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.

- Develop an intuitive understanding of how to apply the first and the second law of thermodynamics to different thermal systems.
  - Both test questions required the understanding of these laws and used different equations to prove them
- Apply Rankine Cycle with superheating, re-heating, and regeneration to steam power plants.
  - Both test questions used the ideal Rankine cycle
- Define the thermal efficiency, second law efficiency, and energy availability.
  - Both test questions required solving thermal efficiency

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?

I feel that I was highly successful for both questions. My solution to Q1 was set up the same way as the provided answers. For Q2, I complicated the problem by not combining the turbines into one control volume. I am not sure if the way I did it is correct, but I got similar final answers.

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?

PROBLEM 1)
1. P-v and T-s diagrams   2/14
2. State calculations (7 of them)   7/14
3. Thermal efficiency (need "y" – fraction to OFWH)   3/14
4. Correct final results?   .5/14
   TOTAL   **12.5/14**
PROBLEM 2)
1. P-v and T-s diagrams   2/10
2. State calculations (4 of them)   4/10
3. Qin, Wnet, Qout, thermal efficiency   1/10
4. Qprocess, Utilization factor (is equal to therm eff)   1/10
5. Correct final results?   1/10
   TOTAL   **9/10**

FINAL GRADE: (if everything correct)
(90/2) * (12.5/14+9/10) = 80.7/90 = 89.6%

4) Discuss the following:

a. What issues did you encounter in completing the test? How did you troubleshoot them? The problems seemed to be less complicated than the homework and the examples given in class, so I was worried that I might be missing something. I completed the pretest assignment and you gave feedback that gave me confidence that I was on the right track.

b. What steps did you take to complete the whole test? Would you change something?

I used the same formula as before. Look at it early, complete the pretest, and then work on the test over several days.

c. What new concepts have you learned? I learned how to apply the thermodynamic laws to a steam cycle and how different techniques can be used to make the system more efficient.

d. Where you think engineers use those concepts (provide specific examples. Designers of power plants and engineers at existing plants would use these concepts to ensure maximum cost benefit.

e. Where do you think you will be using everything you learned. If I work at the shipyard, I would use these concepts.

f. Do you think what you learn is important for your professional career? Very

g. How, when, where and why you might use this information or skill in the future. I could use this info to determine the level of biofouling of a seawater heat exchanger.

h. Have you been able to apply concepts you have learned in the course to what you do at work or in other courses? Yes, the Navy uses steam plants on submarines

i. What areas did you feel you were most successful, or improved the most. I feel much more confident using property tables.

j. How do you see this course's content intersecting with your field or career. I can see using this info in many different jobs such as shipyards, HVAC, and government contractor jobs.

k. How much time did you spend on the test? How was the time organized? What would you do differently? Why? 8 hours. I felt good about my time management for this test. No changes this time. I learned lessons from before.