

MathsJam Shout

August 2019

Pavia MathsJam

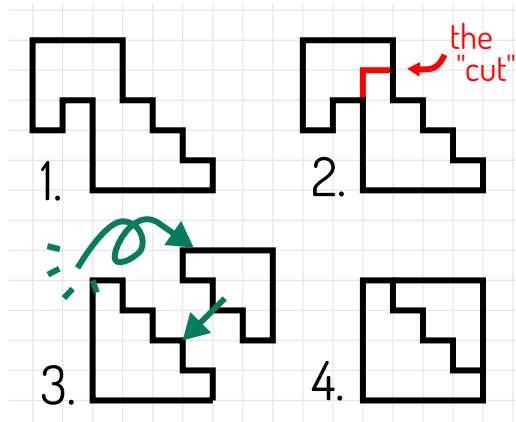
🎂 1 year old next month! 🎉

Puzzle The "Cut"

For each figure, you need to find the "cut" - a continuous line that follows the square grid and divides the shape in exactly two pieces. These two tiles can then be rotated and moved, (but not reflected), to reform a square (either 4x4 or 5x5).

Puzzle sheet: bit.ly/thecut-puzzles

Devised by **Matteo Rizzi** of Pavia MathsJam



Make Hexahedroflex

You will need: a large piece of 2x1 origami paper.

Folding instructions:

bit.ly/hexahedroflex



Design by Luisa Canovi; found in Renzo Zanoni's book "Origami - Arte del piegare la carta"

Puzzle Prisoner Circle

Place $n = 41$ prisoners in a circle. Every $k = 3^{\text{rd}}$ person is then counted out until only there are only $r = 2$ people left. You and your friend's goal is to be these two people. Where should you place yourselves along the circle? What if $k = 2$? Can you generalise this to arbitrary n , k and r ?

Play Alice Chess

This chess variant was invented by British chess master Vernon Rylands Parton, and requires two regular chessboards. The usual rules hold, but whenever a chess piece is moved on one board, it immediately "phases out": the piece disappears from the board it originally belonged to and goes "through the looking-glass" to reappear on the other board, on the same tile where it would have landed on the first board.

Find out more:

bit.ly/Alice_Chess



MathsJam Shout is a monthly sheet of ideas for activities to do at a MathsJam night. It's created using suggestions from a different MathsJam each month, and if you'd like to submit suggestions for a month in the future, email katie@mathsjam.com for details.

MathsJam is a monthly opportunity for like-minded self-confessed maths enthusiasts to get together in a pub and share stuff they like. Puzzles, games, problems, or just anything they think is cool or interesting. Monthly MathsJam nights happen in over 50 locations around the world, on the second-to-last Tuesday of each month. To find your nearest MathsJam, visit the website at www.mathsjam.com.