Elson Edmonds II
MET 330
Dr. Ayala
10/30/24

Test 2 Reflection

1) The whole test was based on the concept of Bernoulli's equation, yet each one differed from one in the slightest and focused on separate derivations of this law. The first question focused on power and pressure which related to week 5. Problem 2 focused on flow nozzles and interpretation of the moody chart which was week 8. Problem 3 focused on wetted perimeter and flow rate at different heights which was week 7.

2) How your test compares against the available solution. State the mistakes you made and what you will do next time to avoid making the 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?

1. I was on the right triact as far as - I used the right equations, my raw data was correct, and I picked the right pipe from the chart. Where things went wrong is I misinterpreted the problem and had made my h and L = to 2511, when h=50 and L=2511. I also chose the wrong roughness value from the chart. Which affected my outcome but I still took the right procedure. My ha was way higher due to me using the wrong h as stated before. My first graph looks similar to yours but my second is just way off.

2. My equations were correct here, but I used the wrong C from the moody chart. I had a continuing error from the first problem with my reynolds number so that carried into my second problem affecting my answer. I'm also confused on where you found your N value from. In my chart I found it to be .05. I plotted the average you plotted before and after.

3. We have the same radius and equations. I got this problem almost 100 percent correct if it wasn't for your N value again. I do not know where you go from.

If I had to take this test again, I think that I would have reached out to you for some advice when I was not too sure on interpretation. I Normally do well with spacing and making time for tests, I just need to speak up when I don't know what is going on.

WRITING RUBRIC (APPLIES TO THE WHOLE TEST, NOT TO PARTICULAR PARTS)

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

PART 1)

1.	Select pipe diameter	1/8 out of 1/8
2.	Use Bernoulli's to get ha (ref & points in pict.)	1/8 out of 1/8
3.	Pipe energy losses	.5/8 out of 1/8
4.	Pump power with efficiency	.5/8 out of 1/8
5.	Calculate inlet and outlet pressures	1/8 out of 1/8
6.	Proper excel spreadsheet	0/8 out of 1/8
7.	Plot pump power vs. pipe diameter and inlet & outlet pump pressures vs. pipe diameter	1/8 out of 1/8
8.	Correct results?	0/8 out of 1/8
		5/8 out of 8/8

PART 2)

1. Solve for dP with right equation and A1/A2	1/6 out of 1/6
2. C value	0/6 out of 1/6
3. Additional pump power	1/6 out of 1/6
4. Proper excel spreadsheet	1/6 out of 1/6
5. plot pressure drop across the nozzle vs. nozzle diameter to pipe diameter ratio.	.5/6 out of 1/6
6. Correct results?	.5/6 out of 1/6
	4/6 out of 6/6

PART 3)

1. Correct equation	1/7 out of 1/7
2. Area calculation	1/7 out of 1/7
3. Hydraulic radius calculation	1/7 out of 1/7
4. % of pumped water flow	1/7 out of 1/7
5. Proper excel spreadsheet	1/7 out of 1/7
6. plot % of pumped water flow vs. water elev	.5/7 out of 1/7
7. Correct results?	.5/7 out of 1/7
	6/7 out of 7/7

FINAL GRADE:

10.0 + (80/3)*(5/8 + 4/6 + 6/7) = 67

4)

A. I Struggled with the interpretation of the problem, and to solve this I just sat and looked at the problem along with my notes and the textbook to get a better understanding of what you really wanted us to solve. I understand that the “sitting and staring” approach doesn't work for most, but for me it gets my brain moving and the wheels turning until I can put some pieces together.

B. I planned ahead of time, and gave myself plenty of time in order to complete it, because I know that although it was only three questions I knew that it was more than meets the eye.

C. I learned how to read a moody chart.

D. I think these concepts are useful when working in a field that involves waste disposal or even when designing sink installations in a building.

E. In my future as an engineer.

F. Yes these are real world problems that may occur in my field

G. I will use it at my future job, when asked to do a task that invokes these skills and knowledge that I've learned, and to the best of my ability.

H. No not in the current courses that I am enrolled in.

I. I was the most successful in the first question, I think that's where I spent most of my time.

J. I see this course giving me valuable knowledge that my future employers will value that I know already.

K. I spent 3 days on the test, about 20 hours. I spent the first day just looking and going over notes and the second day completing the problems and the third on the write ups and just making sure my answers are logical. I don't think I'd do anything differently other than get some more of my answers correct.