Test 1 Reflection

The learning objections the 1st test in Heat Transfer class discussed was. Defining the different modes of heat transfer. Using the basic laws of conduction, convection, and radiation heat transfer. Appling the concept of thermal circuit to solve one-dimensional combined mode of heat transfer problems. The radiation heat from the traveled through air, glass, and copper pipes embedded in silver, which covered heat transfer through radiation, conduction, and convection. Using the resistance equation for shape factors of conduction and convection also determine the amount of heat that was applied from the sun.

The mistake I made on the test was not setting up the resistance format correctly. I put them in a series state when it should have been in a parallel state because I didn't understand that the heat absorption didn't apply to the glass and air space. When setting up the resistance I missed a few. The ones I missed was the resistance and temperature on the inside of the glass because it was my understanding the resistance and temperature of the air space included the temperature of the inside glass wall. I also didn't include the resistance of the absorption plate since the problem stated that it was very thin and highly conductive. I when I set up the resistance format, I swapped the placement of the copper tubbing and the silver it was embedded in and combined the convection factor with the shape factor of the copper tubing which I also got incorrect. Because I set up the resistance format as a series states I only had one heat transfer value (q) and I didn't convert "q" that was given to the "Q".

The grade I was give myself based on the rubric provided:

10.0+55*(5.5/14)+25*(2/6)=40

During the test I encountered trouble with getting started, so broke it down and just started from the beginning using what I learned in class to work through the problem. I started the test by breaking down the problem and process what it was stating and asking for. Then I started with the drawing to help visualize everything. Then stated writing everything I knew about the problem and worked it from there. during the class lecture and test have learned how to calculate heat transfer and temperature of different shapes in different position for conduction, convection, and radiation heat transfer process. Engineers use heat transfer knowledge for heating and air-conditioning, designing refrigerator and chest freezer, or managing temperatures for technology so it doesn't overheat. I have not had the opportunity to use the heat transfer knowledge yet, but I could use it in the future in my career if I decide to get a job that works with anything that might need have a controlled temperature to keep it from overheating or if it needs a certain temperature to function properly. I would say my strength for the test is knowing the equation to use, and my weakness for be setting the problem up. I spend about 12 hours on the test and the only think I would do again is start working on it early and be better about time management.