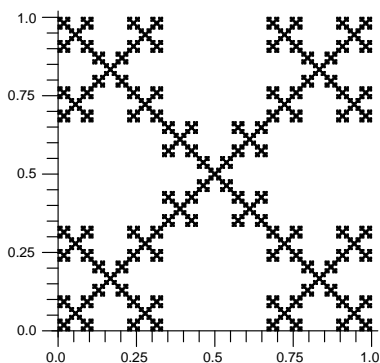
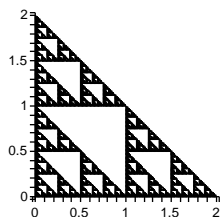


Math 331, Fall 2008, Problems

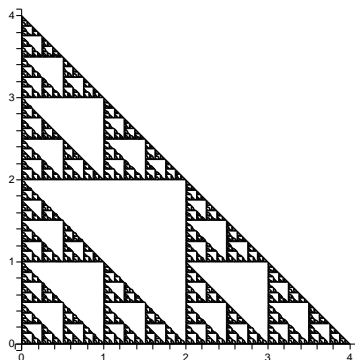
1. Compute IFS parameters and the similarity dimension of the following fractal.



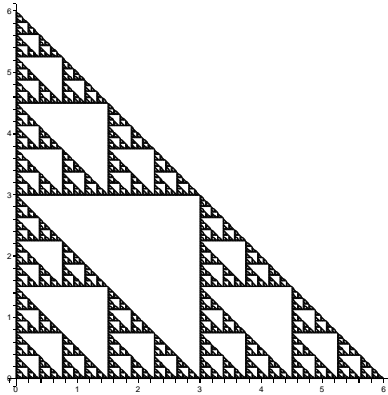
2. (a) Find the IFS parameters to generate attractor of the Picture: a right gasket of side length 2 and compute the similarity dimension.



- (b) Find the IFS parameters to generate attractor of the Picture: a right gasket of side length 4 and compute the similarity dimension.



- (c) Find the IFS parameters to generate attractor of the Picture: a right gasket of side length 6 and compute the similarity dimension.



- (d) Find the IFS parameters to generate a right gasket of side length s (where s is any positive integer) and compute the similarity dimension.
 - (e) Do the e and f parameters (the "translation part" of the parameters of the similarity) have any effect on the dimension of the resulting fractal?
- 3.
- (a) Compute the similarity dimension of the Cantor set formed from the unit interval by removing the middle half of the interval (as opposed to removing the middle third, in the usual construction).
 - (b) Compute the similarity dimension of the Cantor set formed from the unit interval by removing the middle $2/3$ of the interval.
 - (c) Compute the similarity dimension of the Cantor set formed from the unit interval by removing the middle $1/5$ of the interval.