**Name: Period: Seat#:**

**Worksheet #2**

Boyle’s Law states that the volume of a gas varies inversely with its pressure if temperature is held constant.

(If one goes up, the other goes down.) We use the formula:

$$P\_{1} x V\_{1}= P\_{2} x V\_{2}$$

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

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| 1. A sample of oxygen gas occupies a volume of 250. mL at 740. torr pressure. What volume will it occupy at 800. torr pressure? *231 mL*
 |
| 1. A sample of carbon dioxide occupies a volume of 3.50 Liters at 125 kPa pressure. What pressure would the gas exert if the volume was decreased to 2.00 liters? *219 kPa*
 |
| 1. A 2.00-Liter container of nitrogen had a pressure of 3.20 atm. What volume would be necessary to

decrease the pressure to 1.00 atm? *6.40 L* |
| 1. Ammonia gas occupies a volume of 450.0 mL as a pressure of 720. mmHg. What volume will it occupy at standard pressure (760 mmHg)? *426 mL*
 |
| 1. A 175 mL sample of neon had its pressure changed from 75.0 kPa to 150.0 kPa. What is its new volume? *87.5 mL*
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