Due 1/28—Be sure to rework the study helps until it is easy!!! Also, read the book on Efficiency and Cyclical processes.

Homework:
Note: Isobaric = same pressure (we only do isobaric processes).

1) Isothermal (T); Isovolumetric (V); Adiabatic (A)?
   A. ____A tire being rapidly inflated.
   B. ____A tire expanding gradually as it is heated.
   C. ____A tire being heated with it is in a rigid metal container.
   D. ____In a refrigerator when the compressor compresses the refrigerant quickly.
   E. ____In a refrigerator when the refrigerant (which is in a metal tube) absorbs heat from the inside of the refrigerator.
   F. ____In a refrigerator when the refrigerant expands quickly.

2) Positive, Negative, or Zero?
   A. ____ΔU during an isovolumetric process if heat is removed.
   B. ____Q in an isovolumetric process if ΔU is negative.
   C. ____ΔU during an isothermal process.
   D. _____Q in an adiabatic process if the gas expands.
   E. _____ΔU if Q=W.
   F. _____ΔU when positive work is done on the gas (Q = 0).
   G. _____ΔU when negative work is done by the gas (Q = 0).
   H. ____ΔU during an adiabatic expansion.
   I. _____Work done by the gas when Q = 0, but temperature decreases.
   J. _____Work done by the gas when the volume of the gas increases.
   K. ____Q in an isothermal process if the gas compresses.
   L. ____ΔU if Q = 0 and the gas is compressed.
   M. ____Work done by the gas during an isovolumetric process.

3) An engine gains 2.56×10^7J of energy from combustion. If the engine expels 1.15×10^7J, how efficient is the engine?

4) If a refrigerator is left open in the middle of a room, does the room's overall temperature increase or decrease over time? (*Support your answer, of course*.)

5) Book p.431 Questions 2 thru 21. Omit Q 6, 7, 12, and 15