Tips for HW28

* For Diesel IC Engine problem:
  + V1/V2 = v1/v2
  + Remember that Q = ∫T ds
  + Assume combustion occurs between states 2-3
  + Assume heat addition occurs between states 2-3, and that the boundary temperature is the average temp between T2 and T3
  + Specific expansion work occurs between states 2-4 = w23 + w34
  + Intermediate values:
    - w12 = -176 Btu/lbm
    - q12 = 0
    - q23 = 749 Btu/lbm
* For Gasoline IC Engine problem:
  + Do the analysis for one cylinder
  + Start with the given information
  + Define the four states (assume ideal compression/expansion)
    - T, P, v, u, s
  + On a per cylinder basis, calculate:
    - Net Work
    - Mass of trapped air in cylinder
    - Heat addition
    - Thermal efficiency
    - Mean Effective Pressure
  + For the entire engine (all cylinders), calculate:
    - Power output (number of cylinders, engine speed, and 2/4 stroke)
* Reading questions from your textbook are to prepare you for refrigeration cycles (next)