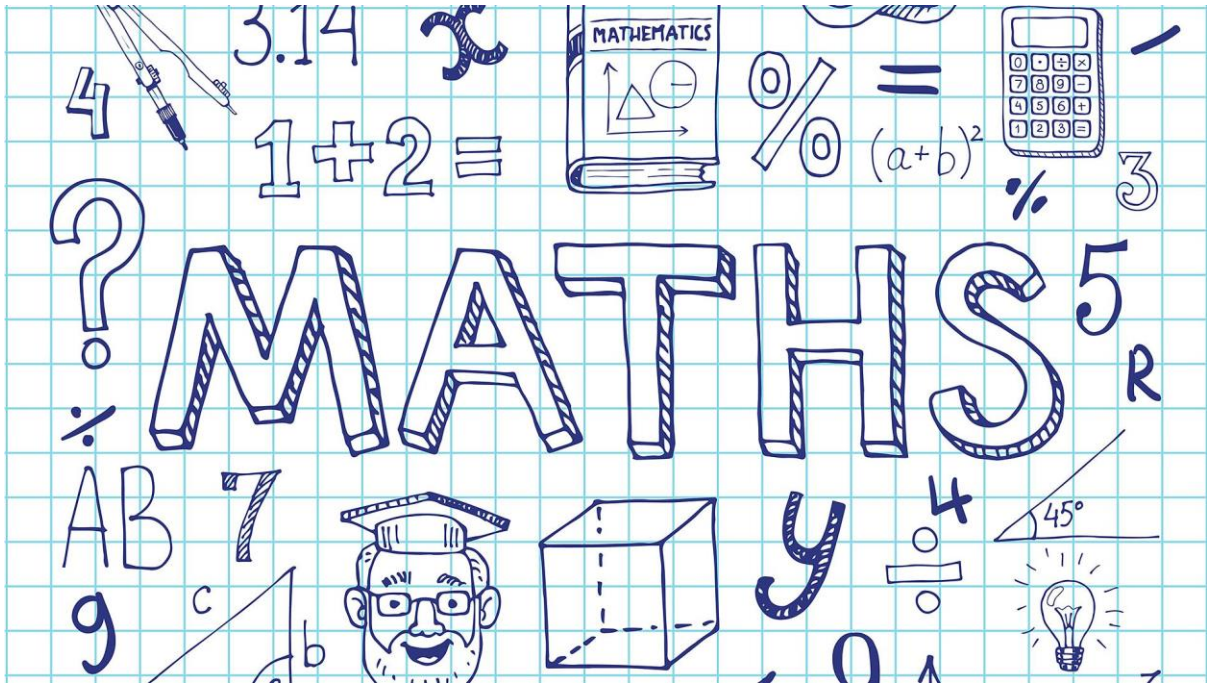


# Thomas Mills

A State Funded Academy  
SPECIALISING IN TECHNOLOGY, ARTS & LANGUAGES



## **We can't wait to meet you!**

All the maths teachers at Thomas Mills High School 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 TMHS, 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 nine 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?

Mr McWilliams	Favourite number: Favourite Mathematician:
Favourite number: Favourite Mathematician:	Mr Mawson
Miss Ingold	Favourite number: Favourite Mathematician:
Favourite number: Favourite Mathematician:	Mr Jeffery
Mr Harding	Favourite number: Favourite Mathematician:
Favourite number: Favourite Mathematician:	Mr Parker
Mrs Ogilvie	Favourite number: Favourite Mathematician:
Favourite number: Favourite Mathematician:	Mr Purewal
Mr Bayle	Favourite number: Favourite Mathematician:

Mr McWilliams' favourite number is 60. There are a lot of reasons why this is such a fantastic number! Can you guess why?

Mr Bayle's favourite mathematician is Leonhard Euler. He liked to think about walking over bridges!

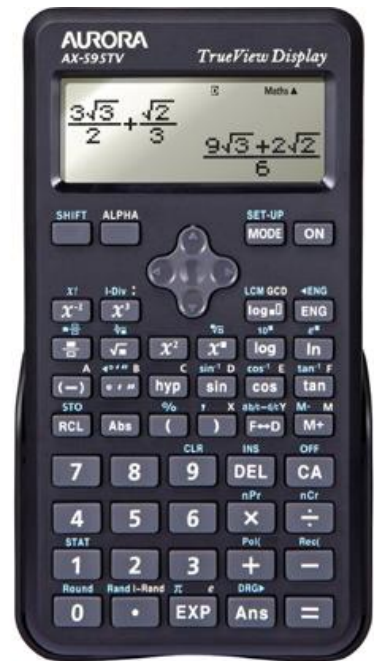


## Maths Equipment

Secondary school mathematics is so exciting!

Don't worry about equipment for now. In September you'll be fine with just a pen, pencil, ruler and rubber.

In October, we'll start using a calculator in lessons. We'll all use a scientific calculator, but you'll have plenty of time to buy one through us so there's no need to buy one before you start. 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.



Mrs Ogilvie's favourite Mathematician is Majorie Lee Browne. In her own words just before she died 'If I had to live my life again, I wouldn't do anything else. I love maths.'

Mr Harding's favourite number is 7 because he was 7 years old on the 7th of the 7th 1977.

Mr McWilliams' favourite Mathematician is Charles Babbage; an English polymath. A mathematician, philosopher, inventor and mechanical engineer, Babbage originated the concept of a digital programmable computer and is considered by some to be "father of the computer".

Mr Purewal's favourite number is 0. Zero, zilch, nada, nought, sifra. Something to represent nothing, what a useful placeholder!

Mr Parker's favourite mathematician is Rene Descartes. His work on coordinates and maps could help us all to navigate around your new school.



## A Hexagon Problem

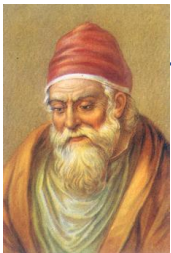
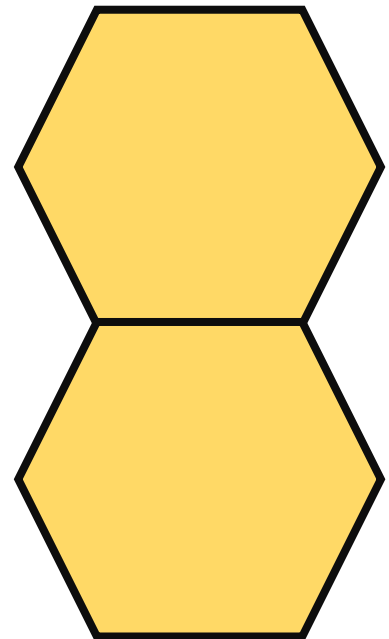
Heather can make two connected hexagons by drawing 11 lines.

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](http://puzzleoftheweek.com). If you enjoy doing puzzles then have a go at the weekly problems on this website.

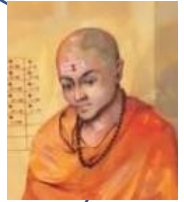


Mr Mawson's favourite mathematician is Euclid. He was the "founder of Geometry" and Mr Mawson likes Geometry!

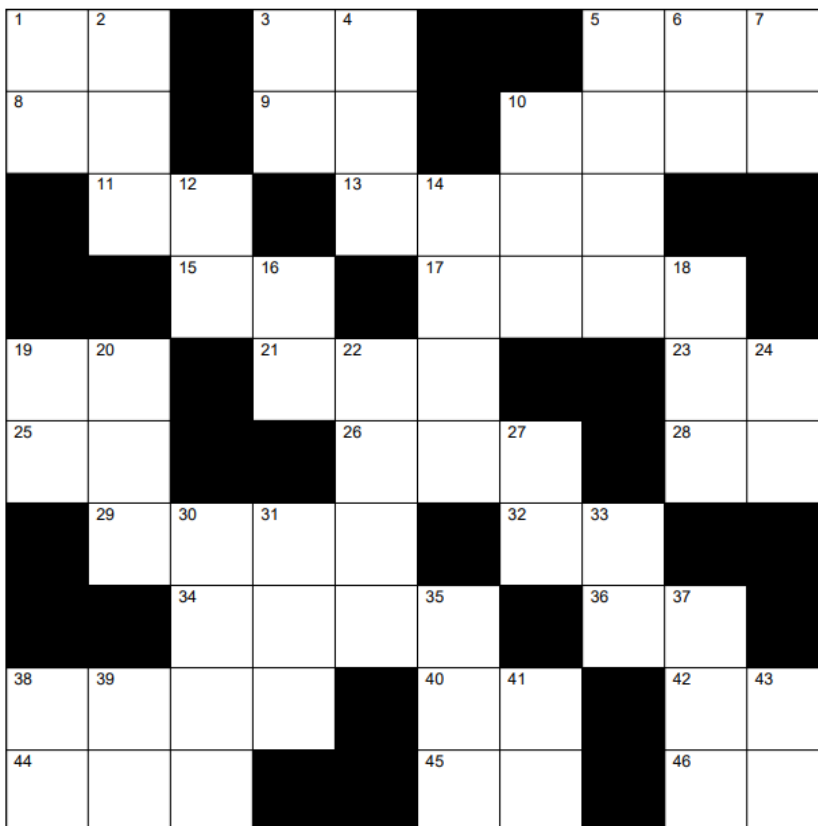
Mr Jeffery's favourite number is 49. This is because his primary school teacher wrote down  $7 \times 7 = 48$  by mistake!

Mrs Ogilvie's favourite number is 8 because it is: the first cube number after 1, a Fibonacci number, an extremely lucky number in Chinese culture and... it looks like a snowman

Mr Purewal's favourite mathematician is Brahmagupta. His work included the introduction of 'zero' to the number system which stood for 'nothing'.



# Solve this cross-number puzzle



## ACROSS

- 1.  $24 - 9$
- 3.  $8 \times 2$
- 5.  $871 - 106$
- 8.  $22 + 25$
- 9.  $7 + 8$
- 10.  $2,298 - 479$
- 11.  $27 + 51$
- 13.  $3,142 + 994$
- 15.  $32 - 8$
- 17.  $741 \times 6$
- 19.  $2 \times 13$
- 21.  $87 + 68$
- 23.  $82 - 18$
- 25.  $10 + 3$
- 26.  $400 + 199$
- 28.  $39 + 18$
- 29.  $2,782 - 327$
- 32.  $3 \times 7$
- 34.  $5,130 + 1,561$
- 36.  $65 + 16$
- 38.  $5,366 + 4,122$
- 40.  $44 + 32$
- 42.  $43 \times 2$
- 44.  $6 \times 71$
- 45.  $89 - 15$
- 46.  $23 - 8$

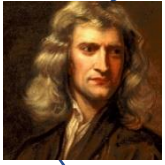
## DOWN

- 1.  $18 - 4$
- 2.  $748 - 171$
- 3.  $15 - 4$
- 4.  $6 \times 109$
- 5.  $2 \times 3,932$
- 6.  $22 + 39$
- 7.  $53 + 6$
- 10.  $243 - 109$
- 12.  $2 \times 41$
- 14.  $2,079 - 620$
- 16.  $27 + 14$
- 18.  $1,113 - 448$
- 19.  $31 - 10$
- 20.  $316 \times 2$
- 22.  $3 \times 1,853$
- 24.  $58 - 11$
- 27.  $141 - 49$
- 30.  $7,238 - 2,552$
- 31.  $331 + 237$
- 33.  $2 \times 9$
- 35.  $111 + 66$
- 37.  $140 + 41$
- 38.  $82 + 12$
- 39.  $7 \times 6$
- 41.  $61 + 3$
- 43.  $93 - 28$



Miss Ingold's favourite mathematician is Florence Nightingale. Not only was she a nurse but a pioneer in the graphical presentations of statistical data.

Mr Parker's favourite number is 111. In his favourite sport (Cricket) this number is known as Nelson after Lord Admiral Horatio Nelson who allegedly had one eye, one arm and one leg towards the end of his life.

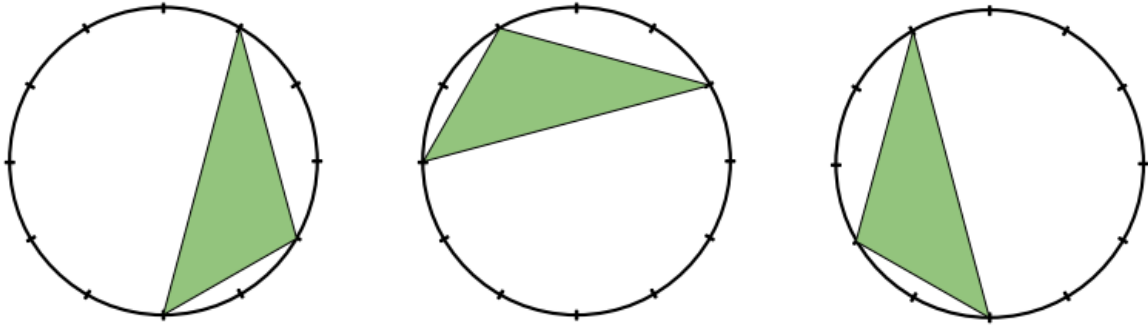


Mr Harding's favourite mathematician is Isaac Newton. Mr Harding is a big fan of apples and gravity.

Mr Mawson's favourite number is 64. It's a square, a cube and a sextic number. It's also super perfect! How cool is that?

Karin uses three points of a clock face to make different triangles.

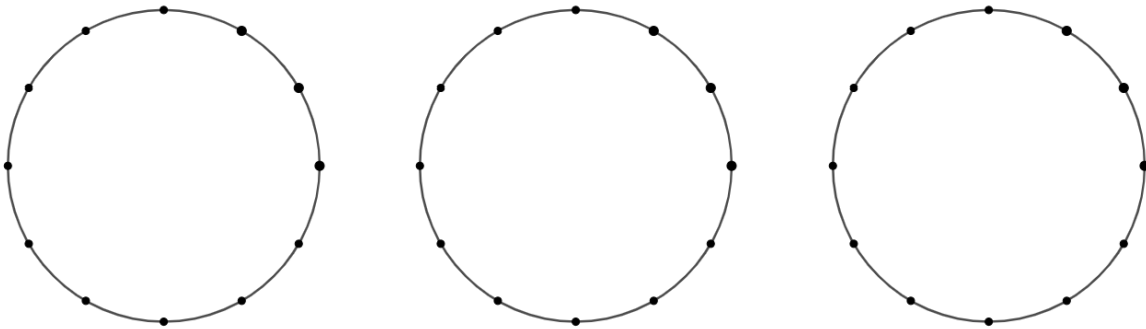
She does not count the triangles as different if they are a rotation or a reflection of each other. The three triangles below are all the same.



How many different triangles can she make?

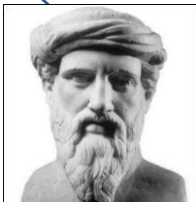
Extension: How many different quadrilaterals can she make?

Solve this puzzle using the blank circles below. Use a pencil and eraser!



Miss Ingold's favourite number is 4 because it is the only number spelled with the same number of letters as itself.

Mr Jeffery's favourite mathematician is Pythagoras. He has a famous theorem. Can you find out what it is?



Mr Bayle's favourite number is 28. That's because it's a perfectly happy number! Can you find another number that is perfectly happy?