Alexander Li

Senior

Hobbies

Dodgeball, going to the gym, problem-writing, integration bees, cello, running, POGO

Clubs

FLSAM, Mu Alpha Theta, SNHS, Orchestra, Swim team

Experience

US Physics Team (2022-2024); USAPhO+ (2021); NAC top 6 (2023); USAMO (2022-2024); RSI (2023)

Bio

Staring at the rough sketch on my scratch paper, I think about the phenomena at play in the problem. Guesses at the possible explanation are conjured, then thrown away, until I arrive at what I hoped to be the best possible solution. As I move my pen to the answer sheet, I realized I had to calm my nerves, lest the slight trembling make my writing illegible. Then, I write… lines and lines of sentences and equations, sometimes wondering whether I have been too wordy or not wordy enough. At the end of the exam, time is called and I sink back into my mind to continue pondering.

Competitions have been a large part of my life during high school. As a soon-to-be college student, I wonder where I would have been without competitions. Physics competitions in particular have introduced me especially to the nuances and non-intuitive facts that are inherent in certain situations, and many of the things I have learned by solving problems are difficult to find elsewhere. When I take the exams, the time pressure also gives me the boost of adrenaline needed to quickly decide what approach to take.

However, more than just that, I've learned to think physically. It's not too rare that a problem pops up where I have no background understanding beyond the basics required. While scary, I think this is where creative thinking can truly be realized during the competition. New approaches have to made up on the spot, and all the information in the problem has to be carefully considered to find the valid solution. It is especially exhilarating when I find the answer with the correct set of variables (2024 A3(d) :P). Questions that I often ponder about for the more complicated problems usually sound like this: What is causing this to happen? Are there more forces/fields at play? What physical model is relevant in this problem? Is this piece of information even necessary? Determining the physical or mathematical model is usually the best question to answer, since that allows for the use of previous knowledge, but remembering to include all the forces/fields is probably also useful.

When I began competition math many years ago, I did not envision myself studying physics for competitions. I have since found an appreciation for the reality and grass-touching experience that physics gives, and the math behind the derivations of physical truths is appealing to me.

I would like to thank my teachers, my parents, and my friends for all the support along the way. Looking forward to meeting my fellow team members at camp!