التاريخ: / /

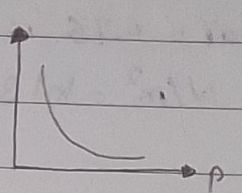
الموضوع: كيمياء فيزيائية د/سالي

1- Boyle's

Relation between (P.V)

* The Volume of the Gase inversly proportional To the Pressure at constant T ~~and T~~

$$\therefore V \propto \frac{1}{P} \Rightarrow V = \frac{K}{P}$$



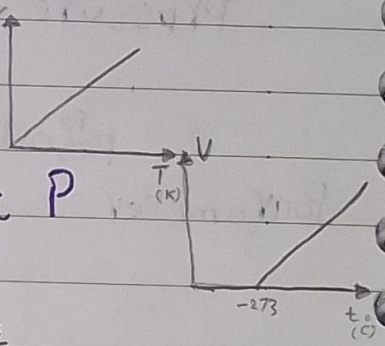
$$\therefore P_1V_1 = P_2V_2 \leftarrow \because P_1V_1 = K \;,\; P_2V_2 = K$$

2- Charle's law

Relation between (V.T)

* V of gase is proportional To T at constant P

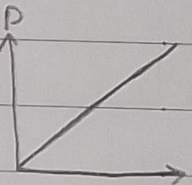
$$V \propto T \rightarrow V = KT$$



$$\frac{V_1}{T_1} = K \;,\; \frac{V_2}{T_2} = K \Rightarrow \therefore \frac{V_1}{T_1} = \frac{V_2}{T_2}$$

3- Amonton's law

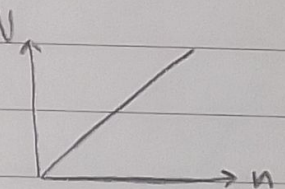
$$P \propto T \qquad P = KT \qquad \frac{P_1}{T_1} = \frac{P_2}{T_2}$$



4- Avogadro's law

عدد مولات

$$V \propto n$$



$$\frac{V_1}{n_1} = \frac{V_2}{n_2}$$

Ex $3H_2 + N_2 \rightarrow 2NH_3$ $\quad V_1 = 1.32 \;,\; V_2 = ?$

$n_1 = 4 \;,\; n_2 = 2$

$$\frac{V_1}{n_1} = \frac{V_2}{n_2} \rightarrow \frac{1.32}{4} = \frac{X}{2} \qquad X = \frac{2 \times 1.32}{4} \qquad X = 0.66$$

5- Ideal cas law القانون العام

ثابت التناسب

→ Boyle's $V \propto \frac{1}{P}$

→ Avogadro $V \propto n$

→ Charle $V \propto T$

$$V \propto \frac{nT}{P} \rightarrow \therefore V = R\frac{nT}{P}$$

$$VP = nRT$$

القانون العام