	(2)
10.	A multiple of 7	(2)
11.	3×37 Across	(2)
12.	$(22 \text{ Across} - 6 \text{ Down}) \times 9$	(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.	$1 \text{ Across} \times 26 \text{ Down}$	(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)

INTO YEAR 7.... Knowledge organisers





INTO Y7 — MEASUREMENT...

II.

11



Converting Units

What do I need to be able to do?

By the end of this unit you should be able to:

- Recognise metric measures
- Convert metric measures
- Calculate with metric measures
- Understand Miles and Kilometre relationships
- Recognise Imperial measures and conversions

<u>Keywords</u>

- 11 Length: the distance from one point to another
 - Mass: a measure of how much matter is in an object.
- **Capacity**: the amount an object can contain (normally liquids)
- Volume: the amount of 3-dimensional space an object takes up (units of length cubed)
- Convert: to change a value or expression from one value to another.
- 11 Imperial: a system of weights and measures originally developed in England.
 - Metric: a system of measuring that replaced the imperial system to fall in line with the rest of Europe. Proportion: values of two items that increase in the same ratio



NTO Y7 — MEASUREMENT Perimeter, area and Volume

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INTO Y7 - NUMBER ...



HFS

THE HOLY FAMILY CATHOLIC HIGH SCHOOL INTO Y7 — GEOMETRY ..

Properties of shape

THE HOLY FAMILY CATHOLIC HIGH SCHOOL



INTO Y7 - STATISTICS ...





