Boyle's Law Review                          Name_____

1. Boyle's Law says that the pressure and volume of a gas are:
   (inversely) / directly proportional to each other. (**Circle correct word**)

2. What is the equation used for solving Boyle's Law problems? __$P_1 V_1 = P_2 V_2$__

3. If the pressure of a gas goes up, what happens to its volume? __goes down__

4. A gas has a volume of 3.00 L at a pressure of 2.0 atm. At what pressure will the
   volume of the gas be 1.75 L?

   $P_1$= __2 atm__       $(2 atm)(3 L) = P_2 (1.75 L)$

   $V_1$= __3 L__

   $P_2$= __?__           $\boxed{3.4 \text{ atm}} = P_2$

   $V_2$= __1.75 L__

5. A gas has a volume of 2.50 mL at a pressure of 3.0 atm. What volume will the gas
   have at a pressure of 9.0 atm?

   $P_1$= __3 atm__       $(3 atm)(2.5 mL) = (9 atm) V_2$

   $V_1$= __2.5 mL__

   $P_2$= __9 atm__

   $V_2$= __?__           $\boxed{.83 \text{ mL} = V_2}$

6. A sample of gas has a volume of 5.0 L at 300 mmHg. What volume will the gas have
   at 600 mmHg?

   $P_1$= __300 mm Hg__   $(300 \text{ mm Hg})(5 L) = (600 \text{ mm Hg})( V_2$

   $V_1$= __5 L__

   $P_2$= __600 mm Hg__

   $V_2$= __?__           $\boxed{2.5 L = V_2}$

7. A balloon holds 0.250 L of air at a pressure of 1 atm. What pressure would cause the
   volume of the balloon to change to 1.00 L?

   $(1 atm)(.250 L) = P_2 (1.00 L)$

   $\boxed{.250 \text{ atm} = P_2}$