

SHOW ALL WORK FOR ALL PROBLEMS**I. 1.0 atm = 101.3 kPa = 760 mmHg And 0°C = 273 K**

Change the following units: 359 kPa = _____ atm 10°C = _____ K

6.2 atm = _____ kPa 10K = _____ °C

For the rest of the problems: **First** identify each number with **P, V, or T**. **Second** state whose law you are using, **Third** – show the equation, **Fourth** solve the problem, and **Fifth** - circle your final answer - and make sure you don't forget your units!!!

1. The gas in a sealed can is at a pressure of 3.00 atm at 25°C. A warning on the can tells the user not to store the can in a place where the temperature will exceed 52°C. What would the gas pressure in the can be at 52°C?

2. A sample of hydrogen exerts a pressure of 0.329 atm at 47°C. The gas is heated 77°C at constant volume. What will its new pressure be?

3. A sample of neon gas occupies a volume of 752 mL at 25°C. What volume will the gas occupy at standard temperature if the pressure remains constant?

4. A sample of oxygen gas has a volume of 150 mL when its pressure is 440 mmHg. If the pressure is increased to standard pressure and the temperature remains constant, what will

the new gas volume be?

5. Ralph had a helium balloon with a volume of 4.88 liters at 150 kPa of pressure. If the volume is changed to 3.15 liters, what would be the new pressure in atm?

6. 5.36 liters of nitrogen gas are at -25°C and 733 mm Hg. What would be the volume at 128°C and 1.5atm?

7. At constant temperature, 2 L of a gas at 4 atm of pressure is expanded to 6 L. What is the new pressure? (Do this one conceptually and not algebraically.)