

Jerry Liu

Grade 11

Hobbies: Playing basketball, Listening to music, Playing oboe

Clubs: Young People's Symphony Orchestra, Umlaut Foundation, Physics Club, Math Club

Contest/Competition Experience or Honors

- 6-time AIME Qualifier, 2-time USAJMO Qualifier, 1-time USAMO Qualifier, USAMO Honorable Mention (2023), HMMT Individual Round Combinatorics 9th Place (02/2022)
- 3-time USAPhO Qualifier with Camp (2023) and Gold Medal (2022)
- USACO Platinum Qualifier (2021-present), Stanford ProCo 4th Place (03/2022)

Autobiography

My grandmother always told me, "All science is like an enormous tree rooted in mathematics." I inherited my love of math from my grandmother, a high school math teacher who mentored me with the Art of Problem Solving math books since I was young. Through her, I realized that math is not about memorizing formulas but learning how to utilize them to solve real-world problems. Studying theoretical subjects such as multi-variable calculus and linear algebra this past year pushed me to think about their practical applications.

My love of math instigated an exploration into physics from a young age. Physics caught my attention because it is foundationally different from math. I enjoy that while math is rigorously based on theory and proofs, physics is grounded in observation and experimentation. For instance, when I was introduced to electrostatics, the idea of describing how subatomic particles behave seemed daunting. After all, I could not observe such particles with my own eyes. I was astonished to learn that everything we know stems from Coulomb's Law, which is derived through experimentation. I began to wonder: if this law deviated even slightly from how it was observed, wouldn't we have to rethink the entire scope of nature?

I would like to thank Mrs. Barnett Dreyfuss, my AP Physics teacher at Amador Valley High School. You are a fantastic teacher with interesting experiments in the classroom, and you have kept me passionate about pursuing physics. I would also like to thank Dr. Tang, who has taught me almost everything I know about olympiad physics. Finally, I would like to thank Kevin Zhou for your in-depth physics handouts and always answering my questions.