## **Fractal Investigation**

## Part 1:

Choose one of the fractals below:



And look at the corresponding elaboration below.



How could you construct this fractal? Describe the process of constructing the fractal in stages. Describe how the area of the shape changes from one stage to the next as you construct them.

## Part 2:

Watch this video: https://www.youtube.com/watch?v=gB9n2gHsHN4

Choose an appropriate scaling factor that produces copies of your fractal, and draw a diagram with both the unscaled and the scaled version, identifying areas that correspond to the unscaled version. How would you describe the ratio of the area of the unscaled to the scaled version of your fractal?

## Part 3:

**Extension Questions:** 

- Can you determine the fractal dimension of your fractal?
- Can you describe how other properties (such as perimeter, number of edges, ...) of your shape change as you construct it in stages?
- Can you repeat the above for the other two fractals?