Ch 15 #5

The answer sheet doesn't include axis labels and numbers, which it really should. The important part is to figure out the numerical value for V at the end of the first process, which is isothermal. (Hint: Isothermal means no temperature change, so P and V must be inversely proportional to one another during this process.)

Ch 15 #8

For part A, make sure you understand that there are two steps that occur, but only 1 during which volume changes, and therefore only 1 during which work is done. Also notice that units need to be converted, and that they asked for work <u>by</u> the gas.

For part B, think about the entire 2-step process, and notice that final temperature is equal to initial temperature, which should tell you something very important about the net ΔU during the entire process.

Ch 15 #61

On part C, be careful that you actually work the problem, and don't just look at the answer on your answer sheet. Are you just finding the area of a triangle? (If you think so, look again.)

Ch 15 #24

Even though you are told power, you can just realize that a Watt is a Joule per second. So pretend that the whole problem is happening in a time of 1 second, and then you can work the whole problem in Joules. When you get to the end, just remember that you're being asked for a rate, and then switch back to thinking in Watts.

Also, don't forget that they're asking for the rate at which heat is ex*hausted*, not the rate at which it's input.

Ch 15 #26

Find the temperature of the cold reservoir that this heat engine is using (at the lower efficiency), and then realize that this temperature won't change when you're trying to raise the temperature of the heat source in order to raise to the higher efficiency.