PROZESU POLITROPIKOAK ADIERAZPENAK

GAS IDEALA (-ETAN) $PV^j = Kte$ ADIERAZPENA DUTEN PROZESUAK

j EDOZEIN IZAN DAITEKE

$Kte = P_0 V_0^j = P_1 V_1^j = \dots$

W (i) $\delta W = -pdV$

$PV^j = C \Rightarrow p = \frac{C}{V^j}$

$$\left.\begin{array}{l}\delta W = -pdV \\ PV^j = C \Rightarrow p = \frac{C}{V^j}\end{array}\right\} \delta W = -\frac{C}{V^j}dV \Rightarrow W = -C\int \frac{1}{V^j}dV$$

$$W = \frac{1}{(j-1)}(P_2V_2 - P_1V_1)$$

$$W = \frac{1}{(j-1)} nR(T_2 - T_1)$$

ΔU (ii) $U = U(T) \Rightarrow dU = C_v dT \Rightarrow \Delta U = C_v \Delta T$

$$\Delta U = C_v(T_2 - T_1) \qquad \Delta U = C_v nR(T_2 - T_1)$$

Q (iii) $Q = \Delta U - W$

$$Q = nR(T_2 - T_1)\left[C_v - \frac{1}{(j-1)}\right]$$

$$Q = \frac{(T_2 - T_1)}{(j-1)}[jC_v - C_p]$$

$$Q = \frac{(T_2 - T_1)}{(j-1)} nR[jC_v - C_p]$$