**HomeWork 13**

**Due Monday 11/2/15**

**Your name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_/**

**1. A piston initially at 5 atm and volume V1 is expanded to**

 **occupy a final volume of 10 liters at 2.5 atm. What is V1?**

 **\_\_\_\_\_\_=V1(L)**

**2. A balloon initially occupies a volume of 6 liters at a**

 **temperature of 600 K. What temperature T2 is the balloon**

 **at if the volume falls to 1 liter ?**

 **\_\_\_\_\_\_\_ =T2(K)**

**3) A pressure cooker starts at 300 K and a initial pressure P1.**

 **It is heated to a final temperature of 900 K where the final**

 **pressure P2 reaches 12 atm. What was P1 ?**

 **\_\_\_\_\_\_=P1(atm)**

**4) A balloon starts at 30,000 feet with a volume V1 of 2 L.**

 **The pressure at this altitude is 0.1 atm at a temperature of**

 **200 K. The balloon is then allowed to descend to sea level**

 **where the temperature is 300 K and the pressure is 1 atm.**

 **What is the balloon’s final volume, V2 ?**

 **\_\_\_\_\_=V2(L)**