News

The death of David Bowie, on the 10th January, came as quite a shock to us here in the maths department, so we thought it only right that we issue a special newsletter to help remember his amazing career and the many mathematical ideas it contained. In 1965, David Jones changed his name to

BOWie

a word which, as you can see, contains three extremely important numbers: **0** – the absolute beginner of the natural numbers[1], i – the imaginary unit[2], and e – the base of the natural logarithm. Apart from in Euler's famous theorem,

$$e^{i\pi} + 1 = 0$$

this is probably the most interesting place where these three mathematical constants appear together.
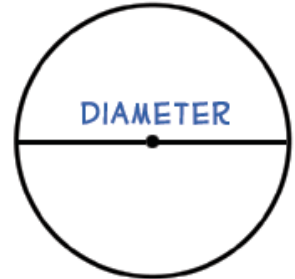
Maths Quote

"Boys keep swinging,
 boys always work it out."
 David Bowie

Obviously girls usually work it out too, but if there's an answer to a maths problem that you can't work out, why not come to Maths Workshop? (every Friday lunchtime in room 13)

Maths Word

A 'diameter' is a line connecting two points on a circle, passing through the centre. This means that a diameter is basically the width of a circle. If you had been around in 1970[3], you might have bought David Bowie's new album *The Man Who Sold the World*. The first song is called *The Width of a Circle*, and is the best example of a song whose title is the definition of a mathematical word that we know of. Do you know of any others?
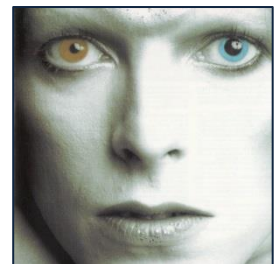
Puzzle

In the David Bowie film *Labyrinth*, there is a scene with two characters guarding two doors; one which leads to a castle and one which leads to certain death. One guard always tells the truth and the other always lies. How could you find out which door leads to the castle just by asking one guard one question?

Two Statistics

David Bowie suffered from a condition called *anisocoria*, which made his eyes appear to be two different colours. One person in every five suffers from this to some degree. Also, you may know that Ziggy Stardust played guitar left handed. Only one in ten people in the world are left handed.[4]

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1. Sort of. It depends who you ask.   2. and i, i will be king…(of numbers)
3. Circles have always been round; even in 1970.   4. Although not all left handed people play the guitar left handed.

Infographic

An infographic is a visual representation of information or data. Here is part of an infographic about David Bowie.

An Interesting Pattern

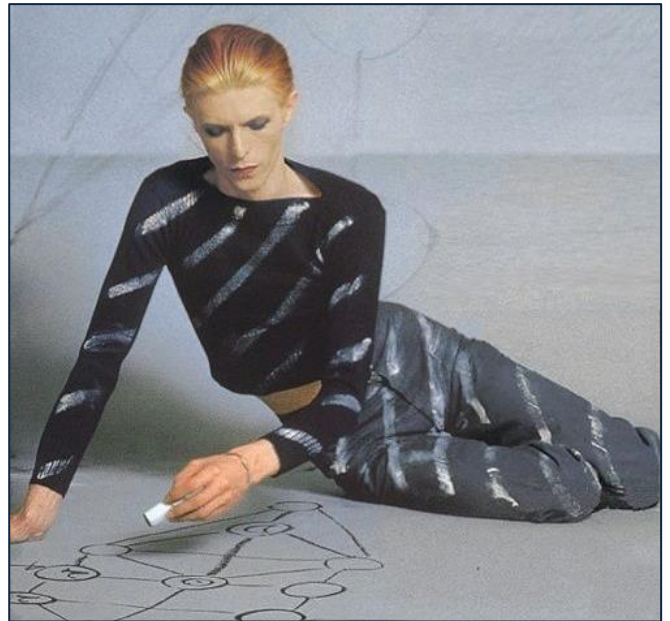David Bowie's clothes often contained interesting geometrical patterns, such as this one:

1984

George Orwell's book *1984* is almost certainly the most successful book of all time whose title is a number. In 1973, David Bowie was planning to write a stage musical version of Orwell's book and had started composing the songs for it. Permission for the musical was refused by George Orwell's wife, but the song *1984* can be heard on Bowie's excellent 1974 album *Diamond Dogs*.

More Strange Designs

In this picture, David Bowie is wearing an outfit with a design based on parallel lines. He appears to be working on a maths puzzle.

Blackstar

David Bowie's final album *Blackstar* was released on 8th January 2016 (his 69th birthday), just two days before his death. A five pointed star is a very interesting geometrical shape that was originally associated with Pythagoras and his followers. Why not investigate the properties of five pointed stars while listening to some of David Bowie's music? That sounds to us like a good

way to spend a few hours; and enjoy maths at Camp Hill because five years is all you've got (unless you do A-level)[5].

5. There is a David Bowie song about this. Why not see if you can find out which one it is?