MATH 42: SUGGESTIONS
WHAT TO DO WHEN YOU DON'T KNOW WHAT TO DO

The process by which "real math" is created goes something like this:

1. Do some calculations. Try a few simple examples, then a few slightly more complicated examples.

2. Notice a pattern and write a precise statement (a conjecture) describing the pattern.

3. Test the conjecture by doing a few more examples.

4. Prove the conjecture (making it a theorem).

In this class, we will focus on steps 1 through 3 (repeating steps 2 and 3 as necessary until our conjectures are correct). While we won't prove everything, we will see some significant proofs.

If you are stuck on a problem, there are a few thing you could try.

- ***Go back to step 1***. Do a simpler example, and you may get some ideas. The value of experimentation cannot be stressed enough.

- Think about whether you have seen a similar problem before. Can old problems be applied in new ways?

- Form study groups. Bounce ideas off each other and see what sticks.

- Come to office hours. Everyone needs a little push in the right direction sometimes.