Please do this homework on separate paper, not on this handout.

1. For each of the following seeds s,

   (i) Find the first 6 terms of the Mandelbrot sequence with seed s (don't count or include 0). (Recall: The Mandelbrot sequence is just the list of results you get when you've started with a seed. The first element in the sequence **is** the seed.)

   (ii) Plot six points in the orbit of s (that is, convert the numbers in the Mandelbrot sequence for that seed to points, and plot them).

   (iii) Is this Mandelbrot sequence *escaping, periodic,* or *attracted*? (If 6 terms is not enough for you to be able to judge, find more.)

   (iv) Is the seed in the Mandelbrot set?

   (v) Should we color the seed black or not-black?

   (a) $s = (-1, 0)$

   (b) $s = (-2, 0)$

   (c) $s = (-.25, 0)$

   (d) $s = (0, -1)$

   (e) $s = (0, 0.5)$

   (f) $s = (1, 1)$