1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 = 45
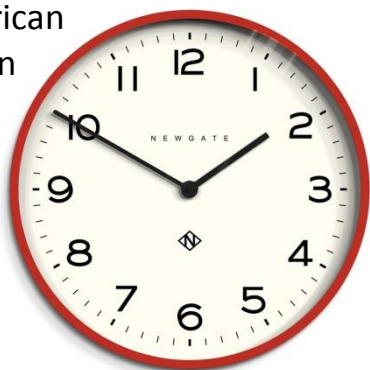
News

Last Saturday night, we all put the clocks forward by an hour.[1] This idea first came from the American inventor Benjamin Franklin who, in 1784, thought it would be a way to reduce the amount of money spent on buying candles. Here in Britain, we didn't start doing this until 1916, and this was mainly because of a campaign organised by William Willett, who was the great-great-grandfather of Chris Martin, the singer from the band Coldplay. Willett wasn't interested in candles though; apparently he was annoyed about having to cut short his games of golf when it got dark, and he wanted an extra hour to finish his game!
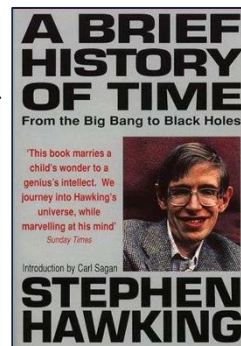
Maths Quote

"One cannot really argue with a mathematical theorem."
Stephen Hawking (1942-2018)

Maths Word

Many people first heard of Stephen Hawking when his famous book *A Brief History of Time* came out in the late 1980s. It's not an easy book to read, but it's well worth trying it… if you have time... if you even know what time is, that is. We all talk about time as if we understand what it is, don't we? One dictionary defines time as "the indefinite continued progress of existence and events in the past, present, and future regarded as a whole" which actually sounds quite complicated. Albert Einstein said, "The distinction between the past, present and future is only a stubbornly persistent illusion." So maybe, even if you have time to read *A Brief History of Time*, you might just be experiencing an illusion in which you are reading a book about another illusion. Perhaps this newsletter is an illusion. Douglas Adams[2] said, "Time is an illusion. Lunchtime doubly so." I have no idea what that means, but it gets quoted a lot. I think it's meant to be a joke.

Did You Know?

When you see a clock for sale in a shop, it will most likely be set to a time around ten minutes to two. The idea is that if the hands of the clock are set to make the clock look like it's smiling, people will be more likely to buy it.

1. Well, it was Sunday morning technically, wasn't it, but it was during the night, so I'll call it night.
2. See newsletter 42.

Team Maths Challenge

On Friday 23rd March, four of our students (Aahana Jain, Kiera Fernandes, Mushkan Pradhan and Naina Gupta) represented Camp Hill Girls in the annual UKMT Maths Team Challenge. This year it took place at Aston University Engineering Academy in the city centre. As you can imagine, we did
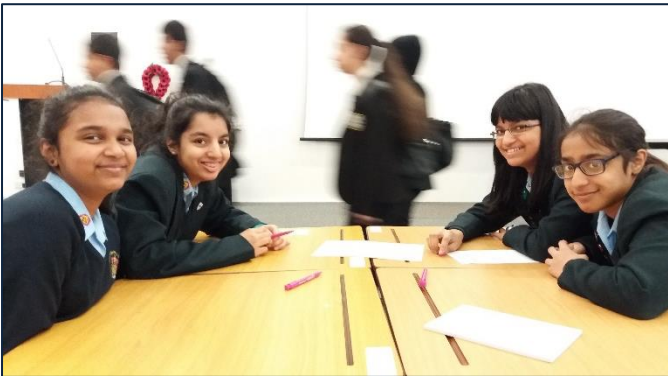
very well, finishing in second place out of the 25 teams that entered. We were, however, beaten again by the boys' school, who will now have to suffer getting up ridiculously early in the morning to travel down to London for the national final. There are some good things about finishing in second place, and the girls really did do extremely well.

Puzzle Time

There are quite a lot of maths puzzles to do with time. Here are two of them.

1. At 3 o'clock, the hour hand and minute hand of a clock are at right angles to each other. At what other times will this be the case?

2. You have the misfortune to own an unreliable clock, which loses exactly 20 minutes every hour. It is now showing 4:00 am and you know that is was correct at midnight, when you set it. If the clock stopped exactly 4 hours ago, what is the correct time now?[3]

Cutting the Clock

This puzzle is called 'Cutting the Clock'. A line has been drawn across the following clock face so that the sums of the numbers on each side of the line are the same. Can this be done by drawing a different line through the clock face? What about drawing a line so that the sums are in the ratio 2:1? Are there any other ratios you can make? Are there any you can't make?
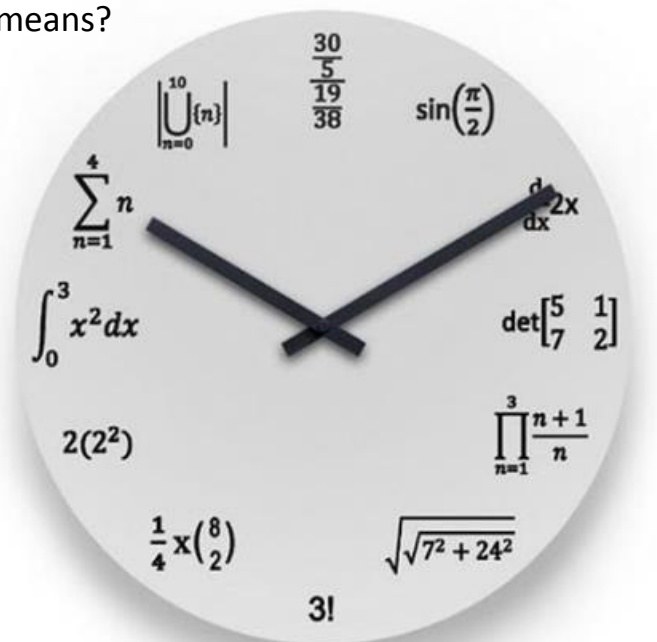

Why is this? Can you come up with a way of working out exactly which ratios you can and can't make?[4]
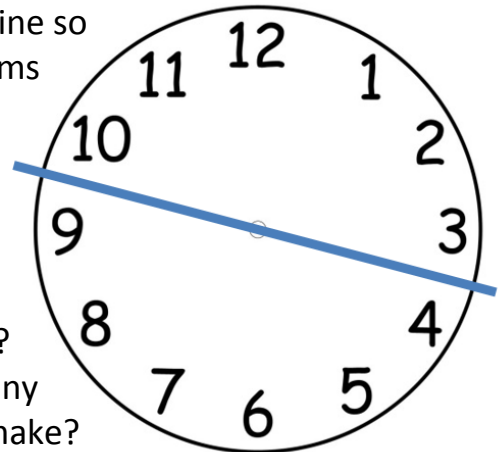
Mathematical Clocks

There are some strange mathematical clocks around. Here is an example of one. Can you work out what each expression means?

Anyway, I hope you have a nice time over the Easter holidays. See you again soon.

3. There are loads of puzzles like this. I'm sure you could make one up yourself quite easily.
4. This is how a mathematician would approach a problem.