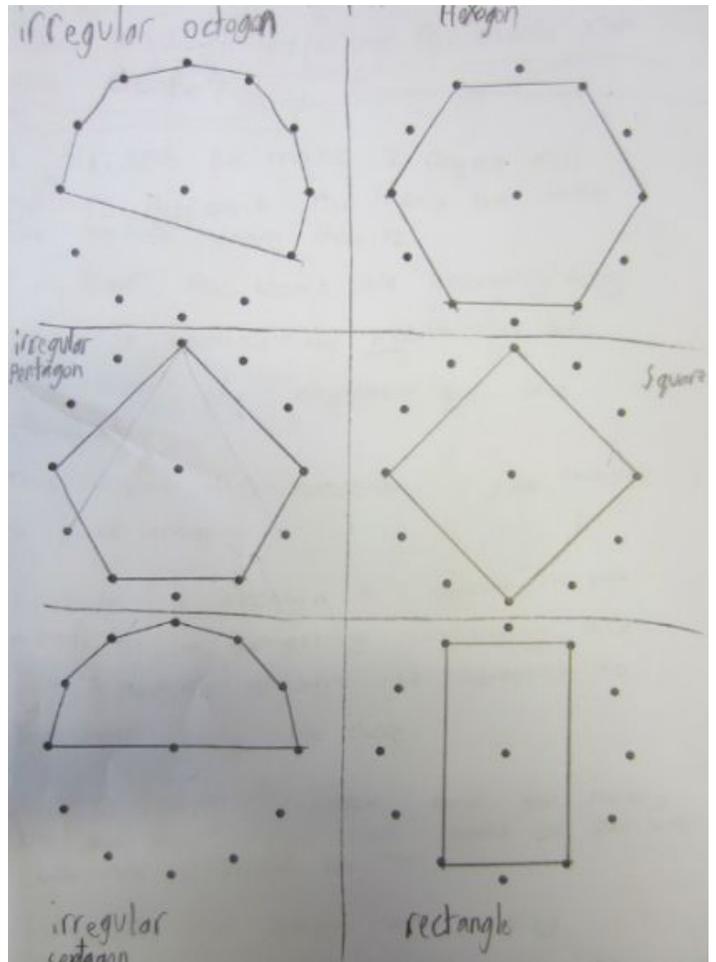
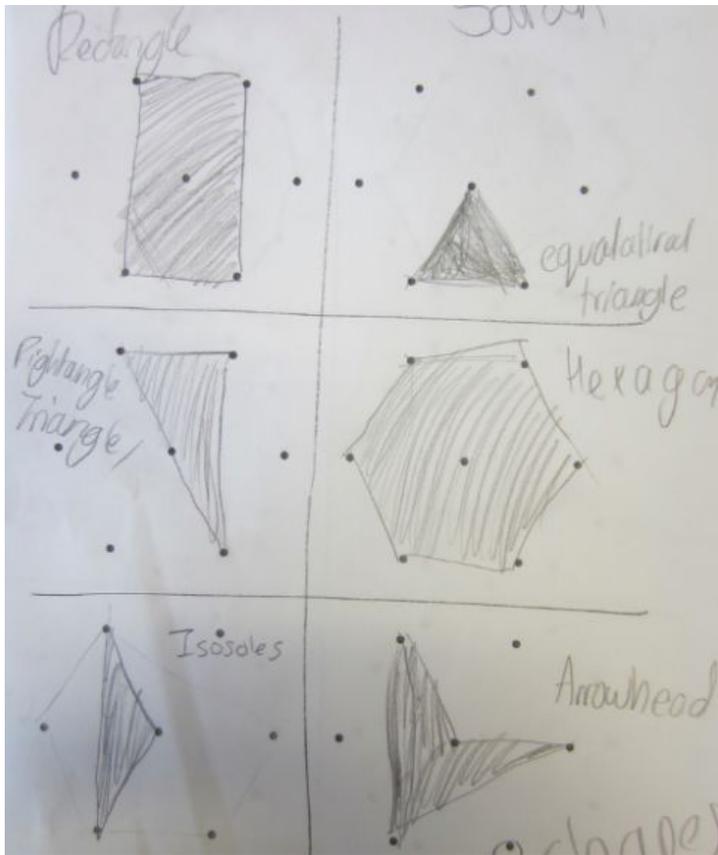


Regular shapes

Sarah and Jack were working on finding regular shapes on different sized pin-boards.



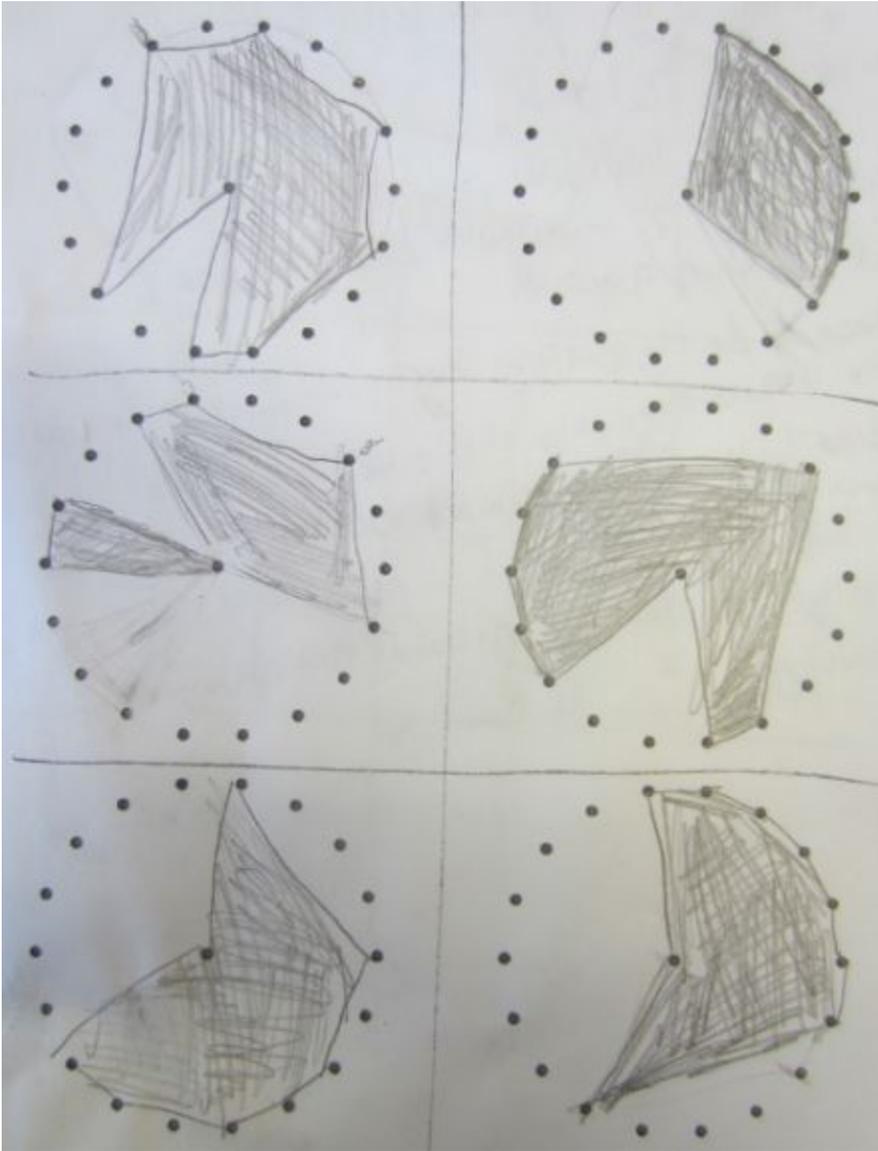
What does the word regular mean?

What does it mean to say a shape is regular?

Once you have decided what you mean by a regular shape, explore the number of regular shapes on different sized pin-boards.

Irregular octagons

Nemina was working on finding irregular octagons on an 18-pin board!



This is super-difficult because there are lots... it will be very hard to find them *all*!

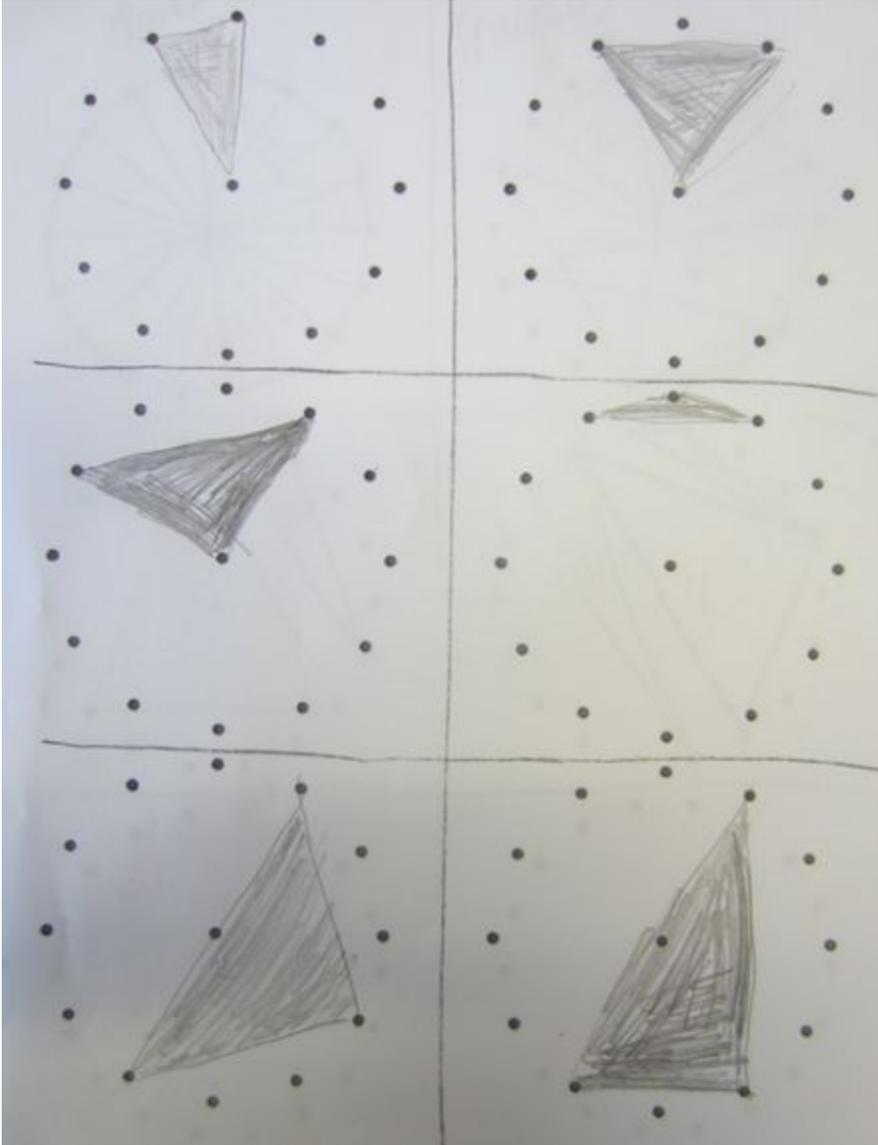
How about starting with a 9-pin board, and then building up to the 12-pin or 18-pin board?

Is there a systematic way of finding them all?

How many triangles

Lots of people were working on the question 'How many triangles...?' because they thought it would be easy... but it's not!

Violet had an idea for exploring these *systematically*...

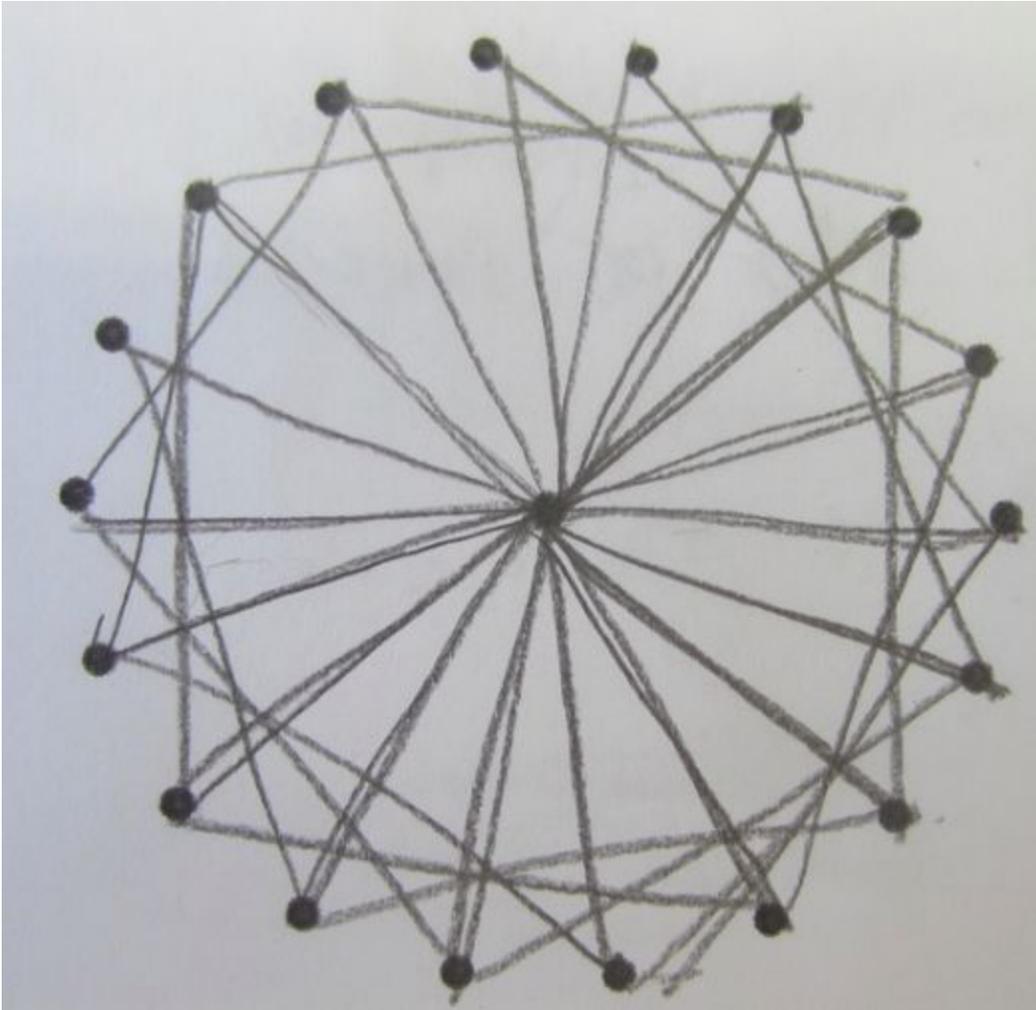


Ask her to explain her idea.

There are *lots* of triangles on a 12-pin board. It would be a good idea to start answering this question on a 6-pin board (Caleb thinks there are only three different triangles on this board) before trying the 9 or 12 pin ones!

Overlapping patterns

Stewart was making lovely overlapping patterns like this:



Ask him how he makes them.

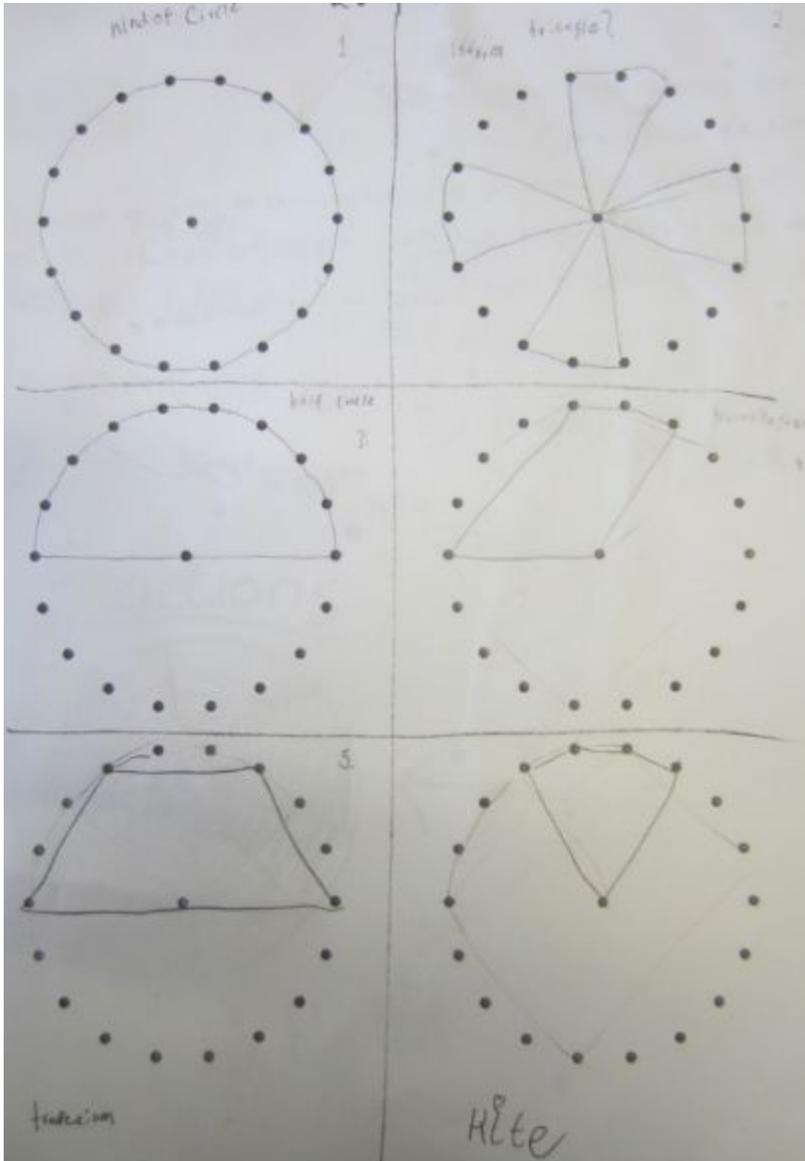
What other attractive patterns can you make?

What makes a pattern attractive?

What could you explore about these patterns, mathematically?

Recognisable shapes

Megan was working on trying to find recognisable shapes. Ask her what she means by 'recognisable'.

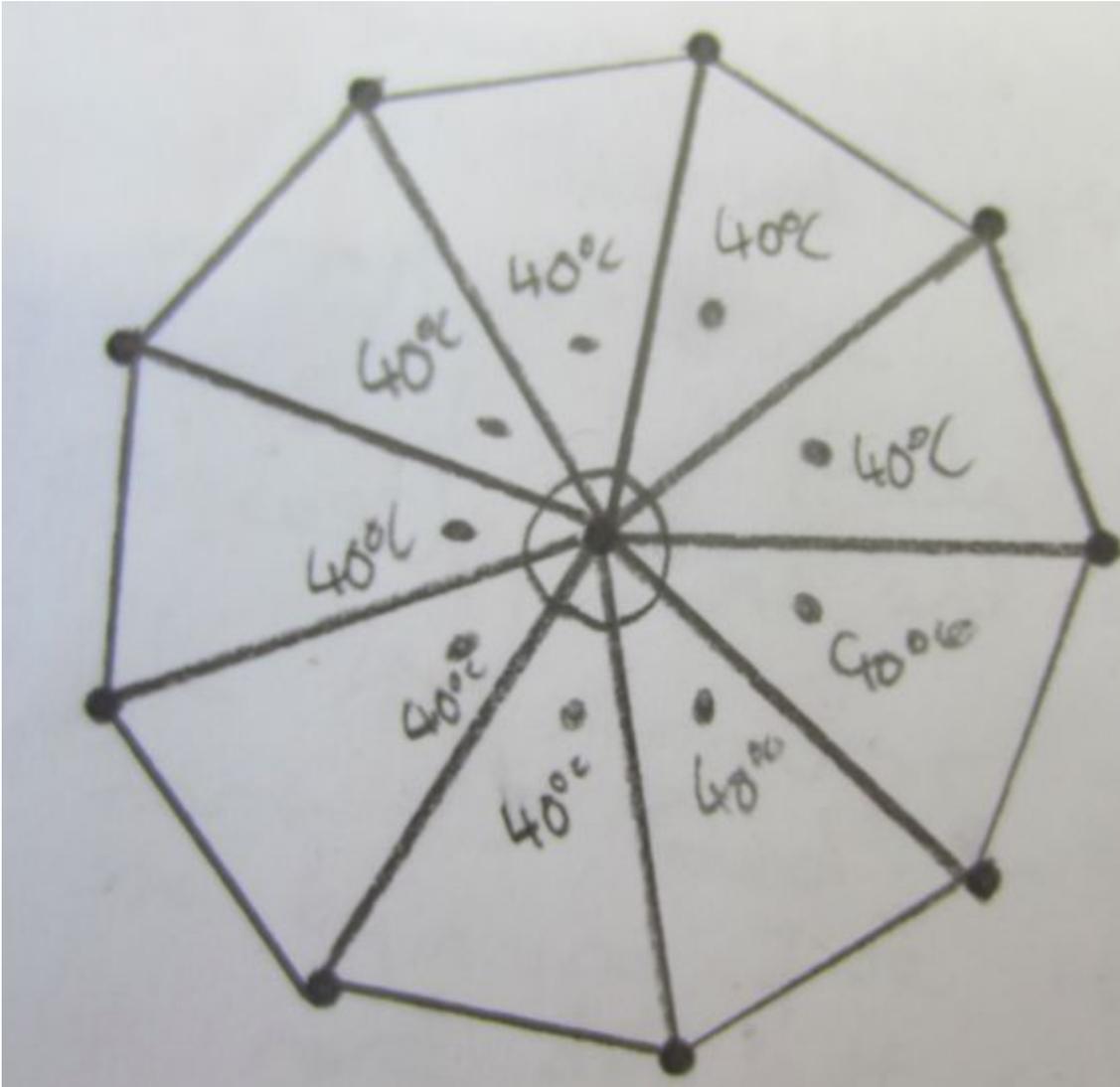


How many recognisable shapes can you find?

How might you put them into groups?

Angles

Connor was working on finding angles in shapes like this:

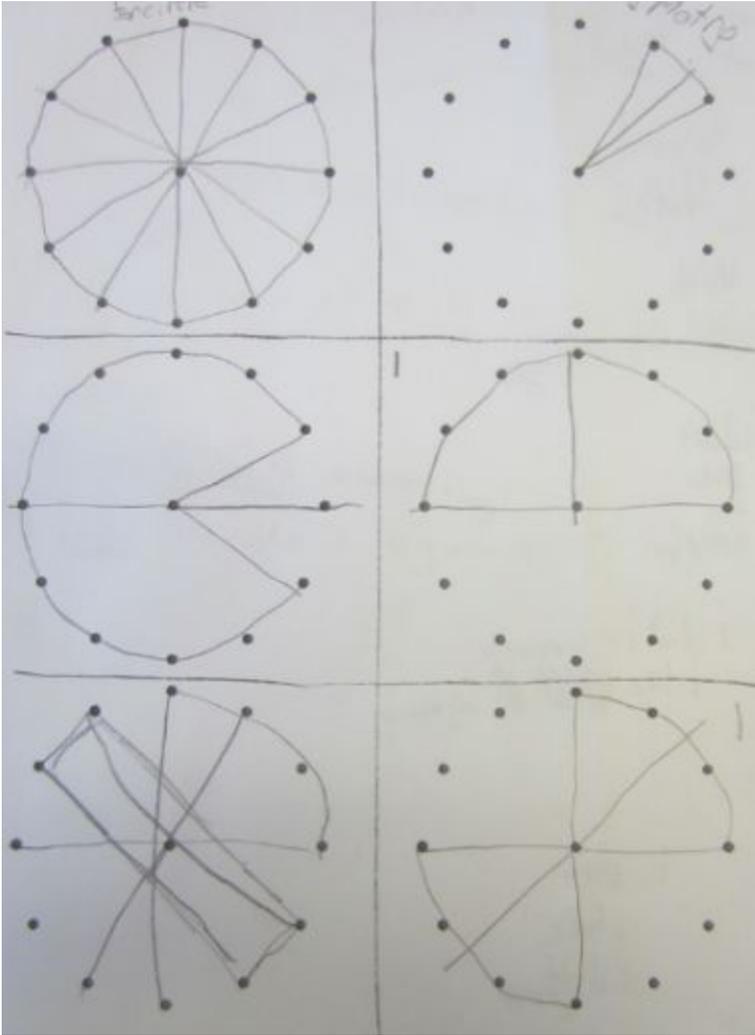


He then discovered a way for finding other angles in these shapes, but he hasn't got to working on this yet.

Work with him to explore the angles in shapes like this on different sized pin-boards.

Symmetry

Milos was working on shapes with different numbers of lines of symmetry:



He's found some shapes with 1, 2 and lots of lines of symmetry.

Can you work with him to find shapes with 3, 4, 5, ... lines of symmetry.

Start with his 12-pin board, but then explore other pin-boards.