Test 1 Reflection

During this test I applied the principles of conservation of energy (Bernoulli's equation) and mass to fluid flow systems. I also identified and solved for different very specific industrial problems, such as, open-channel flow, cavitation, water hammer, drag, lift, forces in pipes, and learn about different instruments to measure fluid flow quantities (such as, pressure, fluid velocity, flow velocity, etc.). Problem one involved drag force. Problem two involved an open channel. Problem three involved using a flow instrument to measure flow quantities. Problem four involved measuring the forces on a pipe while also using Bernoulli's equation. Lastly, problem five involved solving a problem with water hammer.

For problem one I included all the required information. The only difference between my anwer and the rubric was that my drag coefficients were slightly different. For problem two my final result is a bit off. I believe this is because I used the velocity equation and not the flowrate one. This added unnecessary variables into the equation. For problem three I was able to do everything the rubric stated. The only negative is that I was not clear that the coefficient came from the Reynolds Number I calculated. For problem four I was able to use Bernoulli's correctly and also calculate the reaction forces correctly. For the final problem I was able to do everything on the rubric. If I had to take this test again I would make sure I knew the equations better the second time. During the test I had to spend a lot of time going through the notes.

On this exam I believe I should receive an 87=(90/5)*(5/5 + 5/6 + 5/5 + 6/6 + 4/4). A strength I had on this test was using Bernoulli's equation and identifying what equation was to be used on each problem. A weakness I had on this test was trying to determine how to find the coefficients for the different equations.

One issue I had with this test was that for a couple problems I had not used the equation before and I had also not found the coefficients before. I was able to solve this by rereading the chapter. For this test I would read the problem, then determine the type of problem it was, find the section in the book that explains it and then watch an example problem about it. Throughout this unit I learned a lot of different topics that could be used in the real world. Many may not come up often but they will still be useful. I think drag is a very important concept that engineers need to consider when designing. I am not sure where my career will take me but the concepts from this chapter will help in some aspect regardless. One area I improved the most was determining fluid flow quantities using flow measurement devices. I was very confused about them while reading the notes but was able to very easily solve the problem on the test. On this test I spent probably about eight hours but a lot of that time was spent rereading the notes and watching example problems again. This test covered a lot of material but I feel very confident in it all going forward. If I were to do this again I would spend more time the first time going through the notes so that I did not have to reread as much while taking the test.