TETRA-DODECAFLEXAGON

This is the four faced dodecaflexagon. Note that this flexagon pattern has original fractal faces (although not the water droplets), and all triangles are numbered for easier recognition of the different face arrangements. Each face pattern has different arrangements of the triangles, and some of the arrangements are not as obvious until you look closely and look at the numbers. The three faced version of the dodecaflexagons did not have the “rogue triangles”, but this four faced one and I believe all dodecaflexagons with more faces also have the rogue triangles. (The rogue triangles are the 3 triangular flaps that you will find on some of the flexes. If you fold these over, you will get new faces when flexing.) I find it can be easier (especially if you use a fast drying glue) to leave the inside uncut until after gluing together. You can pre crease all triangles before and after gluing. Glue the backside such that the reverse side of the water droplet triangle #4 and the corresponding #11 triangles are not glued until the flexagon is completely assembled. These will lock the flexagon together. Water droplet triangle #2 will be behind the yellow patterned triangle #5. Once glued, cut out the middle and crease all the lines back and forth.

Now, looking at the diagram on page 2, fold the triangle numbers together going clockwise from the “cut here” arrow, fold together 11-10, 3-2, 7-6, 11-10, 3-2, and 7-6. You will then have a pattern as for the Junior 12-gon. Continue by folding together triangles with similar patterns; 5-4, 5-6, 9-8, 10-9, 1-12 and now the 4 triangle can be folded over and glued. Glue the back of the water droplet triangle #4 to the back of the corresponding #11 triangle. The flexagon will have a uniform thickness of 2 sheets of paper. Both sides will have split fractal patterns. Now flex and find all the variations!

THIS FLEXAGON IS ANOTHER JUNIOR FLEXAGON IN THE 12-GON FAMILY FOR WHICH ANN SCHWARTZ HAS WRITTEN SEVERAL ARTICLES. BE SURE TO CHECK OUT ANN’S GREAT WEB ARTICLE:

HTTP://WWW.EIGHTHSSQUARE.COM/12-GON.HTML