Who are you and what are you most curious about?

This semester, several of my interests came together, and I grew as an individual and as a student. Most of the growth was evident in the field in which I desire to make a career out of in the future –a mathematician. I enrolled in two of my most challenging classes as an undergraduate, Real Analysis and Topology. These two classes combined most of my other math classes I have taken in the past and explained why certain mathematical facts exist. Furthermore, I gained several skills that have developed my way of thinking. In addition, I became a Math Lab tutor, which helped me refresh older calculus skills and train other students. Furthermore, I helped set up meetings as the Vice-President of MAA, presented my research at a MAA (Mathematical Association of America) meeting at TU and as a high school outreach at Union High School. For next semester, I am eligible to take graduate level mathematics classes and this semester, I was accepted to the graduate school at the University of Tulsa to help me pursue a combined Bachelor's/ Master's program in Mathematics. My curiosity in learning more about mathematics grew as I started watching Numberphile videos, continued my individual research in Number Theory, and explored other subfields of mathematics. Specifically, I became interested in complex analysis, the Riemann Zeta Function, and the relationship between squares and primes. Next semester, I am looking forward to help design a math competition for high school students. All in all, I was the most curious of the different aspects of mathematics, and it was a huge learning curve for me.

In addition to mathematics, my other skills grew as well. In Honors—History and Philosophy of Science, my curiosity about the lives of mathematicians and scientists grew. I did not know what to expect from this class, especially since I was unfamiliar with the "Philosophy of Science." The breadth of my reading increased, and I started to think about the questions discussed in class. In addition, I became a better programmer and started to finally enjoy the idea of computer science. Until now, programming did not come naturally to me, but I am enjoying it a lot more and beginning to notice patterns between my math classes and theoretical computer science. Lastly, I spent more time practicing violin and performed for a quartet as a soloist for the first time in two years. Apart from education, Circle K, a community service club under the affiliation of Kiwanis, became stabilized. As its president, last year consisted of chartering the club, while this semester, the club stabilized. We have about 45 paid members, and served at over seven service projects throughout the semester partnering with the Kiwanis Club of Tulsa, Asbury Church, and Restore Hope Ministries. All in all, finally the results for the work put in earlier this year began to show.

Overall, my curiosity grew in several fields this semester. At the end of last semester, I wanted to write an essay about the education system and its current state. Although I have not officially begun writing it, I have started some outlines and daily thoughts. This will be my personal project that I have set for myself over the next few months and beyond. Apart from honors, my curiosity in this topic developed through my own experiences in school and by participating in the Oklahoma Policy Institute this summer.

Some of the questions that emerged this semester consisted of combining all my interests. For example, what is the relationship between number theory and quadratic hashing in data structures? What are some connections between music theory and mathematics? Specifically, I am getting interested in the field of topology that deals with the study of continuous spaces and geometrical shapes. How does abstract algebra, topology, number theory, and complex analysis all connect? I have researched in number theory and if this research can be applied to other fields of mathematics, and possibly computer science, then that would be the goal. As a whole, this semester was a positive one since I improved in several fields as a student and hope to continue this progress.