**Combined Gas Law Practice Questions**

1. A 450mL sample of Freon gas at 1.50atm and 15°C was compressed to 300mL at a pressure of 2.00atm. Calculate the final temperature in °C. **( -17°C)**
2. A 2.75L sample of helium gas at 99.0kPa was heated from 21.0°C to 71.0°C and the pressure change to 100kPa. Calculate the final volume. **(3.19L)**
3. Water vapor at 150°C is at 350kPa in a 2.50L storage tank. If the temperature drops to 95°C, what will the new pressure be assuming the volume does not change? **( 3.0x102kPa)**
4. A 10.0L sample of propane is at 20.0°C and 150kPa. What will the temperature be in °C if the pressure is increased to 300kPa and the volume is decreased to 8.00L? **( 196°C)**
5. In an engine, a fuel-air mixture at atmospheric pressure is compressed rapidly from 500mL to 60mL, while the temperature increases from 100°C to 1000°C. What is the new pressure of the mixture prior to ignition? **(2.9x103kPa)**
6. A gas cylinder at a pressure of 1200kPa has a safety valve that releases gas if the pressure exceeds 1700kPa. At what temperature will the valve open if the initial temperature is 22°C and the volume is 20L? **(4.2x102K)**

**Read: section 4.1 pg. 148-156**