**Phi, Rational Expressions, and Life**

Phi = Φ = “golden number”

Phi has two unique characteristics:



Phi is based on the golden ratio:

**B** **A**

But what is the value of

Then the equation becomes:

And if we simplify this expression, it becomes:

+ 1 =

Which can be rearranged:

Using the quadratic formula, we find:

Golden ratio = =

**Why do we care?!!!!!**

Phi can be used to compute the nth number in a **Fibonacci series**

So what?

Fibonacci’s sequence:

0, 1, (0 + 1)

0, 1, 1, (1 + 1)

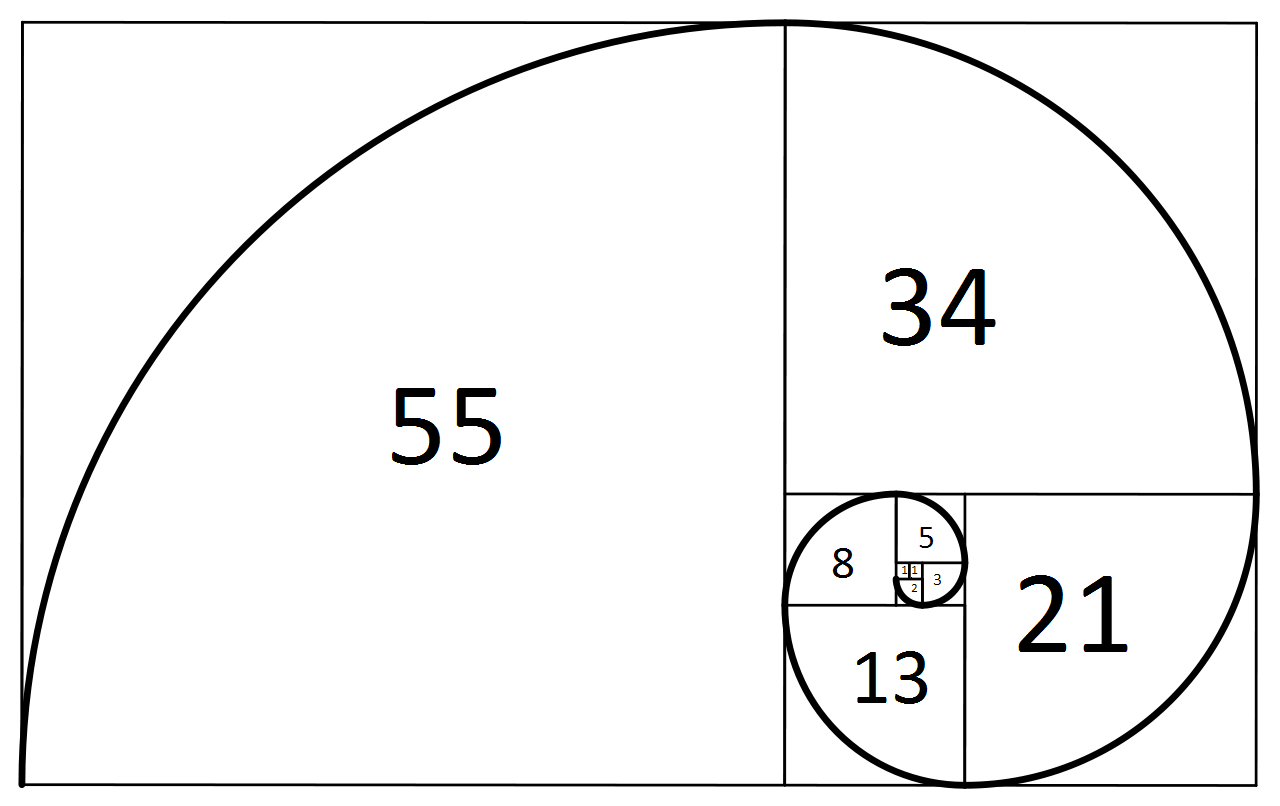
0, 1, 1, 2, (1 + 2)

0, 1, 1, 2, 3, (2 + 3)

…

0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, …

**SO WHAT?**



**SO WHAT?!!!!!**

Let’s watch.

https://www.youtube.com/watch?v=P0tLbl5LrJ8