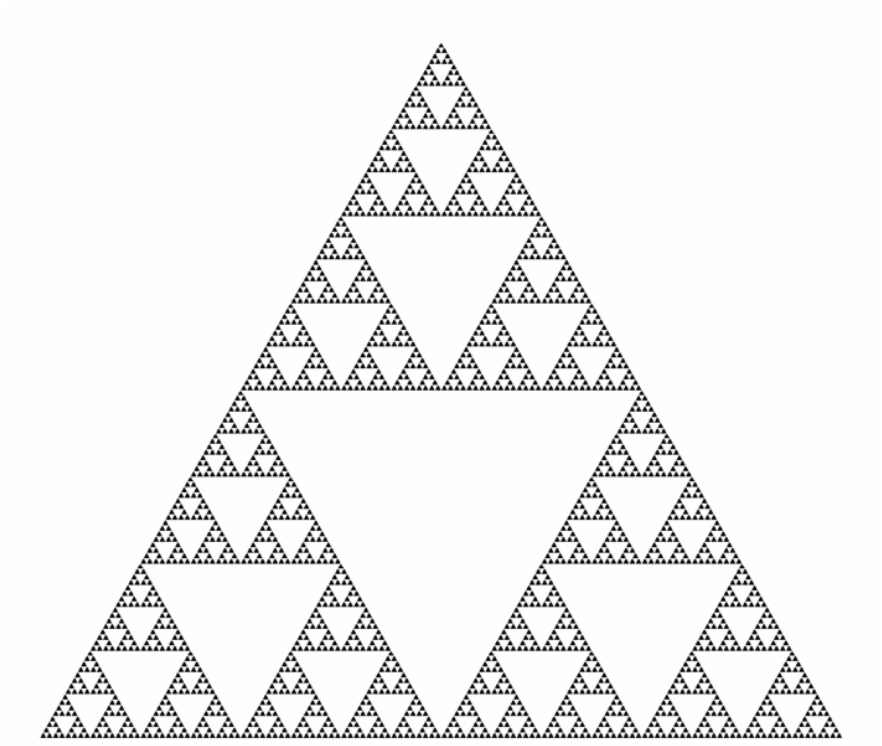
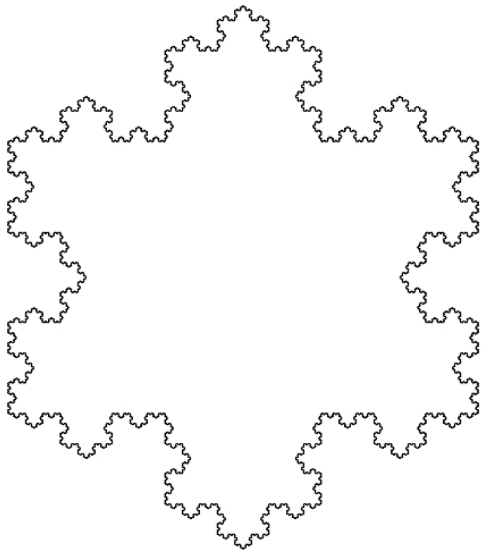
Solutions

Fractals

Example 1

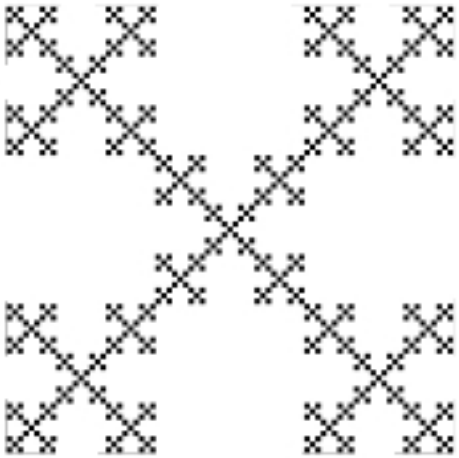


Example 2



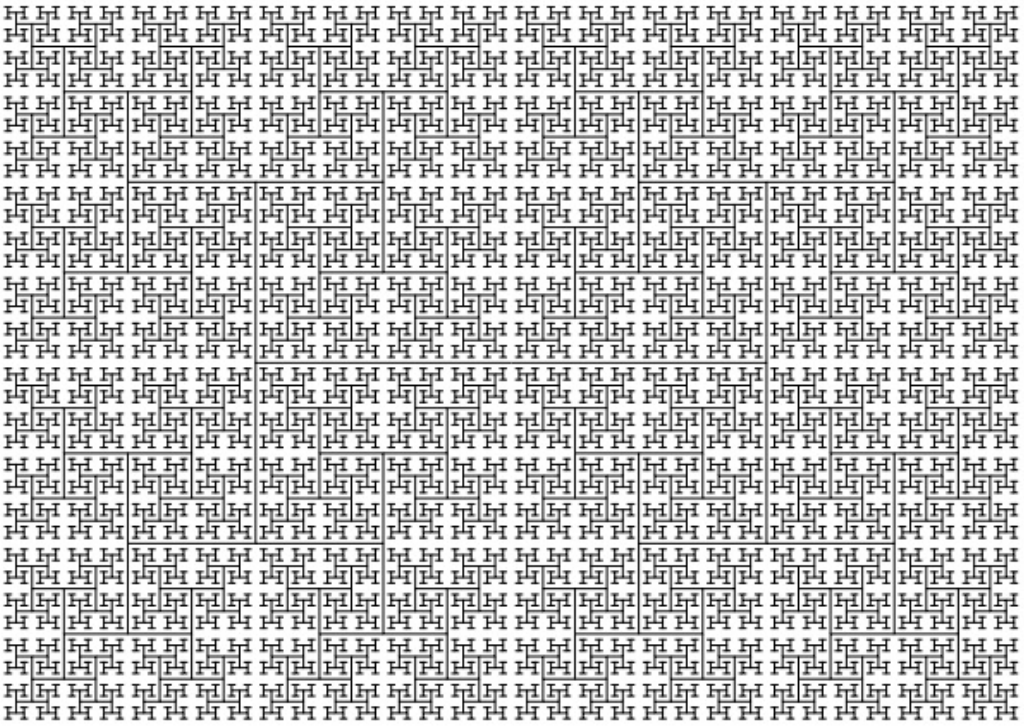
Since with every iteration the perimeter increases, after an infinite number of iterations are perimeter will also be infinite.
However, the area is <u>not</u> infinite. Notice we can draw a circle that competely encapsulates our fractal. So we know are area is finite and is less than the area of the circle. It can be shown that the area is $\frac{8}{5}$ of the area of the original triangle.

Example 3

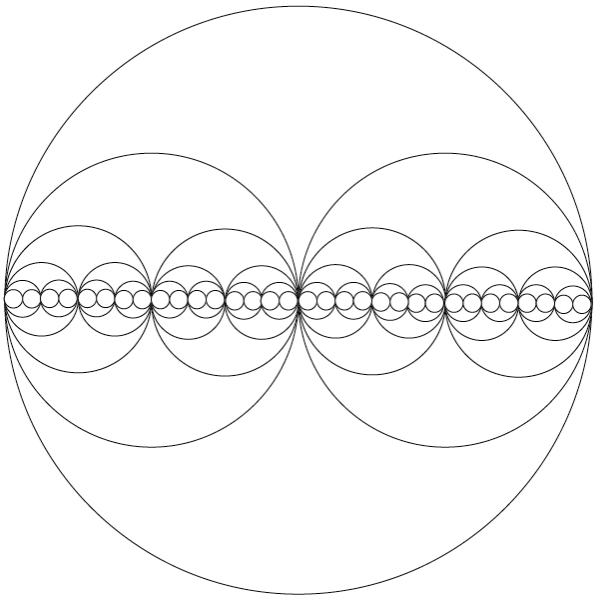


This fractal has an infinite perimeter and an area of 0.

Example 4



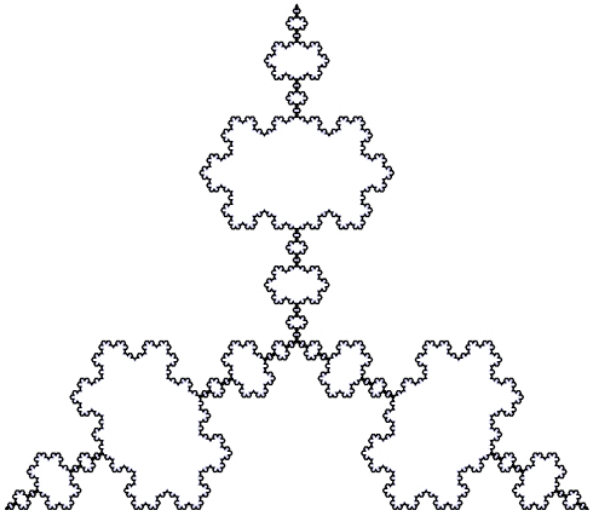
Example 5



Example 6

Exercises

1.



2.

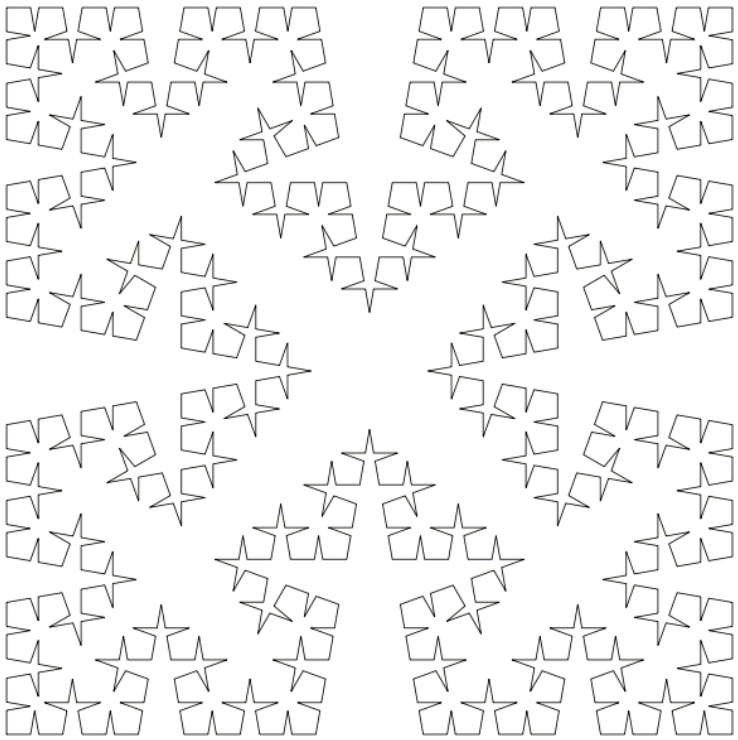
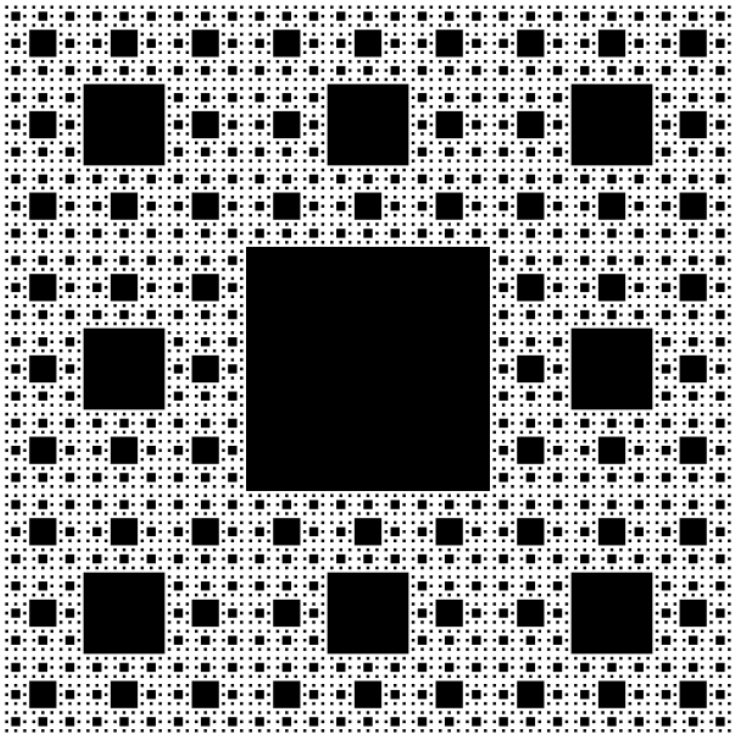


Image: Anthony Hanmer

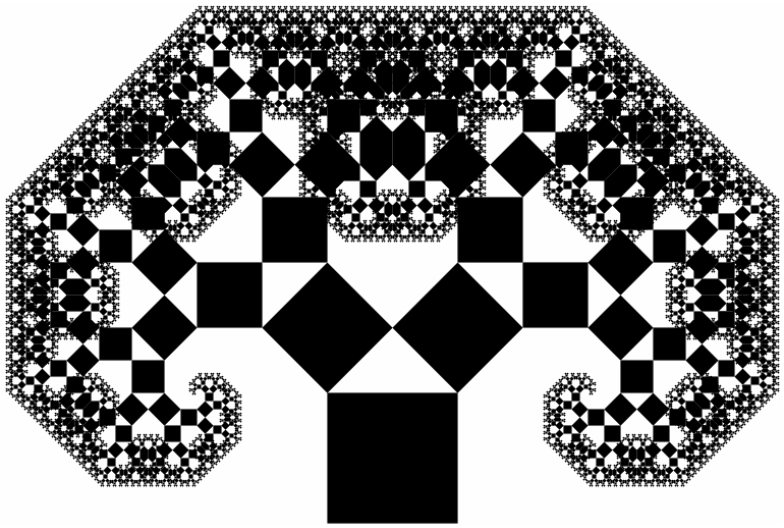
http://ornamentist.org/works/fractal-curves/cesaro-curves/cesaro_ADH155B

October 14^{th}, 2011

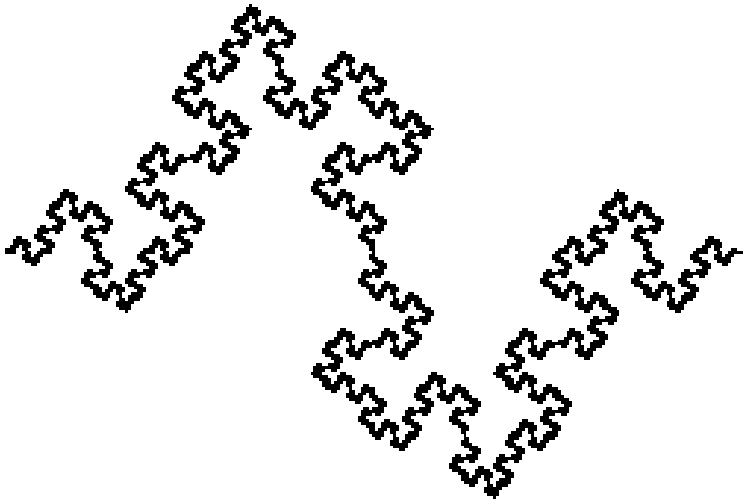
3.



4.



5.



6.