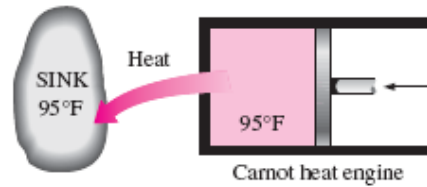


First name _____ Last name _____ ID _____

Assignment 2

1. During the isothermal heat rejection process of a Carnot cycle, the working fluid experiences an entropy change of -0.7 Btu/R. If the temperature of the heat sink is 95°F , determine (a) the amount of heat transfer, (b) the entropy change of the sink, and (c) the total entropy change for this process.



2. The radiator of a steam heating system has a volume of 20 L and is filled with superheated water vapor at 200 kPa and 150°C . At this moment both the inlet and the exit valves to the radiator are closed. After a while the temperature of the steam drops to 40°C as a result of heat transfer to the room air. Determine the entropy change of the steam during this process.