

# Exploring Chaos"

PG 137 & 138

a particle can settle into three possibilities.

• We call this an attractor.

1. A final resting position

2. A periodic cycle. (ellipse)

3. Move wildly & erratically, but still being bounded in some region of space.

\* Attractors are usually fractals.

\* Chaotic motion can follow simple deterministic laws.

\* Iterate ~~Polynomials~~ Polynomials

example:  $w = z^2 + 1$

where  $z$  is a variable. Once calculated, " $w$ " would become the new value of  $z$ . Then, repeat operation.