

Mathematics Tutoring

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Introduction:

I was a mathematics tutor through the math department at the University of Maryland. I tutored at Kirwan Hall, 4176 Campus Dr, College Park, MD. I tutored several subjects including multi-variable calculus, linear algebra, and calculus 1 and 2.

I have tutored previously, and always enjoyed helping others with math.

Types of Problems:

Because students had varying backgrounds and skill levels, I helped with several different fields of math. Two questions I was asked were: **Question 1:**

"Why is $\sqrt{2} \times \sqrt{2} = 2?"$

Question 2:

"How do you calculate the projection of the vector a onto the vector b?"



A Tip for Learning Math

Most questions I was asked were topics covered in previous classes. Even if you pass a class, you may not understand the material well enough to continue to the next class. If you don't understand the material, you should practice prior to continuing to the next class, or even retake a class you already passed.

I see math as the key to success in several subjects.



The first requires students to understand what a mathematical definition really is.

The second, several students expected a memorized formula. Instead, I would insist on showing them how to solve it from scratch.

Math Education:

Tutoring so many students helped me notice some anecdotal patterns worth sharing.

Easily the most common problem people had was simply being bad at algebra, regardless of their math level. Algebra is important for all other fields of math. A thorough understanding of algebra allows students to manipulate equations into several different forms which can make a question easier to solve. After seeing so many high-level students struggle with algebra, it makes me think there is a problem with how it is taught and how students progress in math classes in general. In my experience, the difference between a "good" math student and a "bad" math student can easily come down to algebra. If you struggle with math, I suggest brushing up on your algebra skills.

My Future:

I want to continue tutoring for the remainder of college. I am a math major on track for graduate school and teaching may be a big part of my future. I think tutoring is one of the best ways for me to practice teaching prior to graduate school. I know of professors who are unhelpful when you ask them questions. I hope tutoring will give me the practice so I can genuinely help others in the future.

Things to Know about Math:

I think students in a variety of majors would benefit from taking more math classes. If your major is even remotely related to math, employers and graduate schools will be impressed if you take additional classes. Even if taking a math class is painful for you, I do not think you will regret it in the future. I also think people should know; math is not magic. Every part of math can be explained, it just takes a lot of time to understand. If you are interested in math in general, I highly suggest taking a introductory proofs course.

One of the calculus students I tutored regularly.

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