Name: _____Luke Konjoyan_____

MBHS Engineering 3
Instructables Technical Writing Project
Testing/Analysis Form

1. How was the functionality of your project tested?
   I put the boards in my bag to see if they would fit. I also tested to see both if the boards and supports would fit my weight, and also to see how well the supports would move within the boards, and if they would be able to turn and flatten.

2. What measurements were taken to evaluate your design? Please include them here.

   I measured the length and width that the foam roller was going to be to ensure it would fit in my bag. I measured every angle of the decagon supports, as well as their width to make sure it would fit without gaps in all of the boards. I measured the thickness of the supports to make sure it would hold my weight, but also be able to move smoothly in the roller. I also measured all of the boards to make sure that they are uniform.

3. How would you improve this project if you started again?

I would definitely use the CNC router to make all of my wood pieces because it was extremely hard to get all of the parts to be exactly the same, and the exact right measurements. They needed to be very exact to work fully, and some of them were slightly off.

4. What is the most important thing you would share with someone else trying to replicate your project?

Use the CNC router, and to just start the project without fear of messing up, or planning everything out exactly, because I learned that it is really hard to theoretically build the whole thing and make all of the measurements, but once you actually start making it you can see how everything fits together and what to fix.

5. Were the materials you selected correct for your project?

   Yes, the materials worked very well for my project. I thought about making the supports out of plastic, but they would be way too frail, and break under body weight. If I had more time and engineering experience, I think metal would work very well, but it would take a long time and be hard to do.

6. How would you refine your design if you were to manufacture multiple/scale up production?

   I would create an exact model I wanted to use, and make sure all of the parts fit perfectly. I would cut all of the pieces that I could out on the CNC router to ensure precision in all of the pieces. I might try other materials that aren't wood, like metal or a sturdy plastic. I would also change the cushioning to be a better material than just styrofoam, and I would implement a design, like bumps and curves to better stretch the back and dig into muscles.

7. What did you learn from this project?

I learned that the most important part of creating a project is to just start doing it. It is always possible to keep planning, measuring, sketching, etc., but you can only truly find flaws and see how everything turns out by making it. I will mess up, and that is just part of the process, but it allows for a better final result.