Test reflection:

1) In test 1, I was able to demonstrate the use of a few learning objectives. I computed the pressure using Bernoulli's equation as well as the gamma times height equation. I also computed multiple flow rates for the system.
2) In problem 1, I started with Bernoulli's equation. Comparing my test with the solution, I did not cancel out the first velocity. I did not properly label my reference points, so I think I confused myself a bit and assumed there would still be velocities at both points. On the next test I will be sure to label my points much better so I can avoid the confusion. I also did not include the energy loss in Bernoulli's equation. I really am not sure why I didn't include this, looking back at the answers it is quite obvious I needed it in this problem. I will have to be more attentive to situations like these in the next test. When calculating for the manometer reading, I used the gamma times height equation. I didn't quite set up the equation right. I used h instead oh h/2. I think this was one of those mistakes where I was not paying attention close enough.

   In problem 2, I used Bernoulli's equation even though I didn't necessarily need to. I could have used the gamma times height equation. I did end up with the correct answer anyways. For the manometer reading, I did not use the correct h equation. I didn't account for all the variable needed in the correct equation.

   For problem 3, I believe I messed up typing in the equation into excel. It is clearly very important to triple check how equations are typed in excel.

   If I were to take this test again, I would tell myself to be more attentive and make sure my reference points are clear. As well as be cautious when typing or writing out any equation.

3)

WRITING RUBRIC

1.	Purpose	0.25/10.0 out of 0.5/10.0
2.	Drawings	0.7/10.0 out of 1.0/10.0
3.	Sources	1.0/10.0 out of 1.0/10.0
4.	Design considerations	0.8/10.0 out of 1.0/10.0
5.	Data and variables	0.25/10.0 out of 0.5/10.0
6.	Procedure	1.5/10.0 out of 2.0/10.0
7.	Calculations	1.5/10.0 out of 2.0/10.0
8.	Summary	0.5/10.0 out of 0.5/10.0
9.	Materials	0.4/10.0 out of 0.5/10.0
10.	Analysis	0.75/10.0 out of 1.0/10.0
	TOTAL	**7.65/10.0** out of 10.0/10.0

1st part)

1. Bernoulli's at liquid surfaces and solve for air pressure 1/7 out of 1/7
2. Compute velocity with Q=VA 0.5/7 out of 1/7
3. Compute energy losses (pipe and minor) 0/7 out of 1/7
4. "gamma*h" equation and solve for "h" in manometer 1/7 out of 1/7
5. Compute pressure at 2nd elbow 0/7 out of 1/7
6. Create spreadsheet with all calculations 1/7 out of 1/7
7. Correct results? 0/7 out of 1/7

2nd part)

1. "gamma*h" equation and solve for air pressure 1/3 out of 1/3
2. "gamma*h" equation and solve for "h" in manometer 1/3 out of 1/3
3. Correct results? 0.5/3 out of 1/3

3rd part)

1. Use spreadsheet from "1st part" to get P1 for diff Q

   Make sure energy losses change when changing Q 1/4 out of 1/4

2. Plot P1 vs Q 1/4 out of 1/4
3. Read Q for P1=75 psig 1/4 out of 1/4
4. Correct results? 0/4 out of 1/4

FINAL GRADE:

If getting everything right:

7.65 + (80/3)*(3.5/7 + 2.5/3 + 3/4) = 63.21

I'm not sure I had many strengths of the test, but I thought alright trying to manipulate the equation how I wanted. I had a few more weaknesses it seemed. I didn't do a good job with being attentive and more careful with the details of the problems. As well as not including proper reference points.

4) a. I had issues with figuring out how a few units worked out, but I took my time to really figure out how they would cancel out. I also had a few distractions going on while trying to complete the test, so it would throw off my rhythm a bit, but I did my best to back track and try to figure out where I left off last.

b. I tried to follow through the test one step at a time, without trying to jump to different problems. I would change giving myself a bit more time to complete the test.
c. I learned more about the use of Bernoulli's equation and how pressure can be affected.
d. Engineers might use these concepts when designing piping in a machining shop.
e. I think I might use what I learned in other classes.
f. I definitely think what I learned will be important for my career.
g. I might use the skills in my senior project class. Maybe if I am creating something that uses fluids.
h. Yes, I have used them in another class, but not work.
i. I believe improved my understanding of Bernoulli's equation even more.
j. I'm really not sure. I don't know exactly what I want to do with my career yet.
k. I spent about a day on the test. I tried to set up one day to do the test, but unfortunately things came up a couple times while I was working the test, so it wasn't as continuous as I would have liked. I would have had less distractions if possible, because I think it can affect my focus and performance on the test.