1. 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 took a lot of knowledge learned in class, but knowledge completely different from the knowledge used in the previous test. I completed one of the course objectives in this test by working with fluid dynamics in pipes and fittings. Friction losses were considered, general losses in pipes as well as minor losses in pipe fittings. As done similarly in the first test, I needed to have knowledge of fluid properties and pressure.
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. My test answers were different from the provided solution all the way through. I had forgotten the advice of my professor to convert all the given data from US units to SI units since SI is easier to use than US. I can see that the answer for the pressure at point A is larger, almost double, than the pressure at point B. This makes more sense, but in my test answers I said that they were roughly the same which was reflected in my data calculations. Logically, I knew that that couldn't be correct, but I could not seem to find a course of action to prove otherwise.
    b. Another thing that I got wrong was that my flowrate through the top branch of problem #1 was higher than the flowrate through the bottom branch. The top branch was longer than the bottom, and also contained a valve which undoubtedly made the top branch the path of MOST resistance. When I looked at my data, I knew that something must be wrong, but I didn't know how to fix it. But I am still seeing things now that I didn't then, for example, I realized JUST NOW that the diameter of the top branch is larger than the diameter of the bottom branch which would in fact make the top branch the path of LEAST resistance. I suppose that I got that part correct then!
    c. One thing that students always do, ALWAYS, is start the test too late. The advice I would give myself is to start even earlier than I did this time around.
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. Based on my adherence to the grading rubric for this test, I give myself 70 points out of 90. I went step by step, I outlined things, drew diagrams, and analyzed things thoroughly as I proceeded throughout the test.
    b. One of the weaknesses I put down last time was that I crammed lots of writing onto a single sheet of paper and didn't leave myself enough room to work. I did much better this time in that regard. I was very analytical with my methods. I followed the rubric and previous test solutions given very closely. I took my time and wrote down my thoughts.
4. Discuss the following:
    a. What issues did you encounter in completing the test? How did you troubleshoot them?
        i. The issues I encountered were minimal. Some were the clarity of the test questions (I was grateful to the professor for letting us ask any clarifying questions), thinking through the problems in a step-by-step manner, and where to begin solving the test. To solve these, I asked the professor questions, I read

the whole test as coherently as I could with the new information given from the professor, and I plotted a step-by-step plan for solving the test.

b. What steps did you take to complete the whole test? Would you change something?
    i. Test 1 was a single problem with many questions that built off of the previous ones. In this test (Test 2) there were two separate problems, and both were rather challenging. My steps to complete the test in its entirety involved methodically writing down which steps to take and referencing where my information had come from so that I could use it again later.
c. What new concepts have you learned?
    i. I learned that
    ii. This test took a lot of forethought and planning. More than what I am used to. It required me to be systematic and to plan so that I had enough time to do as well as possible on the test while also doing other school assignments. I learned/practiced better scheduling for time and better methodical test solving skills.
d. Where do you think engineers use those concepts (provide specific examples)?
    i. Any large or small project requires planning. A team that wants to build a new football stadium or even just a water distribution system for an automobile assembly plant needs to first start out with what their goal is, and then ask how to achieve that goal most efficiently.
e. Where do you think you will be using everything you learned?
    i. In whatever job I find. All jobs and projects are different, but the planning method I practiced in this test was a good one and I hope to make it better as I move forward in my education and professional careers.
f. Do you think what you learn is important for your professional career?
    i. Absolutely! Knowing how to solve problems and plan for projects is an incredibly useful skill. Every process and method of thinking can be refined and expanded. I am not sure that I will be using every small bit of knowledge that I learned in this class, but one never knows what the future holds. Saving my class work and textbook is a good idea as I am sure that one day, they will make excellent sources of career-applicable knowledge.
g. How, when, where and why you might use this information or skill in the future?
    i. I might use this knowledge for an employer who want to set up a water distribution system to a neighborhood, or I may want it to help me on the 100-acre farm that I might one day purchase to help make my life easier. I might use it if I go with a team from Engineers Without Borders to a third-world country to help set up water pumps so that they can have access to clean water. The possibilities are limitless.
h. Have you been able to apply concepts you have learned in the course to what you do at work or in other courses?
    i. I was able to apply what I learned about buoyancy and stability to an essay that I needed to write in another course about those two topics. It was very helpful, and I breezed through writing the research paper.
i. What areas did you feel you were most successful, or improved the most?

        i. I was able to think critically to begin with. I believe I asked good questions, and then attempted to answer those questions in a systematic manner. I want to improve in this same area, though. I can always get better at apply not only the subject matter I have learned, but also what questions to ask and how to go about answering them.
    j. How do you see this course's content intersecting with your field or career?
        i. In lots of ways. The mechanics of fluids is a very interesting subject and I quite like learning about it. I am currently a full-time student, but when I get a job it may have something to do with fluids.
    k. How much time did you spend on the test? How was the time organized? What would you do differently? Why?
        i. The test was made available on the evening after class (Wednesday), and was due at midnight the following Tuesday. My time was divvied up among some other class assignments, but most of that time was spent on this test because of its magnitude. Despite trying to use all of my time on this test, I should have started working on it even earlier, as I find it difficult to sit still for many hours at a time working on a test, or any project for that matter.
5. In the reflection, you should describe the test using facts and feelings providing relevant details. You should identify strengths and weakness of the test and connect the test with experience. Finally, you should also clearly explain the quality of the artifact and give insight and state reason for judgment
    a. I did not get even half of the answers correct on this test, but I will not let that discourage me from learning from my mistakes. For this test I had a physical textbook in front of me which was an enormous step up from the last test when I had no physical textbook. I do not think that I scored too high on this test, but I am confident that my methods for solving the questions on this test were solid, just like they were on the last test.