BIG GAS QUIZ PREP — FITCH

1. THE TWO GASES HAVE THE SAME KE.
2. " " AT TEMP. OF 0°C OR 273K.
3. H_2 (2.02 g/mol) IS TRAVELING FASTER THAN CO_2 (44.01 g/mol)
4. $615\ mm\ Hg = P_{O_2} + P_{H_2O}$
   $= P_{O_2} + 19.8\ mm\ Hg$
   $615\ mm\ Hg - 19.8\ mm\ Hg = 595.2\ mm\ Hg = P_{O_2}$
5. $P_1T_2 = P_2T_1$ $\quad \frac{P_1}{T_1} = \frac{P_2}{T_2}$
   $\frac{(1\ atm)(403\ K)}{273\ K} = \frac{P_2(273\ K)}{273\ K}$ $\quad = 1.48\ atm = P_2$
6. $P_1V_1 = P_2V_2$
   $\frac{(325\ mm\ Hg)(250\ mL)}{(500\ mm\ Hg)} = \frac{(500\ mm\ Hg)(V_2)}{(500\ mm\ Hg)}$ $\quad 162.5\ mL = V_2$
7. $V_1T_2 = V_2T_1$ $\quad \frac{P_1}{V_1} = \frac{P_2}{V_2}$
   $\frac{(250\ mL)(423K)}{273K} = \frac{(V_2)(273K)}{273K}$ $\quad 387.36\ mL = V_2$
8. $P_1V_1T_2 = P_2V_2T_1$ $\quad \frac{P_1V_1}{T_1} = \frac{P_2V_2}{T_2}$
   $\frac{(760\ mm\ Hg)(10L)(350K)}{(500\ mm\ Hg)(273K)} = \frac{(500\ mm\ Hg)(V_2)(273K)}{(500\ mm\ Hg)(273K)}$
   $19.8L = V_2$

9. PRESSURE WILL INCREASE.

10. PRESSURE WILL DECREASE

11. VOLUME IN THE CAN STAYS THE SAME.