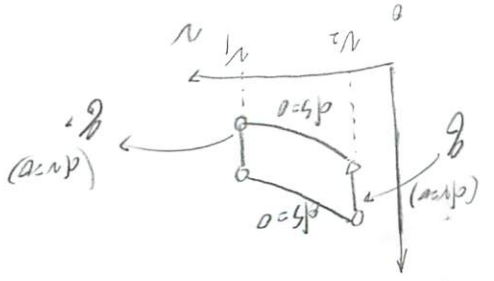


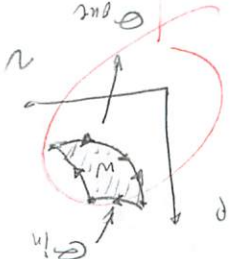
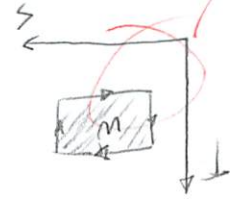
1st cycle
No. 4

$$\left\{ \begin{aligned} r &= \frac{C_p}{C_v} \\ r &= \frac{C_p}{C_v} \end{aligned} \right.$$



[1st cycle] 4-1-1-2-3-4 (0.000-1.000)

$$\gamma = 1 - \frac{Q_{in}}{Q_{out}} = 1 - \frac{1}{\pi}$$



[2nd cycle] 4-1-1-2-3-4

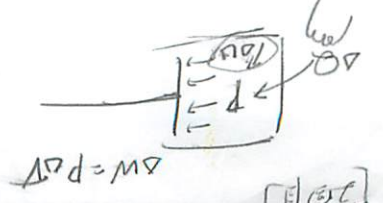
for 4th cycle

$$\left\{ \begin{aligned} \Delta Q &= \Delta U + P\Delta V \\ dQ &= du + p\Delta v \\ CP &= CV + R \end{aligned} \right.$$

$$\Delta Q = \Delta U + P\Delta V$$

$$W = \int_{V_1}^{V_2} P_{TM} dV = \int_{V_1}^{V_2} \frac{P_1 V_1}{V} dV = P_1 V_1 \ln \left(\frac{V_2}{V_1} \right)$$

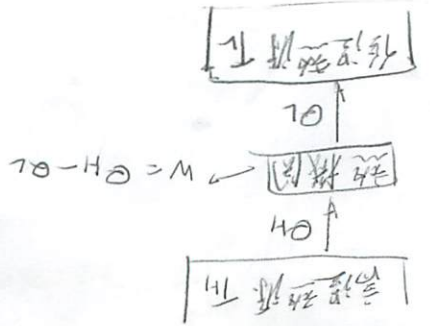
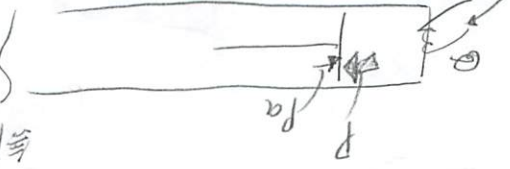
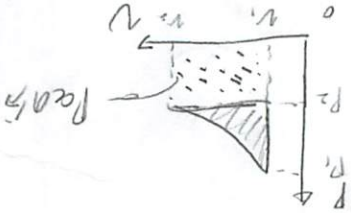
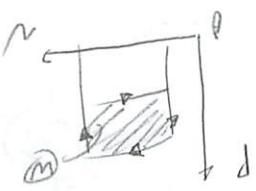
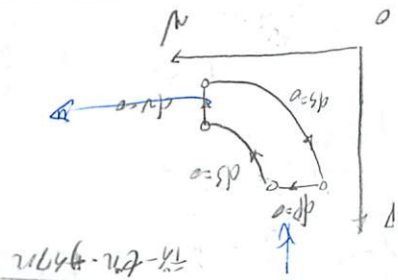
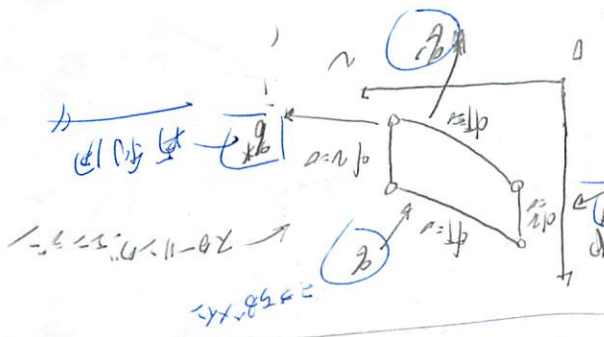
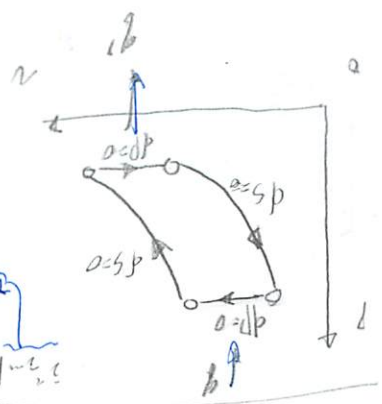
$$\left\{ \begin{aligned} P &= \frac{RT}{V} \\ W &= \int_{V_1}^{V_2} P dV \end{aligned} \right.$$



[2nd cycle]

2nd cycle 1st cycle 15th Jan/14/2020 (K)

2nd cycle 1st cycle 15th Jan/14/2020 (K)



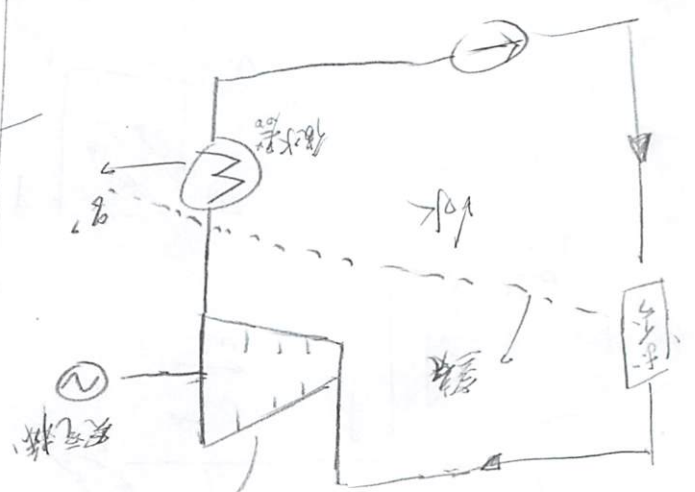
2nd cycle

2284311

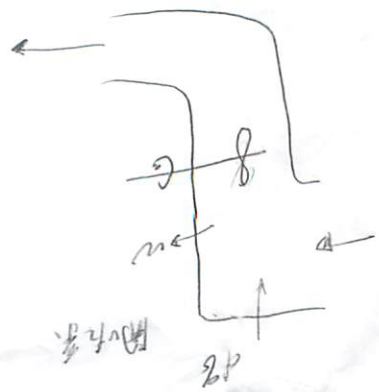
2023年12月3日

自修
物理

12月3日

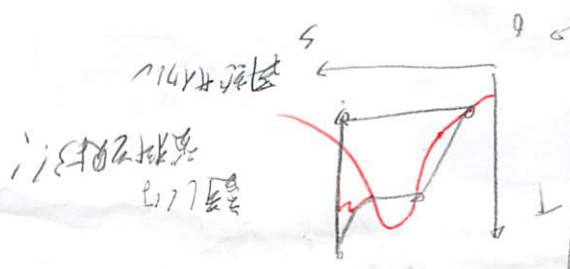
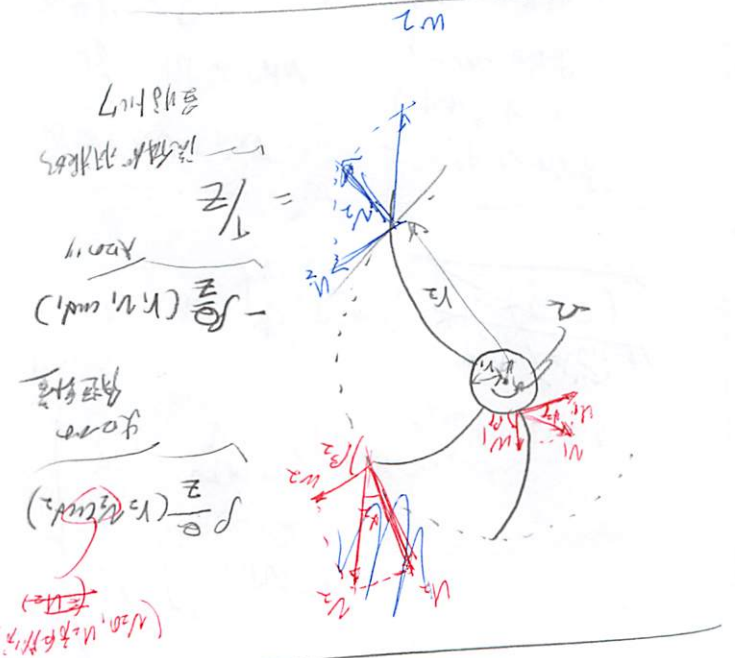


2023年12月3日

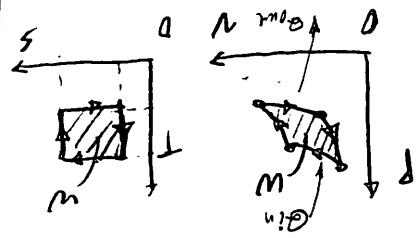


$$L = \int \mathbf{r} \times \mathbf{v} = \int \mathbf{r} \times \mathbf{v} = L$$

$$L = \int \mathbf{r} \times \mathbf{v} = L$$



$$\gamma \cdot 1 - \frac{Q_H}{Q_L} = 1 - \frac{T_H}{T_L}$$



PV图面积代表热功转化
 [例题], [例题]

热力学第一定律

$$Q_A = Q_D + P_A W$$

$$C_P = C_V + R$$

$$(2.4 - 0.8 \text{ kJ})$$

$$P V^K = \text{const}$$

$$(1.4 \times 10^5 \text{ Pa})$$

$$T_1 P_1 \gamma = T_2 P_2 \gamma$$

$$W = \int_{V_1}^{V_2} P dV$$

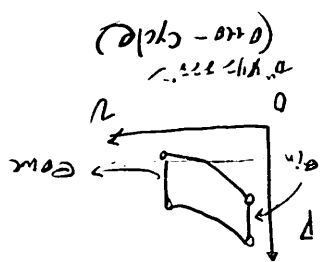
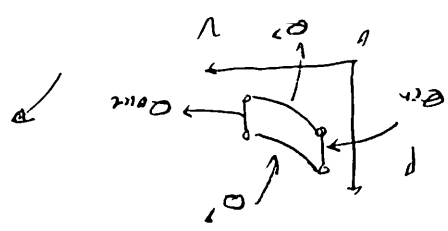
$$P = \frac{P_1 V_1^\gamma}{V^\gamma}$$

$$W = \int_{V_1}^{V_2} P_1 V_1^\gamma V^{-\gamma} dV$$

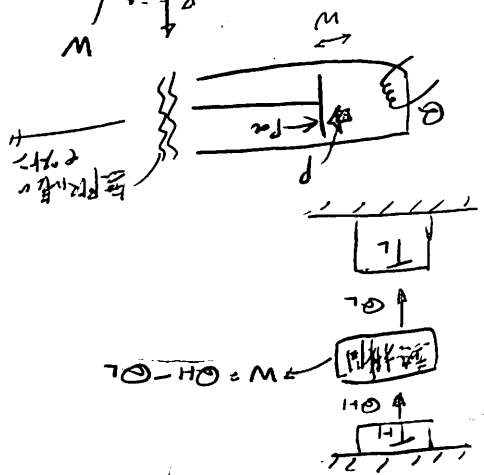
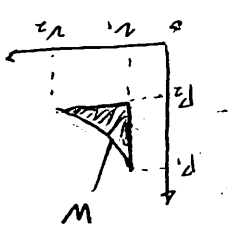
[例题]

热力学第一定律
 (2.4)

2.4-11-45711

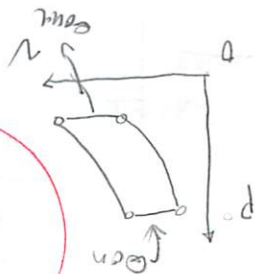


热力学



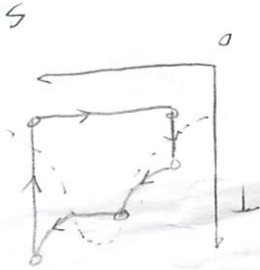
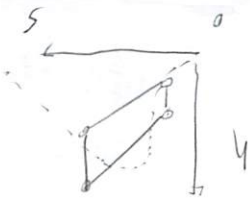
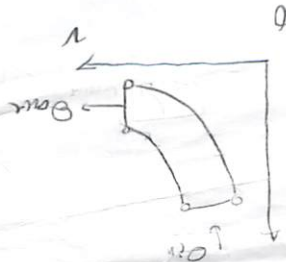
$$T = 46 \text{ K}$$

3-1-14711 (Brayton cycle)



1-2-3-4
新到建
不修器(村)

1-2-3-4-1



Rankine cycle

1-2-3-4-1