

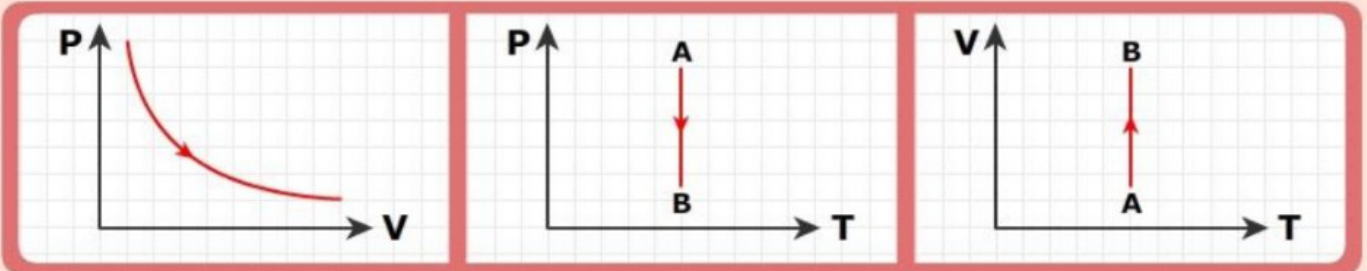


THE GAS LAWS

BOYLE'S LAW

According to this law, for a given mass of a gas, the volume of a gas at constant temperature (called **isothermal** process) is inversely proportional to its pressure, that is

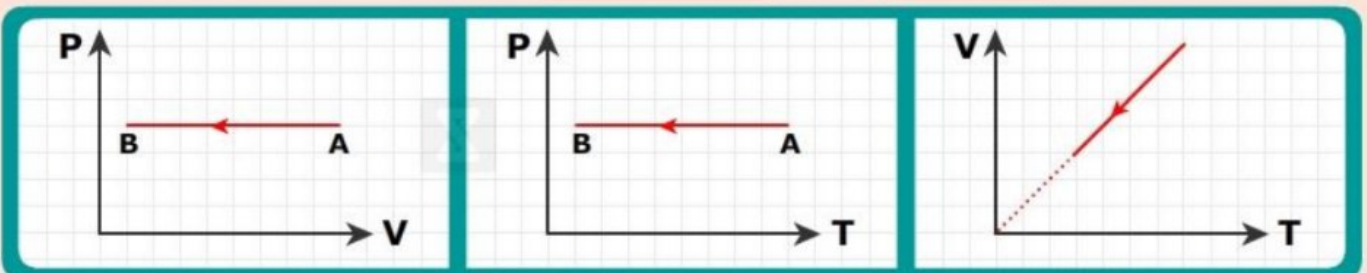
$$V \propto \frac{1}{P} \implies PV = \text{Constant} \implies P_i V_i = P_f V_f$$



CHARLE'S LAW

According to this law, for a given mass of a gas, the volume of a gas at constant pressure (called **isobaric** process) is directly proportional to its absolute temperature, that is

$$V \propto T \implies \frac{V}{T} = \text{Constant} \implies \frac{V_i}{T_i} = \frac{V_f}{T_f}$$



GAY LUSSAC'S LAW OR PRESSURE LAW

According to this law, for a given mass of a gas, the pressure of a gas at constant volume (called **isochoric** process) is directly proportional to its absolute temperature, that is

$$P \propto T \implies \frac{P}{T} = \text{Constant} \implies \frac{P_i}{T_i} = \frac{P_f}{T_f}$$

