



There is no number which is **63** times the sum of its digits

News



We are commemorating **VE DAY**

On the 8th May Britain celebrated the 75th anniversary of VE Day; the day when Nazi Germany finally surrendered, bringing an end to the Second World War. You may have noticed that the 8th May 1945 is quite a neat date, being 8-5-45. It's quite an easy date to remember because the numbers form a pattern, and our brains love patterns. If you're the kind of person who enjoys remembering historical dates, World War II has some more significant dates that are easy to remember. For example, Britain declared war on Germany on the 3rd September 1939. That's 3-9-39. D-Day¹, the day when the Allied forces launched a combined naval, air and land assault on Nazi-occupied France, was the 6th June 1944. That's 6-6-44. These are easy dates to remember. Do you know of any other famous historical dates that are easy to remember because they make memorable patterns? If you find any, send them to me at m.taylor@kechg.org.uk and I'll put them in the next newsletter!

Tom Lehrer

After World War II, during the 1950s and 60s, an American mathematician named Tom Lehrer became famous for writing comedy songs; some of which you are probably familiar with, although you may not have known who they were written by. His most famous song is probably



The Elements, where he recites the entire periodic table. Anyway, Chris Smith and Ed Southall (whose puzzles I often use in the maths newsletter) and some other maths-related people you may have heard of, like Simon Singh, Rob Eastaway, Rachel Riley, Matt Parker and Hannah Fry, have done their own version of Tom Lehrer's song *That's Mathematics*. You can watch it by clicking on the link in the footnotes.² When you've watched that, why not look up some of Tom Lehrer's other songs. You might find that you really enjoy them.

Joke

I bought a book called
'101 Facts About Binary'.
It's a lot shorter
than I expected.

1. Did you know that the D in D-Day is short for the word 'Day'? This means D-Day is actually short for Day-Day. D-Day was a term traditionally used for the date of any important military operation or invasion, according to the National World War II Museum. The day before June 6, 1944, was known as D - 1 and the days after were D + 1, D + 2, D + 3 and so on. It's all very algebraic!
2. To watch 'That's Mathematics', go to <https://www.youtube.com/watch?v=u7WJkz0WURY>

The Imitation Game

At the end of year 8, we do some work on codebreaking, and we always end the year by watching *The Imitation Game*;³ a good, if a little historically inaccurate, introduction to Alan Turing and the codebreakers who worked at Bletchley Park during the Second World War. In January 1942, a series of letters to *The Daily Telegraph* claimed that their crossword wasn't hard enough, so the paper's then editor, Arthur Watson, arranged a competition in the newsroom on Fleet Street. Five people completed their crossword on 12th Jan 1942 in under 12 minutes, but unknown to *The Daily Telegraph* and the contestants, the War Office was watching. Several weeks later, the five contestants all received a letter marked 'Confidential', inviting them to visit Colonel Nichols of the General Staff, who would like to see them 'on a matter of national importance'. These people ended up working at Bletchley Park, breaking German military codes. The crossword was published in the paper the following day, and here it is!⁴



Benedict Cumberbatch and Keira Knightley star in *The Imitation Game*.

THE DAILY TELEGRAPH 13 JANUARY 1942

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Across

- 1 A stage company (6)
- 4 The direct route preferred by the Roundheads (5,3)
- 9 One of the ever-greens (6)
- 10 Scented (8)
- 12 Course with an apt finish (5)
- 13 Much that could be got from a timber merchant (5,4)
- 15 We have nothing and are in debt (3)
- 16 Pretend (5)
- 17 Is this town ready for a flood? (6)
- 22 The little fellow has some beer; it makes me lose colour, I say (6)
- 24 Fashion of a famous French family (5)
- 27 Tree (3)
- 28 One might of course use this tool to core an apple (6,3)
- 31 Once used for unofficial currency (5)
- 32 Those well brought up help these over stiles (4,4)
- 33 A sport in a hurry (6)
- 34 Is the workshop that turns out this part of a motor a hush-hush affair? (8)
- 35 An illumination functioning (6)

Down

- 1 Official instruction not to forget the servants (8)
- 2 Said to be a remedy for a burn (5,3)
- 3 Kind of alias (9)
- 5 A disagreeable company (5)
- 6 Debtors may have to this money for their debts unless of course their creditors do it to the debts (5)
- 7 Boat that should be able to suit anyone (6)
- 8 Gear (6)
- 11 Business with the end in sight (6)
- 14 The right sort of woman to start a dame school (3)
- 18 "The war" (anag.) (6)
- 19 When hammering take care not to hit this (5,4)
- 20 Making sound as a bell (8)
- 21 Half a fortnight of old (8)
- 23 Bird, dish or coin (3)
- 25 This sign of the Zodiac has no connection with the Fishes (6)
- 26 A preservative of teeth (6)
- 29 Famous sculptor (5)
- 30 This part of the locomotive engine would sound familiar to the golfer (5)

3. Unfortunately, this will not happen this year, so if you're in year 8 and you can find the film on Netflix or on DVD, we strongly recommend that you watch it.

4. This is the actual crossword they did! Have a go at it, and I'll put the answers in newsletter 65.