Weekly reports are to be emailed to atbecker@uh.edu by 5:00pm on Tuesdays. The purpose of a weekly report is to: (1) give you text and images for your papers, thesis, and dissertation, (2) document progress, (3) identify if you are stuck or need resources.

Weekly report

1. **My *Goals* from last week**
   * To continue investigating the relation between a, s, n, r and PE
   * To work on 4 spheres gauss gun proof
   * To form my Master thesis committee
   * To write my Master Thesis proposal
2. **My *Accomplishments* this week**
   * I submitted my Master thesis committee
   * I investigated the plot Vs. r1, r2, r3 and r4 for 4 spheres case and I got unexpected results. I will investigate the plots more and will provide the plots by Wednesday.
   * I found the maximum r1 using the first derivative and then equalize it to zero using the following equation: and I got the following result:

the zeros for the above equation occurs when r = 0.25 and r = 0.32389 if L = 1 using calculator, also we can use the following way to solve 4th degree equation as the following link: (I need to investigate more by Wednesday)

<https://math.stackexchange.com/questions/785/is-there-a-general-formula-for-solving-4th-degree-equations-quartic>

* + I did Potential Energy V2:

<https://github.com/mmsultan17/Robotics-Lab/blob/master/Potential%20Energy%20comparison_V2.docx>

1. ***Goals* for next week**
   * Improve my writing skills
   * To continue investigating the relation between a, s, n, r and PE
   * Meet with Jarrett and Javier to discuss my new Mathematical results
   * To send my Master Thesis proposal to the committee
2. **What I need Dr. Becker to do:**
   1. To provide me by his feedback on the writing part.
   2. To submit the recommendation letter