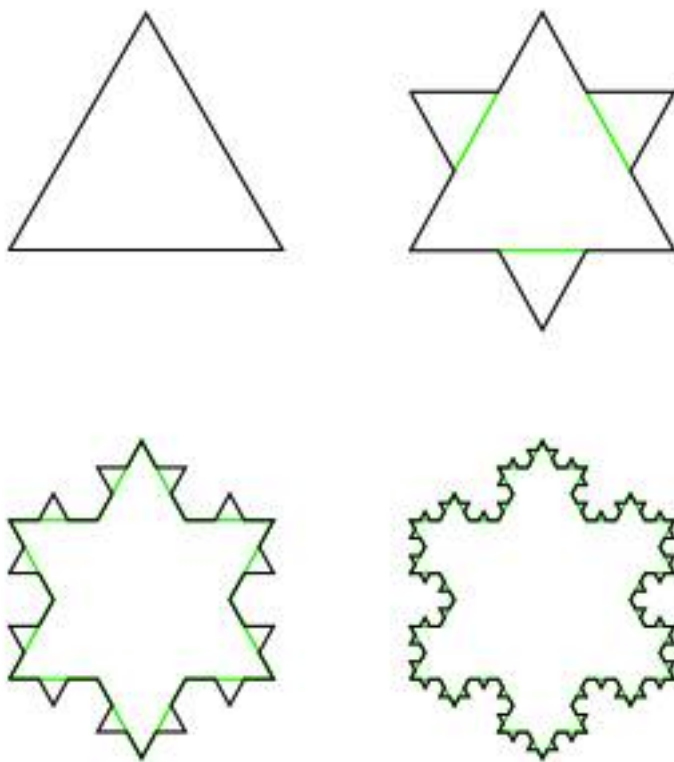


Due: Start of class on Friday April 23.

Your super cool Math 8 teachers are building an island off of Cape Cod for a Math 8 getaway. We'll begin with an equilateral triangle where each side is a mile long. We then divide each side into three equal lengths and attach an equilateral triangle to the middle section of each side. Again we divide each outside edge into three equal lengths and attach an equilateral triangle to the middle section. Because of our Math 8 dedication, we continue this process forever. The first few stages of the island are shown below.



We're going to need some landscaping help when we all go there for our end of term retreat. We'll split the group into two smaller groups: those who correctly used the Divergence Test and those who use the "non-identity" $\sqrt{a^2 + b^2} = a + b$. The two jobs will be to build a fence around the island to keep out those pesky "Bay-Gulls"¹ and to plant pretty green grass inside the fence. Your job for now is to decide the amount of fencing and grass we'll need, then decide which group will have which job.

¹"Bay-Gulls" are a species native to the Cape Cod area. They can't fly and they have a hole in the middle.