

$$\frac{(\text{slope})_{\text{adia}}}{(\text{slope})_{\text{isotherm}}} = \gamma ; \quad \therefore \gamma > 1 \Rightarrow (\text{slope})_{\text{adia}} > (\text{slope})_{\text{isotherm}}$$

Calculation of work from Indicator Diagram:

(a) When $P = \text{const}$:

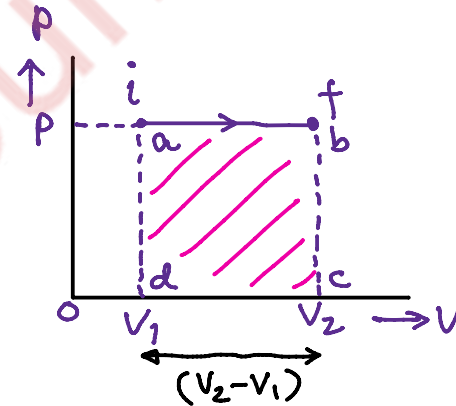
Area between the graph
and volume axis

$$= \text{area of } \square abcd$$

$$= ad \times dc$$

$$= p \times (V_2 - V_1)$$

$$= p \cdot \Delta V = \text{work done}$$



Note: If volume increases (in case of expansion) work is done by the system $\Rightarrow \Delta W = +\text{ive}$

If volume is decreasing work is done on the system $\Rightarrow \Delta W = -\text{ive}$