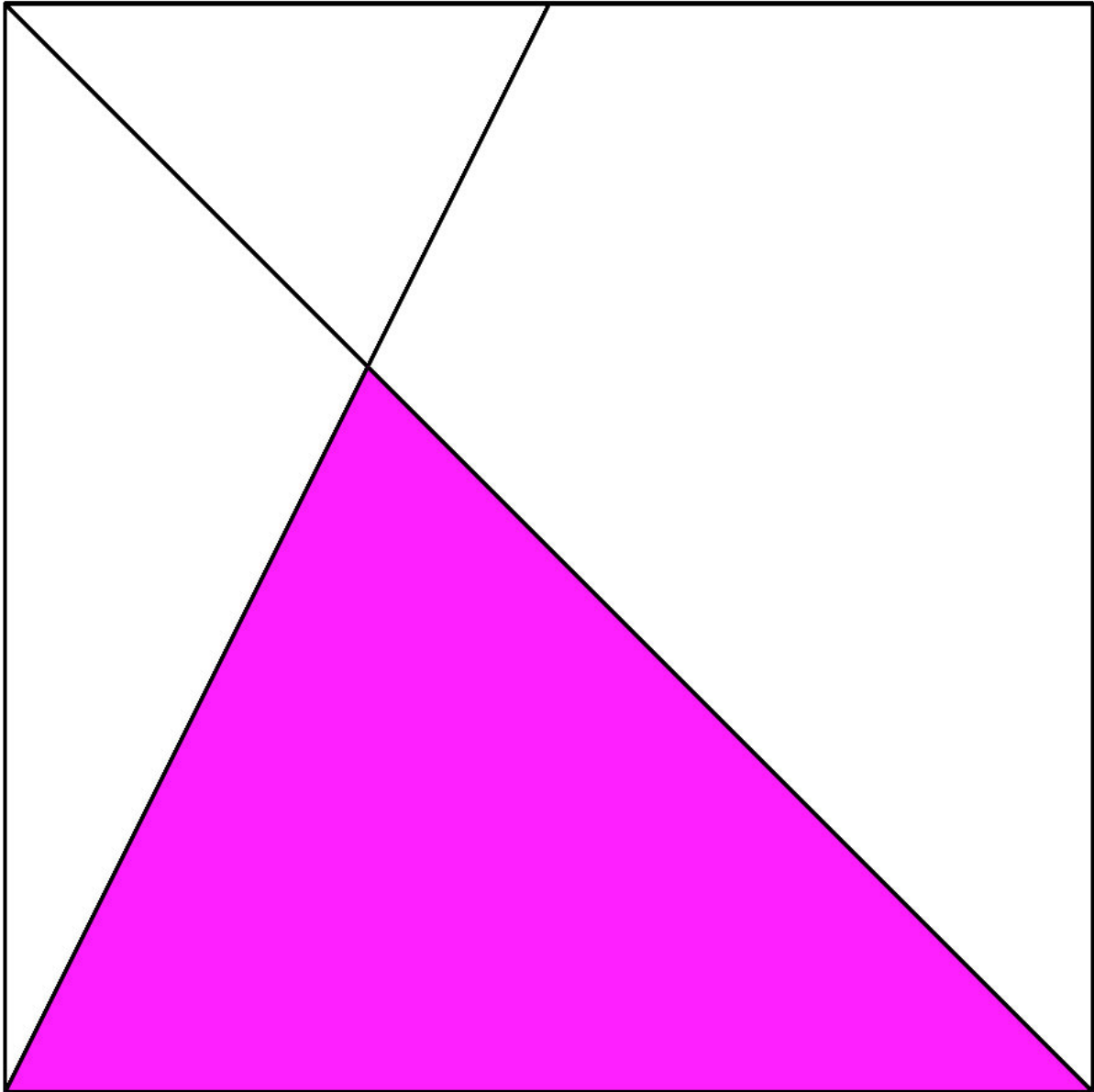


Math puzzle goes viral

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The puzzle. Credit: University of Huddersfield

A University of Huddersfield lecturer has puzzled the world.

Ed Southall already had a big following for the maths posers that he posts online and publishes in book form. But his latest conundrum has gone globally viral.

Deceptively simple, it is a pink triangle inside a square, accompanied by the question: "What fraction is shaded?"

After it was posted on [Ed's Twitter feed](#), it was rapidly seized on by hundreds of would-be problem-solvers who supplied their own attempts at an answer and explanations for how they tackled the task.

Also, a wide range of media outlets picked up on the popularity of the puzzle, many of them reporting how the head of an education charity had come up with the correct solution and provided his methodology.

Ed Southall, who is course leader for secondary [teacher](#) training at the University, confirms that many of his Twitter followers had worked out that the shaded triangle occupied a third of his image.

But what fascinated him was the variety of reasoning behind the solution. This ties in with the philosophy of his latest book, a collection of 53 puzzles titled [Geometry Snacks](#), and subtitled Bite size problems and multiple ways to solve them.

"The unique selling point of the book is that you are given at least two approaches to the same answer," said Ed.



Ed Southall's books. Credit: University of Huddersfield

"The purpose is to highlight that there are multiple approaches available and that they are all valid and of equal worth. When we are teaching maths we all too often promote our solution without exploring any other ones," he continued.

"For me there is a richness in exploring the different approaches. It makes every method feel valid, so if a student has done it in a different way, they still can feel comfort that they have got it right, whereas what often happens is that if they have got the correct answer done it in a different way to their teacher, they feel that their method is inferior."

Before becoming a University lecturer, Ed Southall was Head of Maths at a Sheffield secondary school and after he landed this post he began to rethink his approach to the subject, placing an emphasis on understanding the processes behind maths rather than simply learning them by rote.

"That's when you get the enlightenment of what maths is about and why it's beautiful."

In 2012, Ed started writing a maths puzzle a week for the teachers in his department to solve.

"I did it to generate more excitement about maths and to reinvigorate their love of the subject. Then I started a website and put the puzzles online. The reception was really good and it snowballed from there."

Now Ed, who can devise new puzzles very rapidly, is followed by 20,000 maths enthusiasts on Twitter. And when he lectures to trainee maths teachers at the University, he begins his sessions with a puzzle or two, partly in order to help them understand how their future pupils will feel when confronted by a problem.

He is the author of the 2017 book [Yes, but why? Teaching for understanding in mathematics](#), which informs existing and trainee teachers how and why popular algorithms and mathematical properties work, and how they make sense. It has proved to be a big seller for academic publishers Sage.

Also, there is to be a follow-up to the [puzzle](#) book Geometry Snacks, due to appear in September.

Provided by University of Huddersfield

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