

**ME/CH EN 2300**  
**Homework # 5**  
**Due Wednesday, Feb. 14**

Note: Please list which section of the class you are in (ME EN or CH EN) on your assignment

1. (3-31, Numbers modified) A piston cylinder device contains 0.85 kg of refrigerant 134a at  $-10^{\circ}\text{C}$ . The piston that is free to move has a mass of 12 kg and a diameter of 25 cm. The local atmospheric pressure is 107.6 kPa. Now heat is transferred to the refrigerant until the temperature is  $20^{\circ}\text{C}$ .

- a) What is the final pressure in the cylinder
- b) What is the change in volume of the refrigerant in the cylinder?
- c) What is the change in enthalpy of the refrigerant in the cylinder?