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MET 350

Test Reflection 2

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.

-Apply thermodynamic laws to different thermal engines using ideal cycles, reheating, regeneration and intercooling cycles. The first question asked students to find states for a Brayton cycle with a regenerator, without a regenerator and with a two-stage intercooler.

2) How your test compares against the available solution. Ste 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 you had a successful test?

I noticed that my numbers differed from the solution provided. I believe the mistake came from the rounding errors on my test. From the first part of problem one, I was using 273 K to convert temperature from Celsius to Kelvin rather than 273.15 K. If I were to take the test again, I would tell myself to use more precise numbers to compute calculations.

3) What you grade should be. Base it on the writing rubric provided in the test and correctness of the solution. What are your strengths and weaknesses of your test?

Purpose	0/10.0
Drawings	1.0/10.0
Sources	0/10.0
Design considerations	0/10.0
Data and variables	0/10.0
Procedure	0/10.0
Calculations	2.0/10.0
Summary	0/10.0
Materials	0/10.0
Analysis	/10.0
TOTAL	3/10.0

PROBLEM 1)

P-v and T-s diagrams	
Single stage compression (and variations)	1/14
Two stages compression	1/14
State calculations	
Single stage compression (and variations)	2/14
Two stages compression	2/14
Why does regeneration hurt in original case?	0/14
w_net, q_in, thermal efficiency (all cases)	2/14
HW effectiveness (all cases)	/14
Which case is better?	0/14
Final results	0/14
TOTAL	8/14

PROBLEM 2)

P-v and T-s diagrams	2/8
State calculations	0/8
Use wc = wt	
Use efficiencies to get actual states	
Cp & Cv variable	
P5, V6	
Thrust	0/8
Final results	0/8
TOTAL	2/8

FINAL GRADE:

3 + (80/2)*(8/14+2/8) = 35.9%

4) Discussion

From this test, what was most challenging was finding the state calculations. with question one having multiple scenarios, it was easier once the first step of problem one was finished. From that point was understanding what the gas cycle consisted of in order to solve foe efficiency. On question two I was not sure how to attack the problem. The process of a turbine engine was confusing to me. I wasn’t sure on how to utilize the efficiencies provided which prevented me from making progress. Interpolation was a significant part of finding values in test 2.