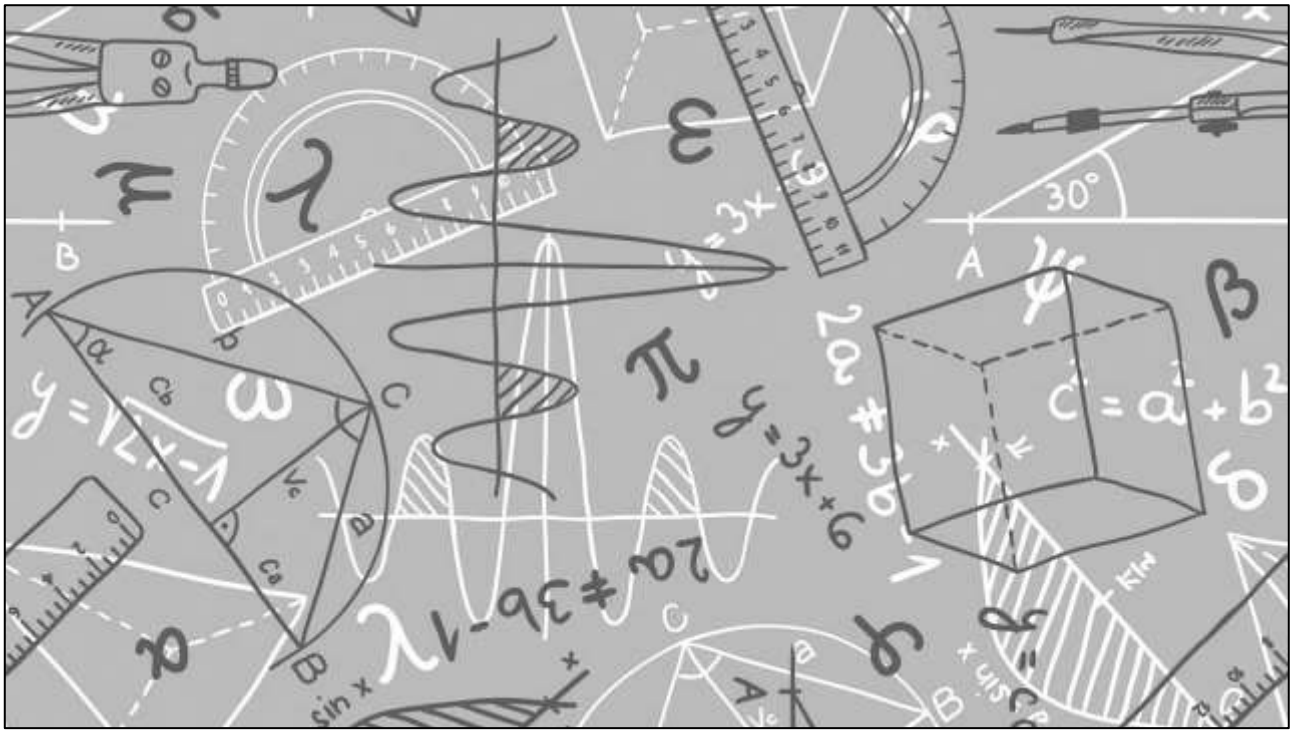
ORMISTON FORGE ACADEMY

Maths



We can't wait to meet you...

All the maths teachers at Ormiston Forge Academy are very much looking forward to meeting you. Normally during the transition weeks before the summer holidays, you find out about us, we find out about you and together we do some maths. Unfortunately, due to the transition weeks being cancelled we didn't get to meet in person. However, hopefully completing this booklet you will be able to find out some facts about the maths teachers at Ormiston Forge Academy, do some research into some of our favourite mathematicians and do some maths either on your own or with your family/carers.

The 24 Game

Try this with your family – who is the quickest?

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 through.

Miss Dass' favourite number is the sum of 4 + 7

The 24 Game

Mr Griffiths' favourite number is 70 divided by 5

Two dots - medium

Three dots - hardest

Mrs Birchall's favourite number is $3^2 - \sqrt{4}$

Key Skills!

What can you remember from year 6?

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

Mr Gill's favourite mathematician is Fibonacci who was an Italian man who studied maths 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

Using the correct mathematical language is important when explaining how you solve a problem. Can you find all the mathematical keywords hidden below?

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

Ms Mahmood's favourite number is 5 squared

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

Mr Steele'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 maths today.

Mr Jamaal's Favourite Number

Mr Jamaal didn't want to tell me his favourite number. Instead he has sent me some clues. Can you work out Mr Jamaal's 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

Guess my number 1

The number is a multiple of 3

AIM

Guess my number 1

The digital sum is 6

AIM

Guess my number 1

Find the number between 1 and 99

AIM

Guess my number 1

It is more than 5 squared

AIM

Guess my number 1

One of the digits is a 2

AIM

Guess my number 1

It is less than 55

AIM

Guess my number 1

It is not a square number

AIM

Key Skills!

What can you remember from Y6?

Mrs Richards' favourite number is the product of 2, 3 and 4

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 Work out 306 × 1000 =	**Question 6** Work out 34 × 1000 =	**Question 7** Simplify $\frac{20}{70}$	**Question 8** Simplify $\frac{18}{63}$
Question 9 Find 75% of £720	**Question 10** Find 75% of £500	**Question 11** Round 6199 to the nearest 100	**Question 12** Round 2096 to the nearest 1000
Question 13 Work out 77 × 9 =	**Question 14** Work out 397 × 6 =	**Question 15** Simplify 9x + 4x - 3x	**Question 16** Simplify 10a + 3b + 7a + 6b
Question 17 Work out 37959 + 32050 =	**Question 18** Work out 24509 + 19451 =	**Question 19** Work out 5 × 2 + 2	**Question 20** Work out 5 × 4 + 3

SKILLS CHECK

Score

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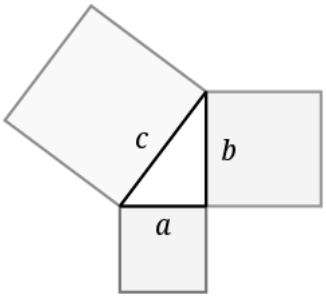
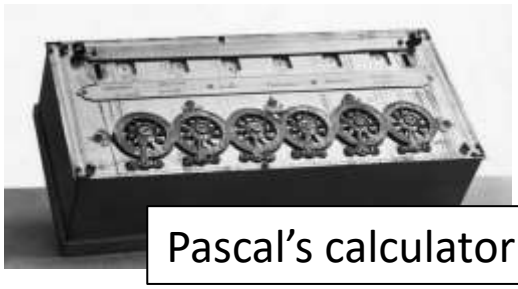


Mr Caulfield and Mr Chapman's favourite mathematician

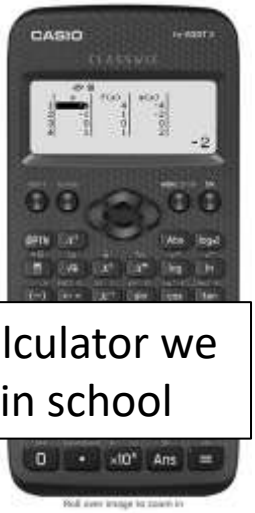
Pythagoras of Samos was a famous Greek mathematician and philosopher (c. 570 – c. 495 BC). He is known best for the proof of the important Pythagorean theorem, which is about right- angled triangles. He started a group of mathematicians, called the Pythagoreans, who worshiped numbers and lived like monks.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

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.



Pascal's calculator



The calculator we use in school

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?

Mr Morgan's favourite mathematician

CODE BREAKING

Mr Richards' favourite number is the only even prime number

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 this amazing maths joke?

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

7×5	8×8	5×11	3×7

$100 \div 10$	4×8	2×5

$200 - 1$	3×3	$9 + 9 + 9$	9×7

$60 \div 2$	$45 + 10$	23×3

$30 - 9$	21×3

$10 - 1$	$2 \times 4 \times 4$	$55 + 4$	$128 \div 2$	1×21	?

10×8	$40 - 8$	42×2	$18 \div 2$

$23 + 24$	$20 - 11$	10×5	$42 \div 2$	!

Maths Challenges

Can you solve all the maths challenges?

Mr Singh's favourite number is 110 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?

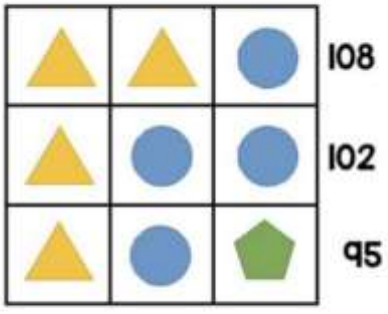
Here are 3 containers.

- 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!

What can you remember 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 Work out 96 × 10 =	**Question 6** Work out 31 × 100 =	**Question 7** Simplify $\frac{6}{33}$	**Question 8** Simplify $\frac{6}{42}$
Question 9 Find 50% of £880	**Question 10** Find 50% of £360	**Question 11** Round 3291 to the nearest 10	**Question 12** Round 1928 to the nearest 100
Question 13 Work out 86 × 6 =	**Question 14** Work out 171 × 2 =	**Question 15** Simplify 7y - 4y - 5y	**Question 16** Simplify 8a + 4b + 5a + 3b
Question 17 Work out 12389 + 9125 =	**Question 18** Work out 29494 + 3633 =	**Question 19** Work out 34 - 3 × 4	**Question 20** Work out 21 - 5 × 2

SKILLS CHECK

Score

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Mr Rhodes' favourite mathematician

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?

Mr Dhanda's favourite number is the 9th odd number

Connor has five times as much money as Jayden.

Connor gives some money to Jayden.

They now have £8.52 each.

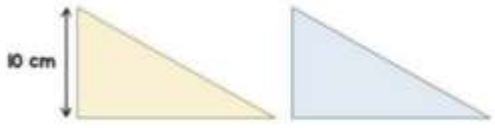
How much did Connor have at the start?

80 people take part in a race.

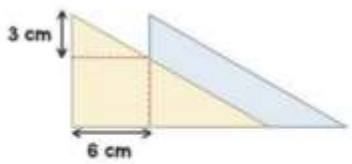
- The ratio of children to adults in the race is **2:3**.
- The mean time for the adults is **2 minutes 15 seconds**.
- The mean time for all 80 people is **3 minutes**.

Find the mean time for the children.

Here are two triangles identical in size.



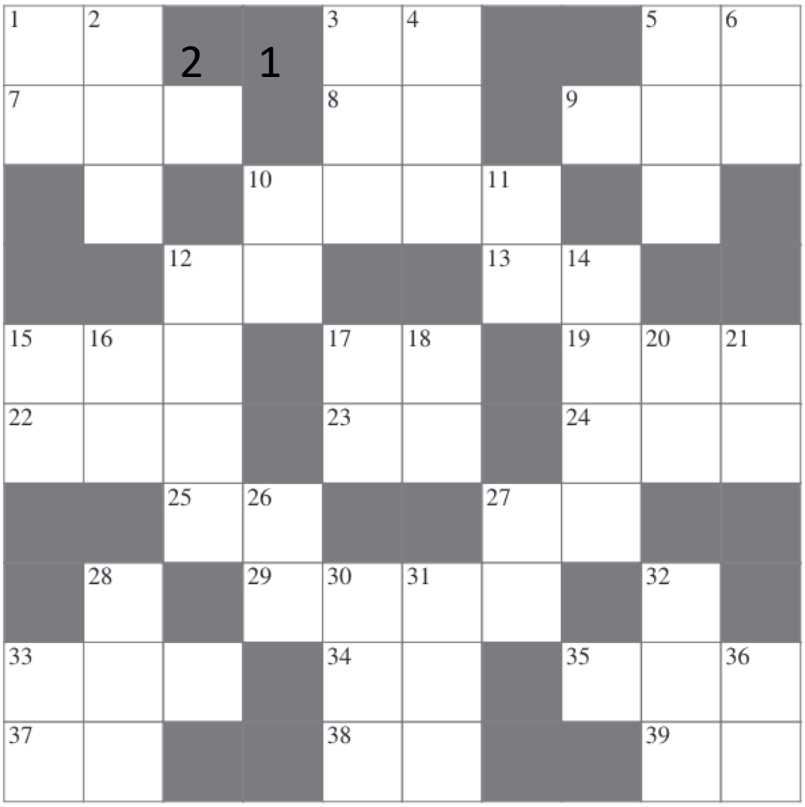
The two triangles are overlapped.



What is the area of the blue triangle showing?

Cross Number

Use the questions below to complete the cross number.



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)