Ben Smithson Fluid Mechanics Test 3 reflection

1. Overall, the test went alright but I did mess up on the process in some cases. I was able to get the correct equations used with a little bit of differences so my final results were off by a decent amount. Also, I did the excel in the correct format and used iterations. I would have gone back and checked my equations thoroughly to get better results for next time.

2. Self Grading question 2

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| 1. | Reasonable assumptions (reductions, valve, tubing diam, lengths) | 1/10 out of 1/10 |
| 2. | Apply Bernoulli twice or get 2 equations from Bernoulli | 1/10 out of 1/10 |
| 3. | Consider ALL minor losses? Handled them correctly? | 1.5/10 out of 2/10 |
| 4. | Handled correctly the pipe losses? | 0.5/10 out of 1/10 |
| 5. | Obtained 3 equations with 3 unknowns? | 1/10 out of 1/10 |
| 6. | Solved system of equations correctly (Excel?)? | 2/10 out of 3/10 |
| 7. | Final results | 0.5/10 out of 1/10 |
| **TOTAL** | | **7.5/10 out of 10/10** |

FINAL GRADE:

**(90)*(7.5/10) = 67.5**

8. If I was able to go back in time and take the test again, I would tell myself to GO OVER THE EXAMPLES! This would have helped me with getting the correct equations as well as getting the correct final answer.

9. I have learned how important excel is as a calculator as well as how important it is to go over class examples. This would have improved my score and overall understanding for what was being asked of me on the test.

10. A. I had issues in the calculations part with finding minor losses and my equation was a little different then the professors. This made my outcomes come with a different result.
    B. First I was able to complete the pretest for the fluids test. Then I went through the process for setting up the iteration process starting with the points needed in the diagram. I found bernoulis for the first pipe and the pressure using the equation. Next I was able to work towards finding the new flow rate through the new system using two equations and setting them equal to the flow rate. Finally I used excel to find iterations of flow rates and friction forces.
    C. I have learned all new concepts in the test. I did not know how to iterate until now and I also learned about different ways to manipulate bernoulis equation.
    D. I believe engineers will use the test question for pressure losses as well as for calculating the necessary flow rates for a parallel system.
    E. I believe I will be using these equations and systems in engineering if I ever work with companies that need to calculate pressures and flow rates as well as the iteration process for different problems.
    F. I believe this question was important for the professional career of engineers and it was an interesting question overall. If it wasn't in a test format it probably would have been more enjoyable but it was interesting and I'm sure some of us will see something similar in our engineering career in a parallel pipe system.
    G. I will use this information in my engineering career but understanding the basic concepts of energy loss and flow rate have already been incorporated in my life because I understand in a parallel system for plumbing there will be different flow rates and energy losses associated with the system.
    H. I have been able to apply some of the concepts in this course to the thermal applications course. Now they are not exactly the same but both classes are dealing with pressure in a machine all of the time.
    I. I feel most improved in calculating the iterations. With the homework we had i was struggling to calculate them but with the test i was able to figure most of the iterations out.
    J. As stated before these concepts will most likely show up in the engineering field depending on where we end up working.
    K. I spent a total of around 7 hours working on this test including the pretest before and the main part after.