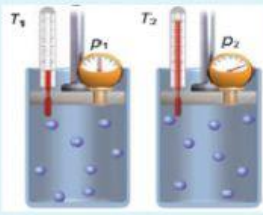


Gay-Lussac-en legea

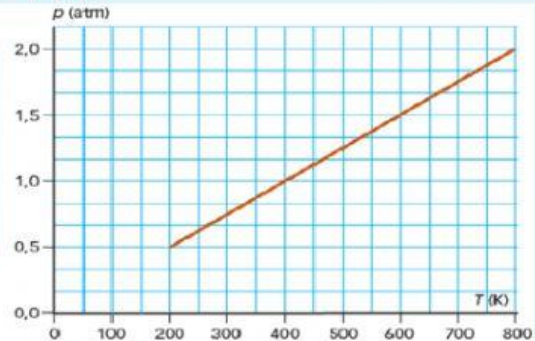
$$V = kTea \rightarrow P/T = kTea \rightarrow P_1/T_1 = P_2/T_2$$

$$P \uparrow \rightarrow T \uparrow$$

$$\text{eta } P \downarrow \rightarrow T \downarrow$$



p (atm)	T (K)	p/T
0,5	200	$2,5 \cdot 10^{-3}$
0,8	320	...
1,0	400	...
1,3	520	...
1,5	600	...
1,8	720	...
2,0	800	...



P eta T zuzenki proportzionalak dira

- Bata bikoizten bada, bestea ere bikoiztuko da
- Bata /4 egiten badugu, bestea ere 4-ra pasatuko da

1- Ontzi batean $P_1 = 12$ atm eta $T_1 = 300$ K ditugu. Bolumena konstantea mantenduz :

a) Kalkulatu tenperatura presioa erdira jaisten bada

$$\begin{aligned} P_1 &= \text{atm} \\ T_1 &= \text{K} \\ P_2 &= \text{atm} \\ T_2 &= ? \end{aligned} \quad \frac{P_1}{T_1} = \frac{P_2}{T_2} \rightarrow \frac{12}{300} = \frac{6}{T_2} \rightarrow T_2 = 150 \text{ K}$$

b) Kalkulatu tenperatura presioa hirukoizten bada

$$\begin{aligned} P_1 &= 12 \text{ atm} \\ T_1 &= 300 \text{ K} \\ P_2 &= \text{atm} \\ T_2 &= ? \end{aligned} \quad \frac{P_1}{T_1} = \frac{P_2}{T_2} \rightarrow \frac{12}{300} = \frac{36}{T_2} \rightarrow T_2 = 900 \text{ K}$$

c) Kalkulatu presioa tenperatura herenera jaisten bada

$$\begin{aligned} P_1 &= 12 \text{ atm} \\ T_1 &= 300 \text{ K} \\ P_2 &= ? \\ T_2 &= \text{K} \end{aligned} \quad \frac{P_1}{T_1} = \frac{P_2}{T_2} \rightarrow \frac{12}{300} = \frac{P_2}{150} \rightarrow P_2 = 6 \text{ atm}$$

d) Kalkulatu presioa tenperatura lau aldiz handitzen bada

$$\begin{aligned} P_1 &= 12 \text{ atm} \\ T_1 &= 300 \text{ K} \\ P_2 &= ? \\ T_2 &= \text{K} \end{aligned} \quad \frac{P_1}{T_1} = \frac{P_2}{T_2} \rightarrow \frac{12}{300} = \frac{P_2}{1200} \rightarrow P_2 = 48 \text{ atm}$$

$$760 \text{ mm Hg} = 1 \text{ atm} = 101325$$

$$T(K) = T(^{\circ}\text{C}) + 273$$

- 1) Ontzi batean $P_1 = 360 \text{ mmHg}$ eta $T_1 = 127^{\circ}\text{C}$ ditugu. Bolumena konstantea mantenduz :

$$T_1 = \quad + \quad = 400 \text{ K} \quad P_1 = 360 \text{ mmHg} \cdot \frac{\text{atm}}{\text{mmHg}} =$$

- a) Kalkulatu tenperatura presioa 4 atm-ra igotzen bada

$$P_1 = 0,474 \text{ atm} \quad \frac{P_1}{T_1} = \frac{P_2}{T_2} \Rightarrow \quad = \frac{P_2}{T_2} \Rightarrow \quad \cdot T_2 = \quad \Rightarrow T_2 = \quad =$$

$$T_1 = 400 \text{ K}$$

$$P_2 = \quad \text{atm}$$

$$T_2 = ?$$

- b) Kalkulatu presioa tenperatura 200 K-ra aldatzen bada

$$P_1 = 0,474 \text{ atm} \quad \frac{P_1}{T_1} = \frac{P_2}{T_2} \Rightarrow \quad = \frac{P_2}{T_2} \Rightarrow \quad = P_2 =$$

$$T_1 = 400 \text{ K}$$

$$P_2 = ?$$

$$T_2 = \quad \text{K}$$

- c) Kalkulatu tenperatura presioa $2 \cdot 10^5 \text{ Pa}$ -ra aldatzen bada(1662,4 K)

$$P_2 = 2 \cdot 10^5 \text{ Pa} \cdot \frac{\text{atm}}{\text{Pa}} = \quad \text{atm}$$

$$P_1 = 0,474 \text{ atm} \quad \frac{P_1}{T_1} = \frac{P_2}{T_2} \Rightarrow \quad = \frac{P_2}{T_2} \Rightarrow \quad \cdot T_2 = \quad \Rightarrow T_2 = \quad =$$

$$T_1 = 400 \text{ K}$$

$$P_2 = \quad \text{atm}$$

$$T_2 = ?$$

- d) Kalkulatu presioa tenperatura 550 K-ra aldatzen bada(0,652 atm)

$$P_1 = 0,474 \text{ atm} \quad \frac{P_1}{T_1} = \frac{P_2}{T_2} \Rightarrow \quad = \frac{P_2}{T_2} \Rightarrow \quad = P_2 =$$

$$T_1 = 400 \text{ K}$$

$$P_2 = ?$$

$$T_2 = \quad \text{K}$$