

Test # 3 Reflection

- 1.) This test demonstrates the ability to solve multi-dimensional heat conduction problems while having to use my skills to apply theoretical principles and known equations to solve my answers. The ability to solve for an unknown dimension using the given variables and applying theory for my hand calculations for problem one showcases an understanding of multi-dimensional analysis for heat conduction problems. I had to apply these same equations and variables to solve the problem in COMSOL and be able to sift through the results from the software and organize a complete report of my findings based on the rubric.
- 2.) I structured my solution exactly to the rubric and although my answers were not exact, I was very close with my own results compared to the solution.
 - I did not apply the exact $(T-T_{inf})/(T_i-T_{inf})$ equation
 - I solved for D once I found Bi and didn't include the linear table for calculations.
 - My temperatures were very close but not exact.
 - My lap report was done using 2-D.
 - I didn't adjust 'h'
 - My temperatures were not exact, but my error was lower compared to my calculations.
 - I tried to go through the lecture material and solved using the method I could apply but it seems I didn't stick to the same process that was provided in the solution. I should have been more thorough if possible. My COMSOL report was difficult for me as well and I didn't do things that were required per the solution. I tried to look at my report from HW, but they were not exact to what the solution was, and it was difficult to pinpoint where I am missing steps.
- 3.) Based on my evaluation I think I should get a 70.2 out of 90.
- 4.)
 - a. I had a hard time applying the correct method used for the completion of the problem along with the COMSOL report. I should have taken more time to try and think through the examples done and see how they applied to my test.
 - b. I spent a lot of time reviewing the lecture material. I also looked at the examples and HW to try and confirm my process for problem solving made sense.
 - c. Analyzing temperature variants over time and analyzing the Boit number, Fourier number and using it to solve my problem.
 - d. This is used heavily in the HVAC industry including having to do calculations to ensure startup and shut down conditions over time condition.
 - e. I could possibly use this at my current job since I work in HVAC.
 - f. This can be important to me if I ever must do concept design for new chillers.
 - g. If I am tasked with either trouble shoot an issue for a load analysis situation.

