Ninth homework set

Due at the beginning of class on Thursday, Dec 10. No late homework will be accepted.

Fold your homework paper vertically and PRINT your name on the outside.

Here the term Mandelbrot set refers to the Mandelbrot set obtained by iterating $z_{n+1} = z_n^2 + c$.

1. How many 24-cycle discs are attached to a 3-cycle disc attached to the main cardioid of the Mandelbot set? Explain how you arrived at your answer.

2. Suppose A is a 15-cycle disc attached to the main cardioid of the Mandelbrot set, and B is a 31-cycle disc attached to the main cardioid, near to A. All the discs attached between A and B have cycle numbers higher than 31. Find the number of the largest disc between A and B. Explain how you arrived at your answer.

3. Find an image of an interesting part of the Mandelbrot set and either paste the image into your homework paper, of give the url. I'm curious to see if you can find something I haven't seen before.