For every test you archived in your ePortfolio Google drive, you should have a reflection that briefly discusses:

1) How and why the test demonstrates your work toward one, or more, of the course learning objectives. Be specific on the course objectives you decide to mention.

This test demonstrates multiple objectives, including fluid properties, computing pressure, fluid dynamics in pipes and fittings, Bernoulli's equation, and friction losses. The test had an elevated tank with a gate valve to release a fluid into a tanker truck. I had to determine the "h" value based on the flow rate, the gate valve being ½ open, determine whether friction losses were negligible, and design a U-tube Manometer located at the same height as the discharge opening of the tank. I also had to determine the diameter of the tank based on the volume and the height.

2) How your test compares against the available solution. State the mistakes you made and what you will do next time to avoid making same mistakes. Please point out exactly where you made the mistake, say why you made the mistake, and how you should have done it. If you were taking this test again, what advice would you give yourself to ensure that you had a successful test?

The solution shows a lot more detail than what I had on my test. I think I fell in-line with a lot of what was on the solutions. Mistakes I made, were the following: writing a better purpose with more of the detail provided from the test, I forgot to label "h" on my drawing/diagram, some of my calculations did not have the same rounding as the solutions, I'm not sure if I did the U-tube Manometer right or not – the solution shows a lot more detail and I went on the information from the email from the pre-test for simply gamma\*h. It also looks like I did not do the 2<sup>nd</sup> part right compared to the solutions, I just had a basic simple calcs spreadsheet. If I were taking the test again the advice, I would give myself is pay attention to the details and provide as much details as possible. The 2<sup>nd</sup> part of the test I think a template should have been provided. There was a lot of detail I would not have know to put in it.

3) What your grade should be. Base it on the writing rubric provided in the test and the correctness of your solution. What are the strengths and weaknesses of your test?

I am embarrassed to even write what grade I would give myself. My strengths would be visualizing the system and understanding systems. I think this comes with experience and time. My weaknesses would be setting up the problem and putting it down on paper correctly, as well as portraying all the details needed, and getting in a hurry. I always tell myself to slow down but apparently not in this case.

4) Discuss the following:

a. What issues did you encounter in completing the test? How did you troubleshoot them?

I looked at this as if I really had to take over someone else's design, I typically would have rather start over from scratch. I this case like the problem statement mentioned "You are hired to complete the design..." Trying to dissect the problem and carve out the details is not a strong suit for me.

b. What steps did you take to complete the whole test? Would you change something?

### I tried to make sure I answered all the questions. In the pre-test, I would have tried to stress more on the 2<sup>nd</sup> part with the spreadsheet.

c. What new concepts have you learned?

How to calculate pipe losses in a real scenario and know whether or not if it is negligible.

d. Where you think engineers use those concepts (provide specific examples)?

They probably use this at oil fields, concrete plants, large farm for tractor sprayers...

e. Where do you think you will be using everything you learned?

I am not sure where I will be using what I have learned from this test in my current job. Currently, I do not have these types of problems or designs where I work. I do see where I will be using other topics being discussed in the class in my career.

f. Do you think what you learn is important for your professional career?

### Maybe in future job positions.

g. How, when, where and why you might use this information or skill in the future?

# If I am looking for a job in the future, I can expand my search with these new skills I am learning.

h. Have you been able to apply concepts you have learned in the course to what you do at work or in other courses?

#### Not yet, but upcoming chapters look like there will things I can use at work.

i. What areas did you feel you were most successful, or improved the most?

#### Not yet, this was the first test. There is always room for improvement no matter what.

j. How do you see this course's content intersecting with your field or career?

# In the upcoming chapters, there looks to be a lot of topics that could correlate with work related projects which include drag and lift, instrumentation, and pumps.

k. How much time did you spend on the test? How was the time organized? What would you do differently? Why?

#### I spent close to 3 days working on the test and that includes the pre-test.

In the reflection, you should describe the test using facts and feelings providing relevant details. You should identify strengths and weakness of the test and connect the test with experience. Finally, you should also clearly explain the quality of the artifact and give insight and state reason for judgment.

You have the option of writing your reflection on a document or you could also create an audio. In either of the cases, you must upload the reflection to your website.

This test was a challenge, a lot of gears turning and reading notes and re-watching lectures and going over the lecture problems. I am not a good test taker. I have never been a good test taker. I excel at hands-on task and completing task on time. I get in a hurry a lot of times and that is where most of my mistakes are made. So, slowing down would be something I need to do more often. I will always be harder on myself because I want to strive to be perfect. We will never be perfect, but always wanting to be better I think is a good quality. I will always want more, know more, learn more, get more, give more...