

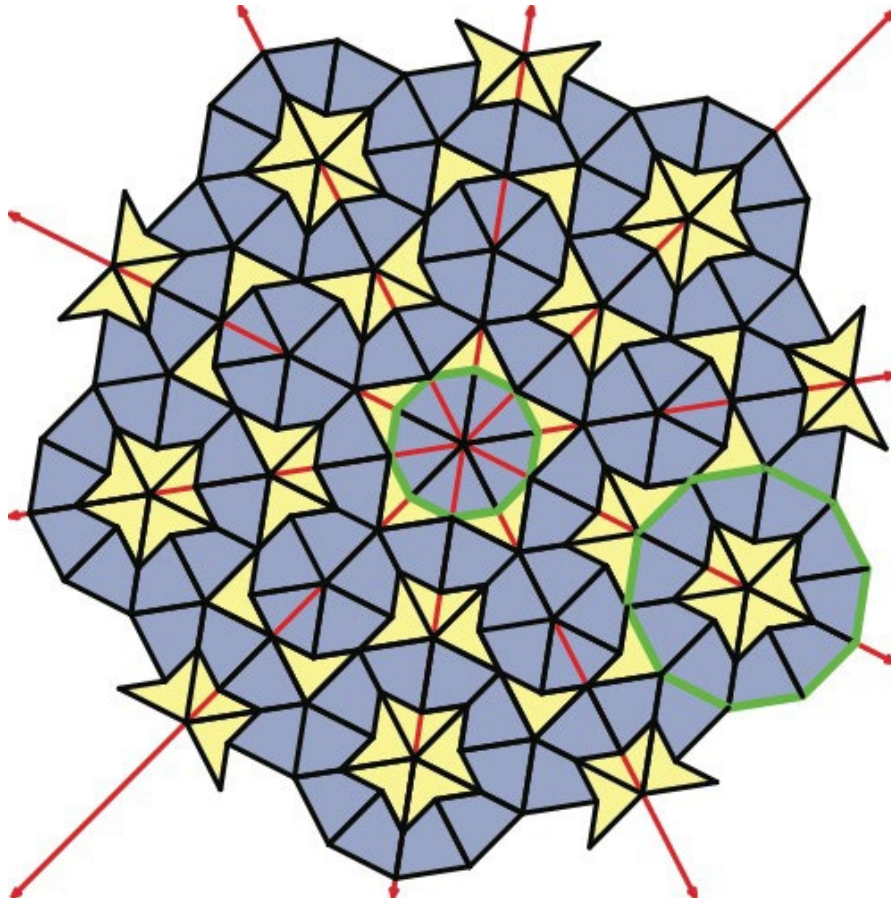
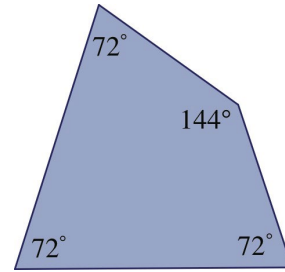
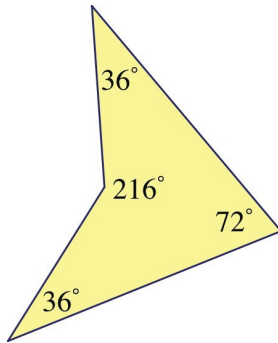
The Penrose Puzzle Solution

Solution:

An interesting property of the blue kite and yellow dart is the measures of their interior angles. It turns out that 144 degrees is the measure of an interior angle of a regular

decagon while 36 degrees is the measure of the exterior angle of a regular decagon. The central angle and exterior angle of a regular

pentagon measures 72 degrees. These angle properties lead to symmetries in the tessellations you create similar to those found in a regular pentagon or regular decagon. For example there are many places in the Penrose tilings where 5 darts or 5 kites come together because 5 angles of 72 degrees is 360 degrees.



In the figure above, notice the decagons outlined in green and the five red lines of symmetry. As mentioned in the information on the table, the angles of the kite and dart are related to the angles of a regular pentagon and regular decagon which

contributes to the appearance of the properties of these polygons in the tessellations.

Although the tiling below is different from the one above, you will still notice many symmetries related to the regular pentagon and regular decagon.

