## Gas Laws 2

Name: $\qquad$

1) A constant volume of gas is heated from $25^{\circ} \mathrm{C}$ to $150^{\circ} \mathrm{C}$. The initial pressure was 380 torr. What is the final pressure?
2) A gas is kept at constant pressure, and the volume is increased from $18 \mathrm{~cm}^{3}$ to $50 \mathrm{~cm}^{3}$. The final temperature was measured to be $236{ }^{\circ} \mathrm{F}$. What was the initial temperature, in Kelvin?
3) A 13 L sample of oxygen gas has a pressure of .79 atm . What will be the new volume if the pressure is increased to 500 kPa ?
4) A 30 L sample of gas contains 1.3 moles of nitrogen gas. If more nitrogen gas is added to the sample, and the sample increases in volume to 42 L , what is the new number of moles of gas in the sample?
5) A 25.0 L sample of oxygen gas is cooled from 300 K to 241 K , while changing the pressure from 300 torr to 1000 torr. What is the new volume of the gas?
6) A gas at constant pressure is cooled to a temperature well below the freezing point of water. The initial volume was 90.0 ml . The temperature started at $50^{\circ} \mathrm{C}$, and was cooled to $-50^{\circ} \mathrm{C}$. What was the final volume of the gas?
7) A 2.0 L balloon is put in a bell jar at a pressure of 745 mmHg . The pressure is decreased and the volume of the balloon changes to 6.2 L . What is the final pressure in the bell jar?
8) A mixture of gases contains $72 \% \mathrm{~N}_{2}, 22 \% \mathrm{O}_{2}$ and $6 \% \mathrm{Ne}$. What are the partial pressures of each of the gases if the total pressure is 254 kPa ?
9) A 42.4 L sample of Ar gas at $75^{\circ} \mathrm{C}$ is changed to STP. The new volume of the gas is 25.5 L . What was the original pressure of the gas?
10) A gas at constant volume is cooled to a final temperature of 76 K . The initial pressure was 76.0 kPa and the final pressure was 100 mm Hg . What was the initial temperature?
