Homework 1

Read Chapter 1-3 in *Fundamentals of Thermal-Fluid Sciences* and answer the following questions. Remember to start each question on a new sheet of paper.

1. Identify the System International units and the English Engineering System units for each of the following:
   (a) time
   (b) mass
   (c) length
   (d) density
   (e) pressure
   (f) energy
   (g) force

2. In complete sentences,
   (a) Give an example of a closed system and give an example of an open system.
   (b) Explain what a continuum is and how is it important in thermodynamics.
   (c) Explain the difference between absolute and gage pressure.
   (d) Explain the zeroth law of thermodynamics.

3. In complete sentences, define or explain each of the following terms:
   (a) intensive property
   (b) extensive property
   (c) quasi-equilibrium process
   (d) cycle

4. In complete sentences, define or explain each of the following terms:
   (a) isothermal process
   (b) isobaric process
   (c) isochoric process

5. Problem 2-68
6. Problem 2-72
7. Problem 3-45E
8. Problem 3-58
9. Problem 3-62E

Complete by: 20 September 2017

Note: Start a “journal”. Clearly answer all concept questions (denoted with C) using complete sentences. Do not copy. This will be reviewed and will count as part of your homework score.