

This test related to a few of the course objectives, including that of developing an intuitive understanding of how to apply the first law of thermodynamics to different Parts of the equations, such as steam traps, feed water heaters, and pumps. It also measures air as an ideal gas within an ideal Rankine steam cycle, which is a part of the syllabus course objectives. Another objective used for this test would be defining thermal efficiency and energy availability.

My test compared the available solutions and has little to no similarities. So It would take me pages to sit here and discuss every little detail that I missed. To summarize the work that I had presented, my pv/ts diagrams included that of the steam trap that was blocked, and I failed to draw another pv/ts diagram for the failure of steam trap two. My state calculations and methods were not far off from what the posted processes are, however, for calculating the equation to find y and z, I saw the process I needed to use written down in my notes from when we completed it on the whiteboard in class, but simply did not have the energy to create the equation. I took this test with a fever of 102 in the middle of the flu, completely bedridden.

Problem One

P-v and T-s diagrams	1/10 out of 1/10	
Realize that some states are not needed	0/10 out of 1/10	
State calculations (at least 11 of them)	1/10 out of 2/10	
Calculate “y” and get $y=0$	0/10 out of 1/10	
Calculate “z”	0/10 out of 1/10	
Calculate ΔT water	0/10 out of 1/10	
Thermal efficiency (W_{net} & Q_{in})	0.5/10 out of 2/10	
Final results	0/10 out of 1/10	Total: 3/10

Problem Two

P-v and T-s diagrams	0/9 out of 1/9
Realize that some states are not needed	0.5/9 out of 1/9

State calculations (at least 8 of them)	0/9 out of 2/9	
Calculate “y”	0/9 out of 1/9	
Calculate deltaT water	0/9 out of 1/9	
Thermal efficiency (W_{net} & Q_{in})	0.5/9 out of 2/9	
Final results	0/9 out of 1/9	Total: 1/10

A major issue that challenged me in the completion of the exam was the flu; couldn't really do a whole lot to troubleshoot that. I tried to take the exam slowly, which in turn only made it worse. The ideal ranking steam cycle and how steam trap failures alter the engine's cycle. I suspect that this sort of cycle and process would be useful when dealing with any power plant or any plant that uses a steam component. This information will be helpful in my endeavors with boilers as I was exposed to a few growing up used in commercial waste oil management. I have not been able to yet, but down the road, possibility and very likely. There wasn't any improvement from the last exam to this one; it was the exact opposite. I slotted time late Saturday and Sunday to work on the exam, and this was the only time I had available as my full-time schedule didn't switch to part-time until Monday. And there was no chance of fitting it in my schedule prior to that with my fluids lab and automation and controls exam that I also had to complete. It was not like I was welcoming the flu, I got the short end of the stick that week. Got to move on.