

Art in Mathematics: Tilings and Patterns

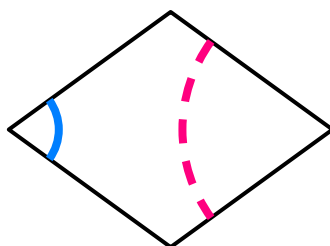
A tiling puzzle

You have two different tile shapes. Both tiles are rhombuses, which means that all their edges have the same length. There is a 'thin' and a 'thick' rhombus. All the angles in these rhombuses are multiples of 36° , which is one tenth of 360° .

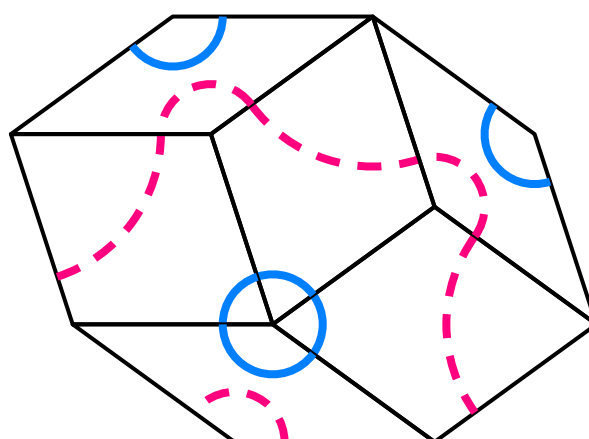
The thin rhombus has angles 36° and 144° and is decorated by segments of circular arcs of two different colours as shown below:



The thick rhombus has angles 72° and 108° and is decorated as follows:



The task is to put these tiles together side by side such that the coloured arcs form continuing lines, as in the example below:

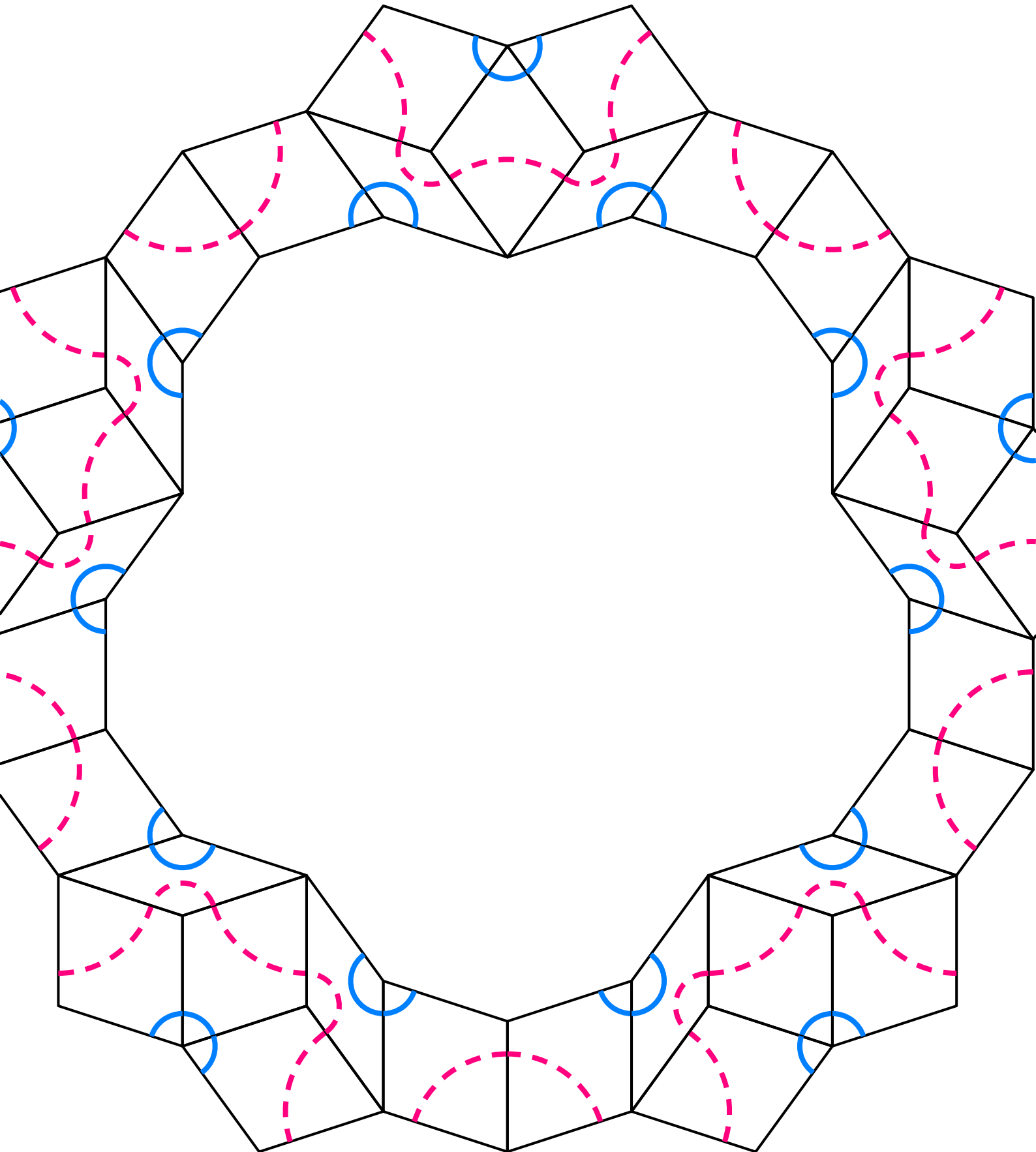


You can cut tiles from the final sheet (make additional copies if needed).

How many tiles can you assemble into a valid tiling?

If you wish, you can share a photo of your tiling with us on Twitter: @OUMathsStats. We would love to see your tilings!

Can you fill in the missing pieces?



Cut these tiles out for the Penpuzzle activity.

