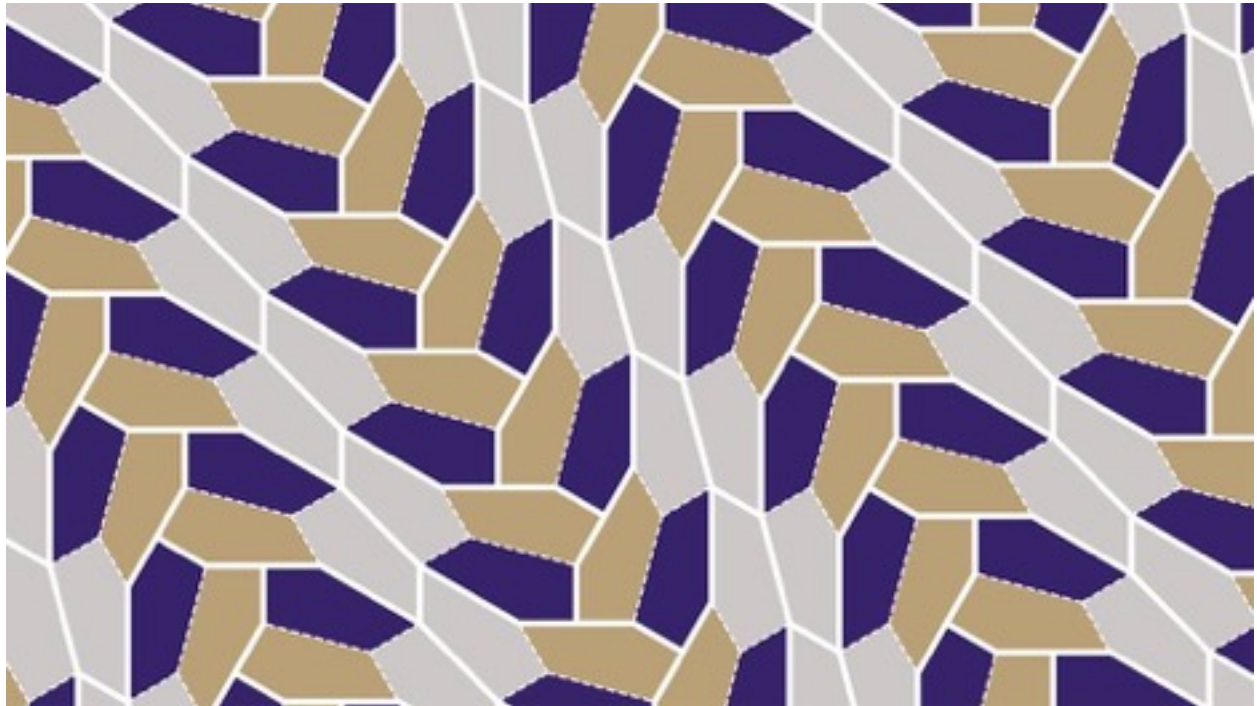


Newly Discovered Pentagon Tiling!

The attached picture shows a lovely tiling of the plane by copies of a single pentagon (sometimes rotated and sometimes flipped).

This is the 15th convex pentagon tiling discovered (not by me! by scholars at UW) and is the first one found in 30 years.

Challenge: Figure out the angle at each pentagon corner.



Here are a series of hints, which I encourage a solver not to use until they really need them.

- Consider labeling each angle in the diagram and looking at how they meet together.
- Corners meet in threes and fours. Those corner angles sum to 360 degrees.
- The easiest angle to see is two equal ones that meet and form a straight angle.
- Interior angles of a triangle sum to 180 degrees. By cutting a quadrilateral into two triangles, you can see their interior angles sum to 360. A similar argument shows pentagon interior angles sum to 540.
- Look at the different four and three corner meetings. There are a number of distinct ones summing different corners.

- Eric Hsu, Aug 8, 2016