Kayla Davies - Fluid Mechanics Test Reflection

PROBLEM 2:

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?	2/10 out of 2/10
4.	Handled correctly the pipe losses?	1/10 out of 1/10
5.	Obtained 3 equations with 3 unknowns?	0.75/10 out of 1/10
6.	Solved system of equations correctly (Excel)?	0/10 out of 3/10
7.	Final results	0.5/10 out of 1/10
TOTAL		10/10 out of 10/10

FINAL GRADE:

(90)*(6.25/10) =56.25

1) The objectives used in this exam were; explain the fluid dynamics in pipes and fittings, apply the principles of conservation of energy (Bernoulli's equation) and mass to fluid flow systems, and compute friction losses in pipes for a variety of configurations (series, parallel, network, etc.). Bernoullis was used in both parts of question two as well as question one, and finding the energy losses were the main part of question two.

2) My test is similar to the solution, but I solved things a different way, and also solved for Q. I used the wrong D, which threw off my Reynolds number, throwing off the friction factor. When solving the equations, instead of solving for Hl, I solved for Q. Next time I need to give myself more time to go over the practice problems and see if they are similar to the test.

3) I graded myself a 56.25 due to me not finishing the excel, and using bernoulli's correctly as well as the correct losses equations. My strengths of this test were the pipe losses equations and the assumptions, and my weakness was not having the excel, which caused me to lose several points.

4) Discuss the following:

a. I ran into the issue of the excel taking a lot longer than expected, I tried to use the excel from the modules provided but it didn't help much.

b. This time, the writing portion was not necessary, so I didn't include it. I would change this to always writing out the concepts so that I can solve the problems easier.

c. I learned how to compute energy losses in pipes with branches, expansions, and reductions.

d. Engineers use these concepts when designing pump systems in power plants, oil mining, etc.

e. I can use fluid mechanics in many industries to design and create water supply systems, dams and bridges.

f. Yes, I think that what I learn is important for my professional career.

g. I can use this information when looking at future engineering projects as well as future tests.

h. I haven't been able to apply these concepts at work, but I have been able to use them in my fluids lab.

i.I improved the most at solving the equations and providing all of the work, a lot of the time I skip steps to complete the test faster.

j. I can see it having a bigger impact than most of my other courses.

k. I spent a good amount of time on it, of course I could have started earlier than I did to figure out how to do the excel portion.