Project 1: The Mandelbrot Set

Discuss how to define the famous Mandelbrot set. Use *Mathematica* or some other programming environment to make pictures of the set.

Describe some of the main features of the set such as the big cardioid and the smaller disc to the left. How do these regions arise?

What is the relationship between the Mandelbrot set and Julia sets?

What is the importance of external rays in determining the geometry of the set?