

I love puzzles. The unique unforgettable exhilaration as all the pieces fall in place, the quiet sense of accomplishment and wonder as I gaze at the finished masterpiece: I really love puzzles. So naturally, I found myself completely at home in the quiet, yet endlessly intriguing, brimming with strange and wonderful ideas, world of mathematics.

My first real taste of mathematics occurred in my high school years when I stumbled upon an exercise book one of my seniors had left in his previous classroom. In it I found elegantly drawn diagrams of assortments of lines and shapes covered in markings that at the time made no sense to me, but soon would become the very language I spoke. Euclidean geometry became an obsession of mine, the idea that we could start from such intuitive and simple postulates such as 'through any two points, exactly one line can be drawn' to reach complex conclusions and results through a series of logical steps, fascinated me to no end. I would labor away endlessly in my spare time on any geometry questions that took my fancy. Quite often I served as a mentor to my peers for the more challenging problems doing my best to make sure that the conclusions and steps they made were their own so that we would be able to share in the collective universal satisfaction of solving a problem.

My interest in problem solving would also come to shape the kinds of activities I would partake in outside of my studies. Future Problem Solving and da Vinci Decathlon were two such activities where, as team, we would complete a series of tasks in a competition against teams from across the country. We had achieved success both nationally and internationally. Working as a team was an enjoyable experience, in which we learned how team dynamics worked and how our strengths complemented and synergized so fluidly.

My dominant activity during these years and the one that has had the greatest impact on my life is chess. I started around the age of 9 and was immediately drawn into the world of the game. I read anything I could get my hands on about the game and quickly started playing in tournaments. Chess, to me, was like a sequence of problems where every position had a multitude of solutions with only one being the optimal one. Whenever I made a move whether it be a stroke of genius or an obvious mistake I felt a rush of exhilaration. My efforts culminated in a national third place finish for my age. In my final year of high school, after furious competitions for 6 months, my school chess team was crowned 2015 National High School Chess Champions with me as the captain and board one player.

Based on my achievements in various national mathematics competitions, I was selected to attend the National Mathematics Summer School in Tsinghua University. The higher levels of mathematics such as projective geometry and topology seriously challenged me. One of the lectures that interested me the most and ultimately became the inspiration for my determination to study mathematics in university was Number Theory. It featured the same ideas of problem solving that I had become accustomed to but the application and concepts surrounding it, were on a whole new level. The problem sheets after each lecture, the tutoring system, being able to discuss these problems and interact with like-minded people is exactly what I long for in university study.

Mathematics is not a simple puzzle after all. I have come to understand that the principle of proof and argument is methodical yet profound. Its application in nature and society is wide and

ubiquitous. I look forward to delving deeper into the world of mathematics with passion and fervor, and maybe someday, making my own contribution to this wonderful world.

