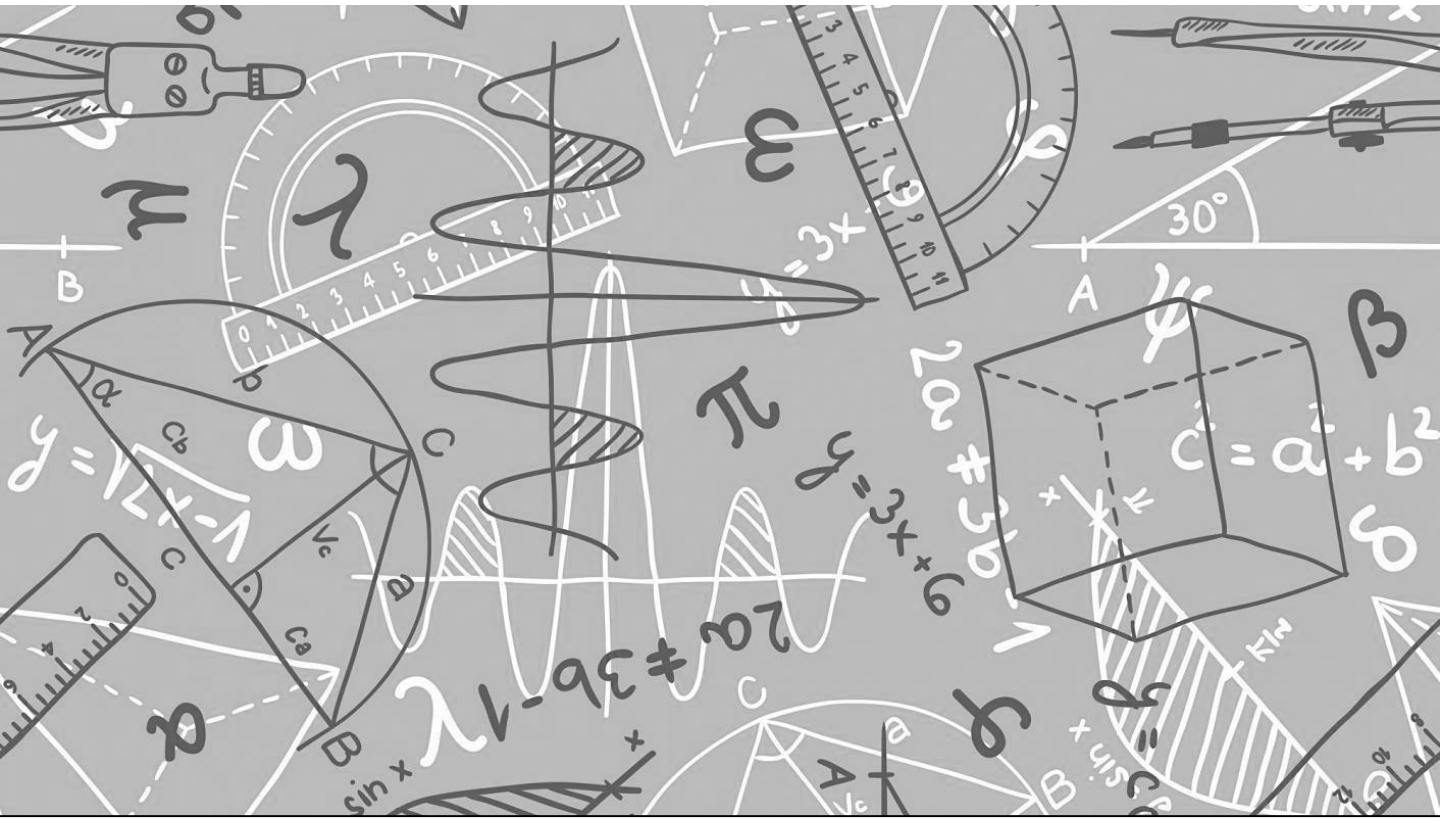
Maths



We Can't Wait To Meet You…..

All the maths teachers at The Pingle Academy are very much looking forward to meeting you. Normally at this time of year you find out about us, we find out about you and together we do some maths. Unfortunately due to the usual transition activities being cancelled we won't meet in person, however hopefully by completing this booklet you will be able to find out some facts about the maths teachers at Pingle, do some research into some of our favourite mathematicians, and do some maths either on your own or with your family.

Meet the Department...

In the Maths Department we have 11 maths teachers. Throughout this booklet you will find out about some of our favourite maths related things. Come back to this page to fill them in when you spot them. Can you find them all?

Mrs Manan

Favourite Number:

Favourite Mathematician:

Favourite Number:

Favourite Mathematician:

Mr Ludditt

Mrs Parker

Favourite Number:

Favourite Mathematician:

Mr Hawtin

Favourite Number:

Favourite Mathematician:

Favourite Number:

Favourite Mathematician:

Miss Tilley

Meet the Department...

Mrs Wall

Favourite Number:

Favourite Mathematician:

Favourite Number:

Favourite Mathematician:

Mr Brown

Miss Cargill

Favourite Number:

Favourite Mathematician:

Favourite Number:

Favourite Mathematician:

Mrs Jones

Miss Mears

Favourite Number:

Favourite Mathematician:

Favourite Number:

Favourite Mathematician:

Mrs Tilley

Mr Ludditt and Miss Mears' favourite mathematician is Leonardo Bonacci. He was an Italian mathematician who was most famous for the Fibonacci number sequence. Why don't you ask them about it in September?

Mrs Tilley's favourite number is 13…unlucky for some…but why?

Secondary Ready Course

At The Pingle Academy all of our students use the excellent online learning tool Maths Watch.

When you join us in September, we will set up your Maths Watch account and teach you how to use it.

We highly recommend that all our new Y7s complete the Secondary Ready course by numercise. It's completely free.

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.

Mrs Parker's favourite number is a square number and a cube number. Do you know what a square number and a cube number is?

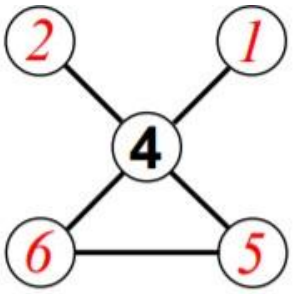
Miss Tilley's favourite number is the fourth prime number. Can you find out what a prime number is?

Mr Hawtin's favourite mathematician is Benoit Mandelbrot. His work was mentioned in the song "Let it go" from Frozen…Fractals. These are repeating patterns which if you zoom in they still look like the same pattern, like snowflakes and even cauliflower

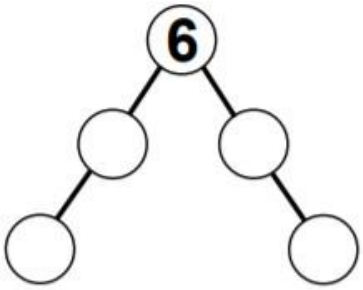
Totalines

Mrs Wall's favourite number is the square root of 144

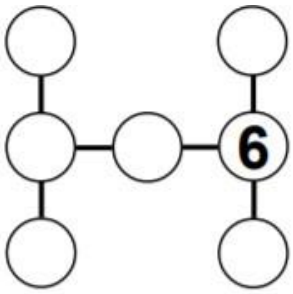
Numbers have to be placed in the empty circles. The numbers to be used are listed under each diagram and no given number may be used twice. The object is to place the numbers so that all those which lie along a straight line, as shown by the lines drawn, add up to the total which is also given under the diagram. The first one has been done for you.



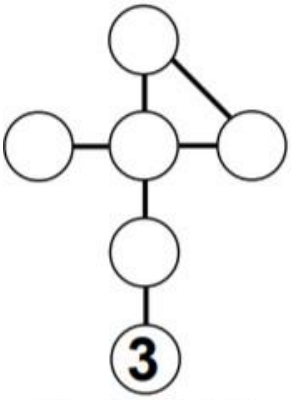
Use 1, 2, 5, 6
Total **11**



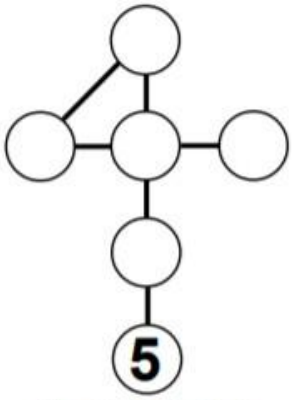
Use 2, 3, 4, 5
Total **13**



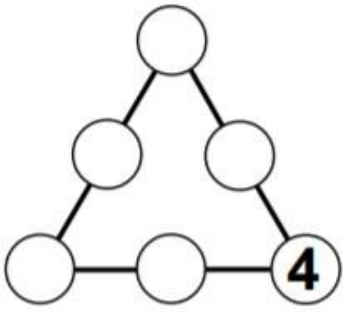
Use 0, 1, 2, 3, 4, 5
Total **10**



Use 1, 2, 4, 5, 6
Total **11**



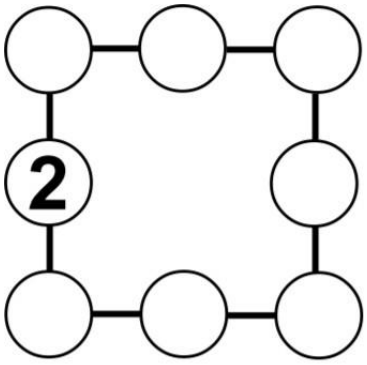
Use 0, 1, 3, 4, 6
Total **10**



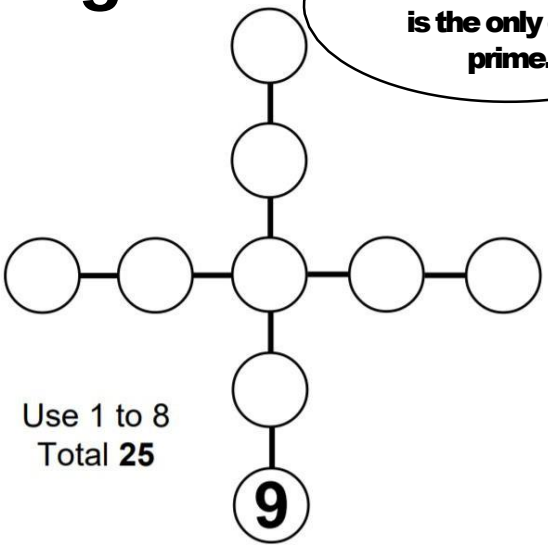
Use 0, 1, 2, 3, 5
Total **9**

Challenge!

Miss Cargill's favourite number is the only even prime.



Use 3, 4, 5, 6, 7, 8, 9
Total **18**



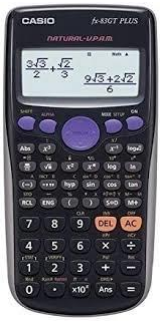
Use 1 to 8
Total **25**

Mrs Manan's favourite mathematician is Srinivasa Ramanujan. He was an Indian mathematician who had no formal training in maths.

Miss Mear's favourite number is 4, it's the smallest composite number….what is a composite number?

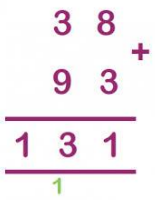
Maths Equipment

Secondary school mathematics is so exciting!

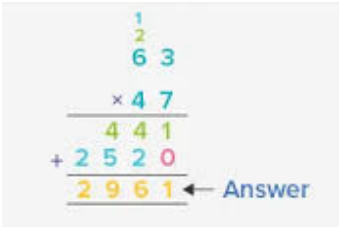


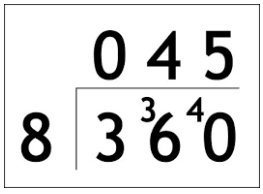
Equipment needed: pencil, rubber, sharpener, pen and a 30cm ruler. We strongly recommend that you have your own scientific calculator we use the Casio fx-83GT but the most important thing is that you put your name on it when you get one, otherwise we'll get them all in a muddle.

Ideally we would like you to have your own compass and protractor but don't worry if you don't.



Maths Methods Used





We use the column method for addition and subtraction.

We the long multiplication method when multiplying numbers but if you prefer to use the grid method that's ok.

We use bus stop when dividing.

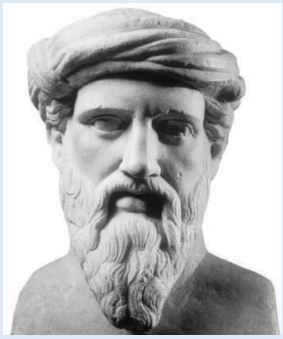
Make sure you keep practising your times tables as they will help you in all areas of maths.

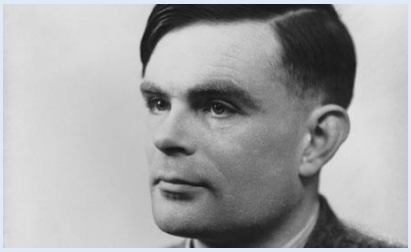
We use times tables rock stars….so keep practising.

Mr Brown's favourite number is the number of days in February (unless it's leap year).

Mrs Jones' favourite mathematician is Blaise Pascal, a French mathematician who was best known for Pascal's triangle, which we still use a lot in maths today.

Mrs Tilley's favourite mathematician is Pythagoras. He was best known for Pythagoras' Theorem which you will cover in Y9.





Mrs Parker and Miss Tilley's favourite mathematician is Alan Turing. He is often called the father of modern computing. During the Second World War he worked for the government at Bletchley Park breaking the enemies codes and Churchill said he shortened the war by 2 years.

Word Searches

Mr Hawtin's favourite number is 2 cubed

Each of the blocks of letters below represents a maze. A way has to be found through the maze moving (up and down or across but **not** diagonally) from letter to letter. No letter may be used twice. In some cases arrows show where the maze is to be entered and left. The letters visited must spell words as you go, and these words can be written on the dashed lines to the right of each maze. The number of dashes show how many letters are in each word. The first one has been started.

↓ ↑

M E R E E R U
R T G E E A S
E D E D M M U
M I C E R E S
A L N V A U Q
E H 0 E I C S
X A G R T A L

M E T R E
D E G R E E
D E C I _ _ _
_ _ _ _ _ _ _
_ _ _ _ _ _ _ _
_ _ _ _ _ _
_ _ _
_ _ _ _ _ _ _

Mrs Jones' favourite number is 6...it's a perfect number

↓ ↑

C E R T I L _ _ _ _ _ _
I R O R L E _ _ _ _
L C T C I N _ _ _
E O D A F T _ _ _ _ _ _ _ _
A A D B T C _ _ _ _ _ _
R E S U R A _ _ _ _
_ _ _ _ _

↓

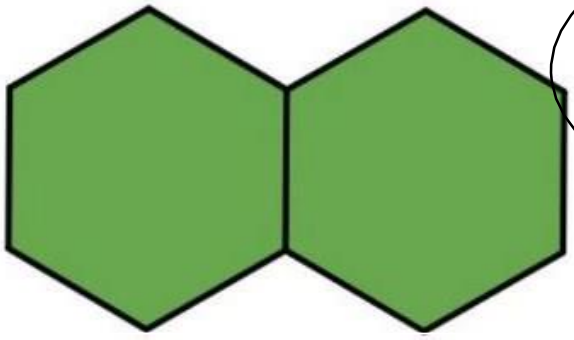
G M E L E P _ _ _ _ _ _ _ _
E O T G N O _ _ _ _ _ _
N Y R R A L _ _ _ _ _
U M B E G Y _ _ _ _ _ _ _
O S U N O D → _ _ _ _
B L L P M I _ _ _ _ _ _
N O I M A R _ _ _ _ _
G P R E P Y _ _ _ _ _ _ _

O I T D I O _ _ _ _ _ _
R R A O U B _ _ _
E D T C C N _ _ _ _ _ _
I N A G T O _ _ _ _ _ _ _
L Y C O E S ← _ _ _ _ _ _ _
B U S N R Q _ _ _ _ _ _ _ _
M O H R A U _ _ _ _ _

Mr Brown's favourite mathematician is Katherine Johnson. Her mathematical calculations whilst working for NASA enabled the first crewed space flight.

Mr Luddit's favourite number is the square root of 100

A Hexagon Problem



Mrs Manan's favourite number is 3. It's the only prime triangular number

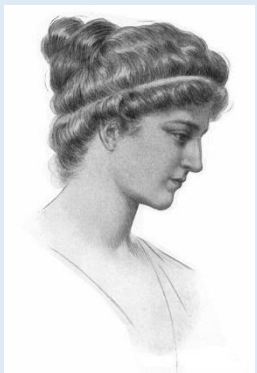
Heather can make two connected hexagons by drawing 11 lines.

What is the minimum number of lines Heather needs to draw 12 hexagons?

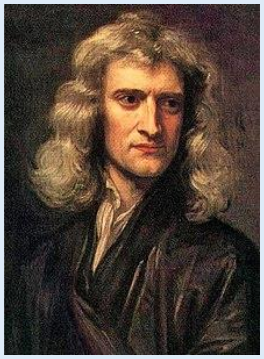
Extension: What numbers of hexagons are the most efficient to draw and why?

This problem is taken from puzzleoftheweek.com. If you enjoy doing puzzles then have a go at the weekly problems on this website.

Mrs Wall's favourite mathematician is Hypatia. She was an Egyptian mathematican who is often referred to as the "first" female mathematician.

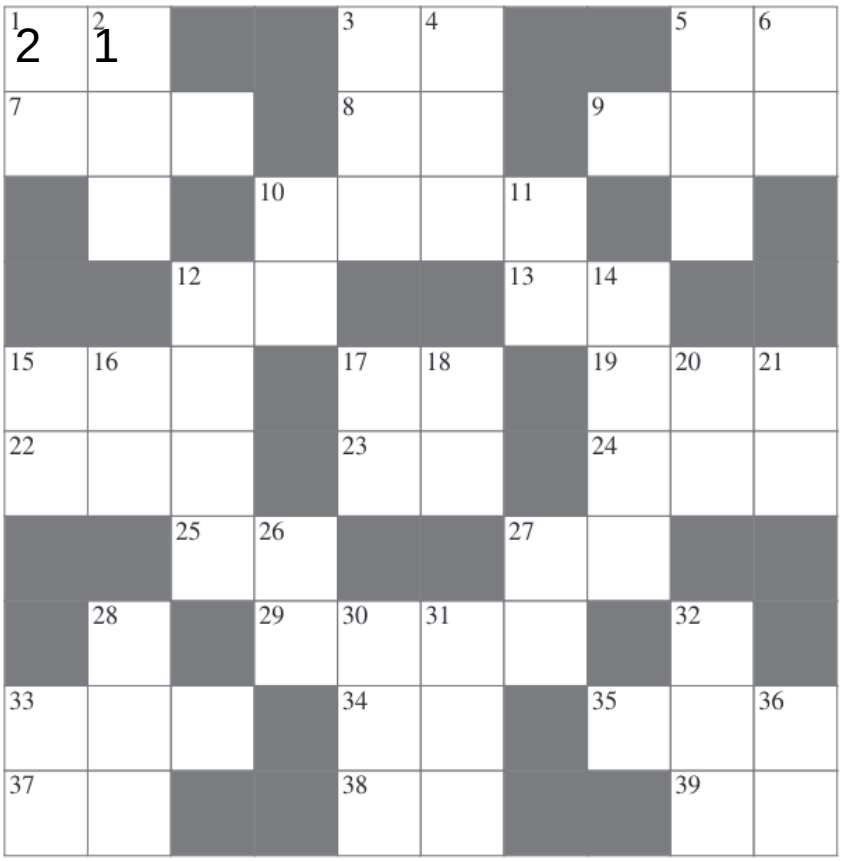


Miss Cargill's favourite mathematician is Sir Isaac Newton. He discovered the laws of gravity, modern calculus and motion.



Cross Number

Use the questions below to complete the cross number.



Did you know...

All of the maths classrooms are in their own building which is just over a year old....ooo fancy.

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)

Completed our booklet? That's incredible! Well done. Please bring it in to show us. Check out nrich.maths.org for more problems to get you thinking...