



There are 21 spots on a regular dice¹

News

If you're new to Camp Hill, this might be the first maths newsletter you've seen.²

If it's not, then welcome back to more maths related news, facts, jokes, puzzles, and reminders about maths workshop – although it's getting more and more difficult to find new jokes that are even slightly funny. You don't have to be nerdy or geeky³ to read the maths newsletter though. You just need to have good taste in newsletters. If you're wondering why the picture of Sheldon from The Big Bang Theory is there, it's because year 7 are going to be thinking about what their favourite numbers might be. You may know that Sheldon's is 73, because it's the 21st prime number, and its reverse, 37, is the 12th – and 21, the reverse of 12, is the product of 7 and 3. 73 is also a palindrome in binary, 1001001, which is also quite neat. If any of that sounds even remotely interesting to you, then welcome to Camp Hill Girls' School. You've come to the right place 😊



Maths Word

'Binary' is a way of counting that uses only the digits 0 and 1. This is done by making all the column headings powers of 2, rather than the usual powers of 10.

64	32	16	8	4	2	1
1	0	0	1	0	0	1

$$64 + 8 + 1 = 73$$

This is the way that numbers (and everything else) are stored inside computers.

Puzzle

Usain Bolt recently won a gold medal for running the 100m in 9.81 seconds.⁴ Imagine the following scenario:

Let's say that when he crossed the finish line, the runner in second place was 10 metres behind him, and that both Bolt and the runner in second place ran at a constant speed for the whole 100m (although obviously they both had different constant speeds). Now they run the race again, this time with Bolt starting 10 metres behind the starting line. If they run at the same constant speeds as before, who will win the race this time?

Joke

Waiter: Would you like your pizza cut into six slices or eight?

Customer: Six, please. I could never eat eight.



1. 'Dice' is an acceptable (and we think, less annoying) singular noun for what is sometimes called a 'die'.
 2. If so, we hope it's not the last.
 3. If you don't know the difference between nerdy and geeky, you're probably neither.
 4. For the sake of solving the puzzle, pretend that Usain Bolt took exactly 10 seconds to run 100 m.

Maths Quote

“Mathematics is not about numbers so much as it is a way of thinking, a way of framing questions that allows us to turn things inside out and upside down to get a better sense of their true nature.”



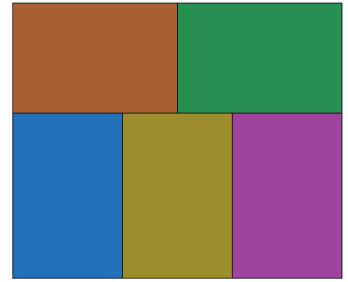
K. C. Cole

Puzzle

Five congruent rectangles are put together to make a larger rectangle.⁵

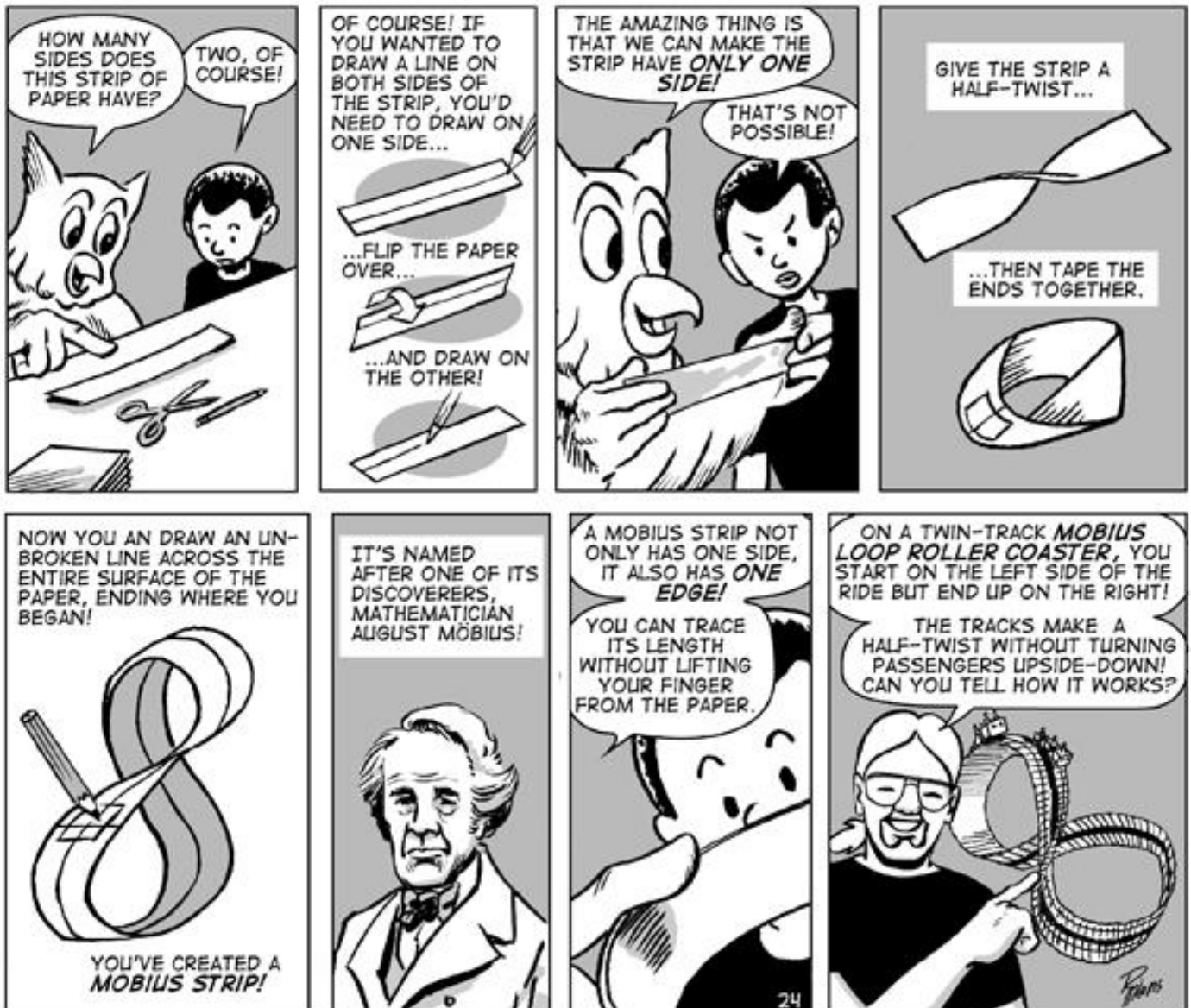
The perimeter of the larger rectangle is 308 cm.

Find the perimeter of one of the smaller rectangles.



How to make a Möbius Strip

Did you know it's possible for a strip of paper to have only one side? It's called a Möbius Strip, and here's how to make one.



This cartoon comes from the Mathnasium website:
<http://www.mathnasium.com/2015/01/number-nonsense-the-mobius-strip>

5. 'Congruent' means exactly the same shape and size.