- 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.
 - a. This test directly reinforced the water hammer phenomenon.
- 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?
 - a. I would go with my initial instinct. ON the first problem I thought about doing it the way the provide solution portrays. I was thinking that I had to do more calculations, so I did a lot of extra work just to determine the height of the open channel.
- 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?
 - a. I think my grade should be a 86.42%
 - b. Writing Rubric:
 - a) Purpose 1/10
 - b) Drawings 1/10
 - c) Sources 1/10
 - d) Design Considerations 1/10
 - e) Data and Variables 1/10
 - f) Procedure 1/10
 - g) Calculations 1/10
 - h) Summary 1/10
 - i) Materials 0/10
 - j) Analysis 0/10
 - k) Total 8/10
 - c. Problem 1
 - a) Open channel depth (y)
 - 1. Correct equation 1/2
 - 2. Area and Hydraulic radius 0.5/2
 - b) Pipe-elbow forces
 - 1. Free body diagram and correct forces 1/3
 - 2. Force in x 1/3
 - 3. Force in y (weight) 1/3
 - c) Largest wood log
 - 1. Size 0.5/2
 - 2. Stable? 0.5/2
 - d) Flow nozzle flowmeter pressure drop
 - 1. Right equation and A1/A2 1/2
 - 2. C value 1/2
 - e) Water hammer pressure increase
 - 1. Wave velocity (units) 1/2
 - 2. Pressure increase 1/2
 - f) Drag force on a stuck log

- 1. Correct area 1/3
- 2. Correct velocity 1/3
- 3. How Cd was obtained? 1/3
- g) Force on the flange
 - 1. Magnitude 1/2
 - 2. Location 1/2
- h) Final actual values of the results 1/1
- d. Final grade: (1.5/2 + 3/3 + 1/2 + 2/2 + 2/2 + 3/3 + 2/2 + 1/1) =(16/17) *100 = 90.00%
- 4) Discuss the following:
 - a. What are the issues?
 - a) The test took more time than expected again. I ran out of time to work on it again.
 - b. What steps did you take to complete the whole test?
 - a) I spent multiple days working multiple hours on the test.
 - c. What new concepts have you learned?
 - a) This test helped me to understand how to properly determine the forces applied in the vertical and horizontal direction on the pipe system.
 - d. Where do you think Engineers use those concepts?
 - a) I think Engineers use this concept to support pipes in a nuclear water-cooled facility.
 - e. Where do you think you will be using everything you have learned?
 - a) I will be using the Engineering principles to satisfy Research and development project milestones for my company Atlas Space Corp.
 - f. Do you think what you learn is important for your professional career?
 - a) Yes, I think learning how to properly calculate forces due to fluid flow is important to people and property safety.
 - g. How, when, where and why you might use this information or skill in the future?
 - a) I would use this information in the future to determine the amount of metal material required to provide a support for a pipe so that it is properly supported and does not cause a rupture due to excessive vibration.
 - h. Have you been able to apply concepts you have learned in the course to what you do at work or in other courses?
 - a) Yes, I am using the concepts to apply thought experiments with coolant water in a thermoelectric generator.
 - i. What areas do you feel were most successful, or improved the most?
 - a) The areas that I think improved the most is my applying of Bernoulis equation to determine forces and then applying those forces to supports.
 - j. How do you see this course's content intersecting with your field or career?
 - a) I feel like this course's content has intersected with my field and career. I am build a research lab that has a rain water cistern and will pump the water to a processing system and store it for showers and toilet flushing.