



Dear MOMATYC friends,

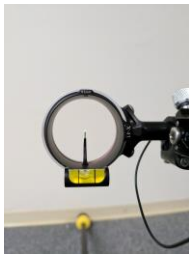
It has only been month since the last newsletter, although it feels like much longer. This past month is always demanding for anyone in higher education, especially faculty. The end of the semester seems to sneak up on students every single semester, almost like they didn't know it was coming. They start scrambling around to try and get any unfinished assignments done (if they can still receive credit for it) and begging for leniency. I'd like to think I have a big heart when it comes to my students, but this time of the semester I always start to see the bottom of that barrel. Hang on friends, next month I hope to be writing this newsletter when we are all in a much better place.



The MOMATYC board will be meeting towards the end of this month down at OTC-Table Rock Lake to start planning for the conference next spring (April 5-7th). A friendly reminder, the conference is only eleven months away! We have the conference evaluation forms from last year and we will be reviewing those as we make plans for the next conference. If you didn't get your evaluations in and have valuable feedback, please send it my way.

A colleague and friend of mine, Seth Daugherty, recently wrote about how to incorporate math into everyday life and activities. You can read about how he incorporated calculus into decorating his Christmas tree [here!](#) His story inspired me to write about how I have used math in one of my hobbies.

The picture at the top of the newsletter is from a recent archery tournament that I attended in Foley, AL. This is a panoramic view of the practice range. I shoot in a compound bow class. In this class, you can use sights to shoot at known distances out to a specified maximum distance depending on the class. On my setup, the sight is moveable.



There is only one pin used for sighting that can be moved depending on the distance that must be shot. It would seem like a fairly time consuming task to mark your distances on a sight tape for every single yardage from 15 yards out to 40 yards. I used math to help me figure this problem out. On my sight bar, there is a printed scale. I decided to use this scale and a little bit of regression to get all the yardages I would need. I shot from known distances and found out that at 20 yards, the sight was reading 23, at 30 yards it was reading 27.3, at 40 yards it was reading 32.7, at 50 yards it was reading 40.65, and at 60 yards it was reading 47. My sight has knobs on the top

and bottom and there are 20 clicks between each number marking on the line. To get 40.65 on the sight, I go to the number 40 and then click 13 times. I used these data points in my graphing calculator to obtain my regression. I tried both exponential and quadratic and found quadratic to be the most accurate. I then used a spreadsheet to generate all the yardages from 15 out to 60 yards. I printed out a section of my spreadsheet and laminated it. I have a backup on my phone just in case! Other archers use a variety of apps and pre-made sight tapes to get dialed in. Whenever I pull out my cheat sheet everyone asks where I got it. When I start explaining to them how I created it they usually cut me off and ask if I am one of those "math nerds." Yes, I can live with that.



If you have a "How I use Math" story to share, please send it to me jboehm17@stlcc.edu. Until next month....