Guidelines to Solve Thermodynamic Problems

1. Read the problem carefully and understand the requirements.
   (a) hi-lite or underline specific conditions and/or information requested

2. Sketch the necessary diagrams.
   (a) **System diagram:** indicate the system components/stages
   (b) **Process diagram:** indicate the states

3. State assumptions and idealizations.

4. Apply the laws of thermodynamics (1st and 2nd laws, conservation of mass).

5. Simplify the general equations based on assumptions and idealizations.

6. Obtain the necessary thermodynamic properties from figures and tables or using the equations of state.
   (a) clearly indicate where you obtained the information

7. Solve the problem.

8. Clearly label your final answer.

9. Give comments if you have any.