

Question 1. What effect, if any, do you feel the puzzles we did in the beginning of classes had on your level of participation and enthusiasm in the classes?

- Often, my classmates would approach the puzzles in different ways and come up with their own unique ideas for solving the puzzle. I got the sense that my ideas were valuable and that made me more comfortable to speak in class. The puzzles were always fun, so they got rid of that air of stiffness that math classes traditionally seem to me to have.
- I looked forward to doing the puzzles at the beginning of class. I think they served an important role of giving me confidence in math before proceeding with the calculus. They were also fun!
- I think the puzzles were a great tool for encouraging participation and enthusiasm. Not only did I enjoy participating in them, I saw a lot of the quieter/more hesitant students speak up and participate as well. I think engaging in puzzles, which are enjoyable and also a little bit easier than the course material, is a good confidence booster for students who may not be used to contributing or students who are afraid of getting a wrong answer, because there's less pressure in general. I liked how you would encourage students who hadn't contributed yet to speak up, too. Also, though you probably won't want to include this in your talk, for me personally they were really great because I am a chronically late individual, and having a fun puzzle thing at the beginning of class made me stress out WAY less about being a few minutes late and potentially missing important material or disrupting lecture.
- Puzzles we did in the beginning indeed aroused my interest. Though in the first few classes we did world puzzle which seemed to have nothing to do with mathematics, they actually caught my attention. It seemed that doing puzzles is one of the most effective and easy way to keep students focus.
- It piqued my interest and it was fun to participate with the rest of class.
- I loved the puzzles! They helped me "warm up" and prepare for higher-level mathematics. They also made the class itself full of excitement and fun. Because of the puzzles, I was more focused during class and more enthusiastic about mathematics.
- I loved the puzzles! It was a long lecture and I don't know that I would have been able to focus through the entire thing if we didn't first start with the puzzles which always caught my attention at the beginning of class so that I focused more through out. I definitely miss them in my math class now.
- I think the puzzles were a great warm up to get in the mind set of thinking about different ways to approach the goal of the puzzle and I think it is a great seg-way from whatever you were doing before class to critically thinking about the different aspects of a puzzle. I think they were exciting in trying to figure out the next step as fast as you could, which was really fun! The puzzles were definitely a good warm-up to get focused on solving problems in a fun, different way.

Question 2. What effect, if any, did the puzzles have on your view of math?

- I think the puzzles were meant to remind us that math is more than equations and formulas. I learned that math is like a puzzle, and you can approach math problems with a puzzle frame of mind. Like, how do you find the area under a graph? Well if you draw more and more little rectangles under the graph, you get a closer answer because the rectangles are filling up more and more space.
- The puzzles made math feel less serious but in a good way. For me they broadened the scope of what math is. Which is the same effect the final projects had also.
- That said, I don't think I really connected the puzzles so much with "math," though they were obviously math based. Very useful for logic and problem-solving, which I appreciated, but the puzzles were not the thing in the course that made me go "whoa, math is so cool!"
- The puzzles made the classes quite different from those in China. As a Chinese student, I find that what a Chinese teacher do is taught all the key points directly to the students and then require them to finish diverse questions. In comparison, puzzles we did later tended to require us to do more thinking. Though the puzzles were somehow challenging, we can finally find a general formula or rule on our own instead of having the teacher directly tell us.
- I didn't know that math could be something practical and fun. I always associated it with serious work, and the fact that it could be used in something as entertaining as puzzles was quite refreshing.
- I appreciated the beauty of math in a new way, and I got to get a taste of number theory. I was quite blown away by how pretty and ordered and pure math can be. In high school, I was asked to memorize a lot of things in math class, and did not like doing that without really knowing what's going on. I felt like I got a glimpse of what math could really be like. I was shocked by how smart mathematicians are, and the fact that I could understand some of the complicated theory increased my confidence.
- The puzzles encouraged me to actively engage myself in the process of problem solving. They also taught me that mathematics is an art, not repetitions of the same process over and over again.
- I found the puzzles to be both challenging and fun. Because they were somewhat math based, it did show me that sometimes math can be more interesting. Sometimes it can seem to be a dry subject so adding in that aspect helped to pique my interest. This leads into question 3.
- I think the puzzles really helped me see how to approach a problem that I may not have fully understood, but had the tools to solve, which is also a good way to approach math problems.

Question 3. What effect, if any, did the final project have on your view of math?

- The final project wasn't some really long math problem. It was more of a test of how well we could apply mathematical thinking, or I guess puzzle thinking, in some solid problems. It was more challenging that way, and I think it gave me a little taste of the kind of thinking that real mathematicians use daily.
- As I mentioned in answer 2 the final projects broadened the scope of what math can be. I really liked being able to choose a project that explored math in a visual way.
- The final project, however, DID make me really enthusiastic about math, and made me appreciate it more as a field in all its abstract and artistic beauty. Because it's so intangible, math can be incredibly difficult to conceptualize and understand, but delving into a project on a specific topic helped to make it seem a little more "real," I guess, real and useful and applicable and it made me excited to learn more about my topic. I think the fact that you provided example topics was also great, because a lot of people who study at the Calculus II level are freshmen and sophomores who may not have much experience choosing topics for research papers, and mathematics can be a difficult field to start exploring without it getting really complicated, really quickly.
- As an Chinese student, I actually was a little bit nervous at first because of my poor English spoken and I had never done this before. However, this project not only strengthened my confidence, but also provided me with a chance to spread the great achievements made by ancient Chinese to foreign friends.
- The final project was my first time doing a research paper. The presentation allowed me to practice my public speaking skills. It gave me an opportunity to investigate interesting topics and write about them. Overall, the final project broadened my view of math and taught me how to think like a mathematician.
- Although this did not pique my interest as much as the problems, it was helpful to get an idea of math applications outside of math class and to see when one might actually use calculus in the real world because sometimes it seems no one ever does. It did help me to realize that there was more of purpose to all of the math classes I was taking than I had previously thought!
- The final project was so so great! I did my project on the concept and idea of infinity and I honestly had never considered math in a way outside of problems, equations or graphs. However, the project provided a chance for me to do research and delve further into an interesting and different perspective on math than I had ever really considered. I think that doing a final project in a calculus II class allowed everyone in the class to look into topics of interest that may not otherwise be addressed except for in much higher level theory or conceptual math classes. The final project was a very very cool component of the class.