**Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period\_\_\_\_\_\_Date\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Gas Law Practice**

**Boyle’s Law: Pressure and Volume: P1V1=P2V­2**

1. **If we took 2 L of gas at 1.0 atm and compressed it to a pressure of 6.0 x 104 atm, what would the volume of the gas be?**
2. **1000 mL of a gas is compressed to a pressure of 760 torr is compressed to 473 mL. What is the new pressure of the gas?**
3. **If we have a 1.0 x 10-5 liter sample of gas at 2.0 x 106 atm, then release the pressure until it is equal to 0.275 atm, what the new volume of the gas be?**
4. **Divers get “the bends” if they come up in water too fast because gas in their blood expands, forming bubbles in their blood. If a diver has 0.05 L of gas in his blood under a pressure of 250 atm, then rises instantaneously to a level where his blood has a pressure of 50 atm, what will the volume of gas in his blood be? Would this harm the diver?**

**Charles’ Law: Volume and Temperature: V1T2=V2T1**

* **Remember to change temperature to Kelvin (0°C=273 K)**

1. **A man heats a balloon in the oven, if the balloon initially has a volume of 0.4 Liters and a temperature of 20°C, what will the volume be of the balloon after he heats it to a temperature of 250°C**
2. **A soda bottle is flexible enough that the volume of the bottle can change even without opening it. If you have an empty soda bottle (volume of 2 liters) at room temperature (25°C), what will the new volume be if you put it in your freezer at -4°C?**
3. **How hot will a 2.3 L balloon have to get to expand to a volume of 400 L? Assume that the initial temperature of the balloon is 25°C.**

**Gay-Lussac’s Law: Pressure and Temperature: P1T2=P2T1**

* **Remember to change temperature to Kelvin (0°C=273 K)**

1. **A gas’ pressure is 765 torr at 23 degrees Celsius. At what temperature will the pressure be 560 torr?**
2. **A gas’ pressure is 444 torr at 44 degrees Celsius. At what pressure will the temperature be 88 degrees Celsius?**
3. **A gas’ pressure is 100 torr at 3 degrees Celsius. At what temperature will the pressure be 1000 torr?**