

To: Peter Hamburger and Edit Hepp
CC: Allen Schwenk and a few others

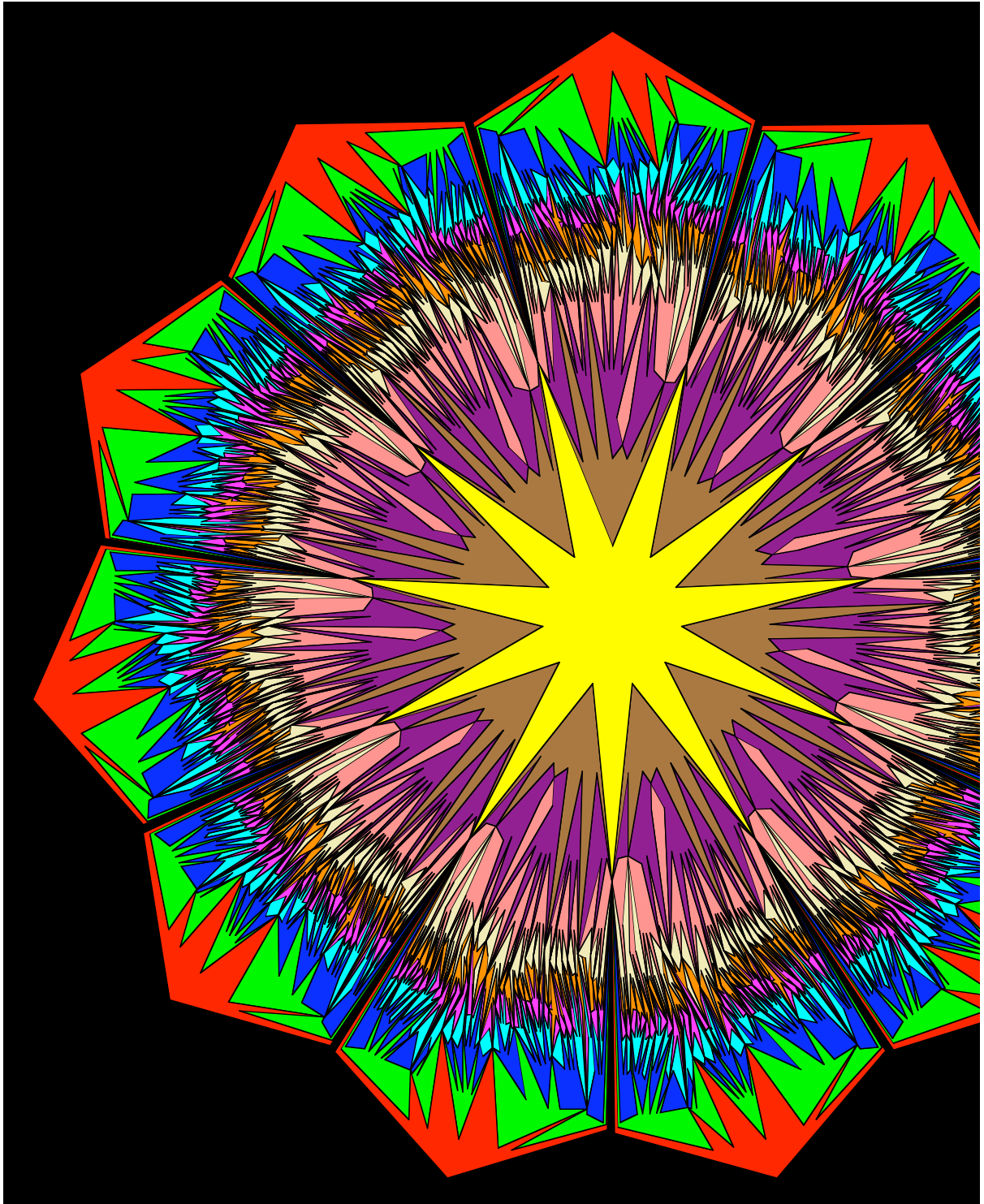
Finally, after much hard work this week and last, I can present an image of the rotationally symmetric Venn diagram as first discovered by Hamburger et al and rendered artistically by Hepp. Because I had certain map manipulating programs on hand from old work on the four-color theorem, I was confident I could do this, but it took a while.

I present just three images here.

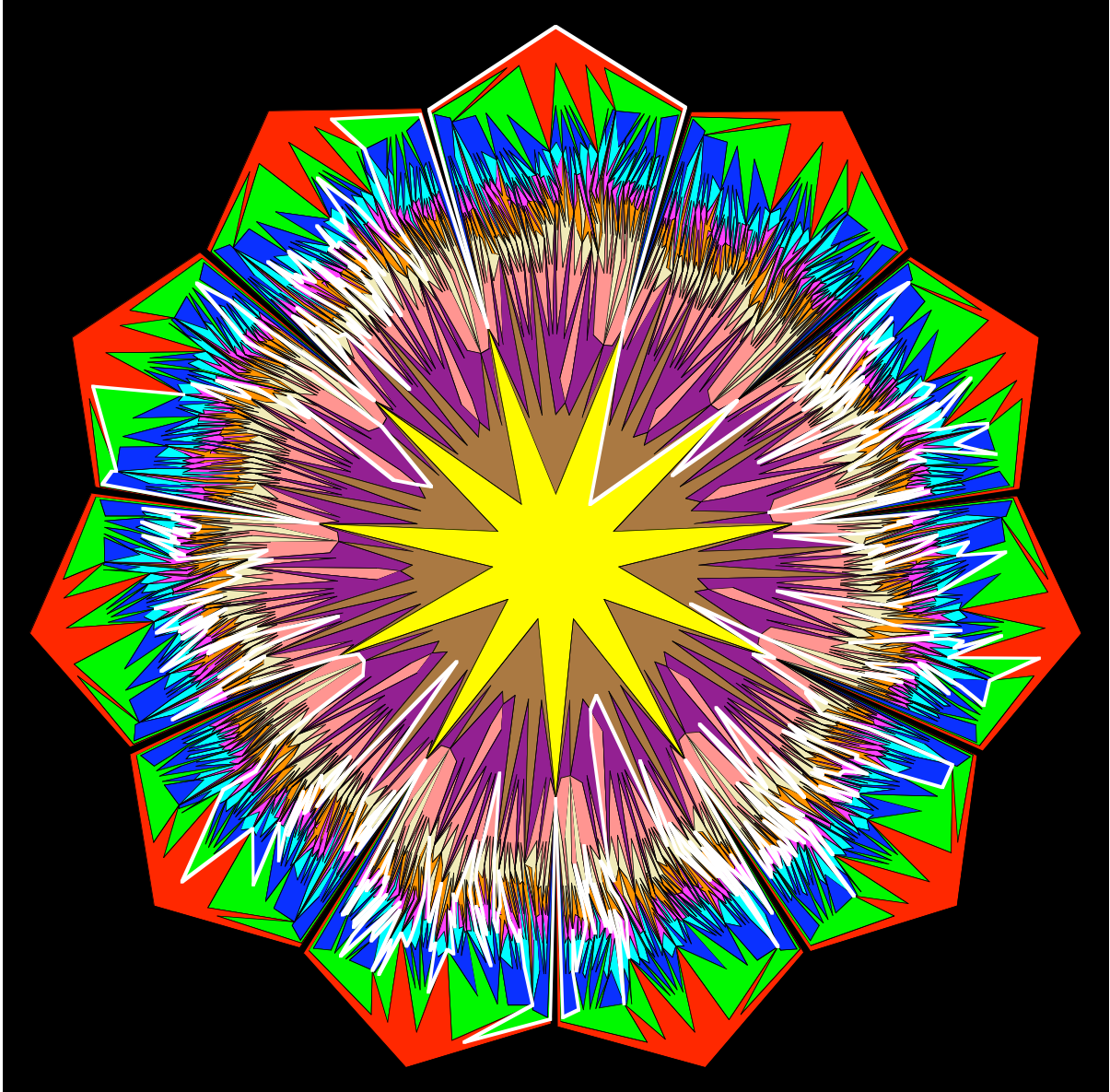
First is the final Venn Diagram. Counting the black exterior (the empty set) there are 2048 regions. They are colored according to Venn rank. The inside is in all sets, so has rank 11. The outside is the empty set, rank 0.

The point is that this is rotationally symmetric, something that can happen for Venn diagrams only when the number of sets is prime. It is now known that such things exist for all primes, but 11 was the breakthrough case.

From In[1429]:=



Now here is the same thing, but with one of the Venn generating curves superimposed in white. Rotating this white curve 11 times is what generates the full diagram by generating the 2048 faces.



And it is nice to show only what is inside one generator. Thus this is $1/11$ of the Venn diagram, but has enough info to get it all. Coloring is the same. In short, this is set A_1 colored according to the 1024 subsets of A_1 as it intersects all the other 10 sets.

