$\gamma \rightarrow$ constant for the gas ;

$\gamma_{monoatomic} = 5/3$ , $\gamma_{diatomic} = 7/5$ } normal temp

$\gamma_{polyatomic} = 4/3$

So, $\boxed{\gamma > 1}$

## Relation Between P and T in Adiabatic Process:

For any ideal $PV = \mu RT$ | $PV^\gamma = K$ ... (1)

$$V = \frac{\mu RT}{P}$$

Putting the value of V in eq (1)

$$P\left(\frac{\mu RT}{P}\right)^\gamma = K$$

$$P \cdot \frac{(\mu R)^\gamma \cdot T^\gamma}{P^\gamma} = K$$

$$\frac{T^\gamma}{P^{\gamma-1}} = \left(\frac{K}{(\mu R)^\gamma}\right) \rightarrow \text{constant}$$