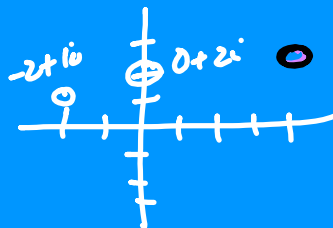


Mandelbrot Set--Choose coordinate for c-value. Always iterate beginning with 0. Change coordinate for c-value each time you want to color a different point.

$$f(x) = x^2 + c \leftarrow$$

$f(c)$



Key Characteristics  
Self-Similar

$$f(x) = x^2 + 4 + 2i$$

$$f(0) = 0^2 + 4 + 2i = 4 + 2i$$

$$f(4+2i) = (4+2i)^2 + 4 + 2i$$

$$= 16 + 16i + \cancel{4i^2} + 4 + 2i$$

$$= 16 + 18i$$

$$f(16+18i) = (16+18i)^2 + 4 + 2i$$

$$= 256 + 256i + \cancel{72i^2} + 4 + 2i$$

$$= 196 + 258i$$

$$\text{Orbit: } 4+2i, 16+18i, 196+258i$$

Calculator:

1)  $x^2 + (1+i) \mid x = 0$

2)  $x^2 + (1+i) \mid x = \text{Ans}$



Fibonacci Sequence

