

(2011) 68

$$\delta Q = u dv + \frac{u}{3} dv = \frac{4}{3} u dv$$

$$\eta = \frac{\delta W}{\delta Q} = \frac{du dv}{3 \cdot \frac{4}{3} u dv} = \frac{du}{4u} \quad \text{--- (2)}$$

معادلة (1) و (2)

$$\frac{dT}{T} = \frac{du}{4u} \Rightarrow \frac{du}{u} = 4 \frac{dT}{T}$$

$$\ln u = 4 \ln T + \ln k$$

$$= \ln k T^4$$

$$u = k T^4$$