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Dr. Ayala

MET 330

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Test 1 Reflection

On this test, there were a few things that I was not sure on how to do, especially on 1.c. I missed inputting the materials and the rest of the design consideration data. For the procedure, I need to be more in-depth with what I did for my calculations and what data I used for the calculations. I was a little off on how I used Bernoullie's equation in how I found "h". I added the distance between the truck and tan kwhen I should've subtracted the down-spout length to the equation. Based on the solutions, my graph looked nothing like the one shown. First my data range was not very big and it was in the wrong orientation, and also as mentioned earlier, my equation was wrong. Now that I have an understanding of how spreadsheets is supposed to look like, I think I could do better in the next test.

I think the only issue I could think off is understanding how to implement all the objectives in to one problem and even the one's I did not know how to do. All I did was look through the text book to find ways to do the calculations. In this test, O('ve learned to write a procedure and write down all the steps I took to get to where I got too. Also when looking for the right equations to use, I really needed to understand the concepts behind the equations and how other things would pertain to that equation or scenario.

Engineers use procedures when they have to make a calculation for systems. I think also that writing procedures down saves your behind too. The engineer would be able trace when he/she went wrong. I do think that learning this is very important. In the future and now, procedures could help teach others. My father did technical writing overseas for years. I haven't had the chance to implement this skill in anything particular yet. I think I did fairly well in writing the purpose and procedures although I missed a few details. I think I found the correct calculations for the most part. Since this course talks a lot about pipes, I work with electrical piping from time to time so the concepts on sizes are very familiar to me. I think I spent about 14 to 18 hours in the course of three days. For the next test, I want to do better to use my time wisely. Because, even though I spent all that time working on the test, I still turned the test in almost two minutes before its due. It was very stressful for sure. Hence, I could not do the summary or analysis. Overall, I'd give my self a 35 for this test simply because of the stuff that I missed and did not do.

1. Purpose **0.7**/10.0 out of 10.0
2. Drawings **0.7**/10.0 out of 1.0/10.0
3. Sources **0.5**/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 **0.2**/10.0 out of 0.5/10.0
6. Procedure **1.3**/10.0 out of 2.0/10.0
7. Calculations **1.2**/10.0 out of 2.0/10.0
8. Summary **0.0**/10.0 out of 0.5/10.0

9.	Materials	**0.0**/10.0 out of 0.5/10.0
10.	Analysis	**0.0**/10.0 out of 1.0/10.0
	TOTAL	**5.4**/10.0 out of 10.0/10.0

Part 1a)

1.	Show drawing with Bernoulli's points and reference	**1/8** out of 1/8
2.	Apply Bernoulli's, simplify it, and solve for "h"	**1/8** out of 1/8
3.	Compute velocity with Q=VA	**1/8** out of 1/8
4.	Compute pipe energy losses correctly (estimate L)	**2/8** out of 2/8
5.	Compute minor energy losses correctly	**1/8** out of 1/8
6.	Create spreadsheet with all calculations	**.5/8** out of 1/8
7.	Correct results?	**.6/8** out of 1/8

Part 1b)

1.	Select U-tube tubing diameter	**1/6** out of 1/6
2.	Decide U-tube right leg length	**0**/6 out of 1/6
3.	Apply "gamma*h" equation and solve for "h" of Hg	**0**/6 out of 2/6
4.	Mass or volume of required mercury	**0**/6 out of 1/6
5.	Correct results?	**.4**/6 out of 1/6

Part 1c)

1. Compute transferred volume in 5 minutes **0**/4 out of 1/4
2. Use cylinder volume equation and get tank diameter **0**/4 out of 1/4
3. Compute percentage of the energy losses **0**/4 out of 1/4
4. Correct results? **0**/4 out of 1/4

Part 2)

1. Use spreadsheet from “Part 1” to get “h” for diff Q

   Make sure the K value or Leq value of valve changed

   Make sure energy losses change when changing Q **1/8** out of 2/8
2. Plot “h” vs Q **1/8** out of 1/8
3. Read Q for “h” equal to the “h” in part 1 **1/8** out of 1/8
4. What is the new manometer reading? **0/8** out of 1/8
5. %drop of the gasoline level after 10 minutes **0/8** out of 1/8
6. Compute percentage of the energy losses **0/8** out of 1/8
7. Correct results? **0/8** out of 1/8

FINAL GRADE: 35.4