**Name: Period: Seat#:**

**Worksheet #3**

Charles’ Law states the volume of a gas varies directly with the Kelvin temperature,
assuming the pressure is constant. We use the following formulas:

$$\frac{V\_{1}}{T\_{1}}= \frac{V\_{2}}{T\_{2}}; K=℃+273$$

**Directions:** Solve the following problems (assuming constant pressure). Assume all number are 3 significant figures. Remember to show your work!

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| 1. A sample of nitrogen occupies a volume of 250 mL at 25°C. What volume will it occupy at 95°C? *309 ml*
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| 1. Oxygen gas is at a temperature of 40°C when it occupies a volume of 2.30 Liters. To what temperature should it be raised to occupy a volume of 6.50 Liters? *885 K / 612°C*
 |
| 1. Hydrogen gas was cooled from 150°C to 50°C. Its new volume is 75.0 mL. What was its original volume? *98.2 mL*
 |
| 1. Chlorine gas occupies a volume of 25.0 mL at 300 K. What volume will it occupy at 600 K? *50.0 mL*
 |
| 1. A sample of neon gas at 50°C and a volume of 2.50 Liters is cooled to 25°C. What is the new volume? *2.31 L*
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