

Synopsis

BOHAN YAO

Math Lectures Handout

§1 Structure

This class will consist of 8 individual classes that are around 90 minutes each. Before the start of each lecture, I will send a PDF containing the lecture notes for this lecture. The notes are brief sometimes, as most of the information will be covered via the lecture, and not the notes. The notes are just for reference after the class is over.

In the middle of the lecture, we will be going over many examples, which I have personally handpicked from the thousands of problems available, and that, from my experience, have been very instructive. There are sample notes provided so that you can see what the notes look like (the sample notes are also going to be the discussion topic of the first lecture).

At the end of each lecture, there will be a problem set of around 10 problems each, with point values attached to each of them. There will also be a target number of points you want to solve. When you have finished solving the problems, please write up your work and send it to me at solver1104@gmail.com. Also, do not be afraid to ask me for hints! You can ask me if you get stuck on one of the problems for hints. Also, questions about the lecture, or even questions not relating to the lecture may be sent to me via email. I will do my best to respond as quick as I can, which is usually around 2-3 hours, however, note that if you send questions at nighttime or in the early morning, the wait may be longer.

§2 Lessons

The eight lessons are on Coordinate Bash, Similar Triangles, Polynomials, Symmetry, Factors, Modular Arithmetic, Direct Counting, and Bijections. (Not sorted in any way).

As the topics will be elaborated on during each of the lectures, I will not discuss what they mean here. There will also be a final exam at the very end, with fully original problems that I wrote. You do not need to attend all 8 lectures. The final test will be after all the lectures, and may have questions that do not relate to any of these lectures.