**Dougherty Valley HS AP Chemistry**
**Gas Laws – Boyle's Law**

# WORKSHEET #2

Name: Date: Period: Seat #:

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:

$$P_1 \, x \, V_1 = P_2 \, x \, V_2$$

***Solve the following problems (assuming constant temperature). Assume all number are 3 significant figures.***

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| 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 |
| 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 |
| 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 |
| 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 |
| 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 |