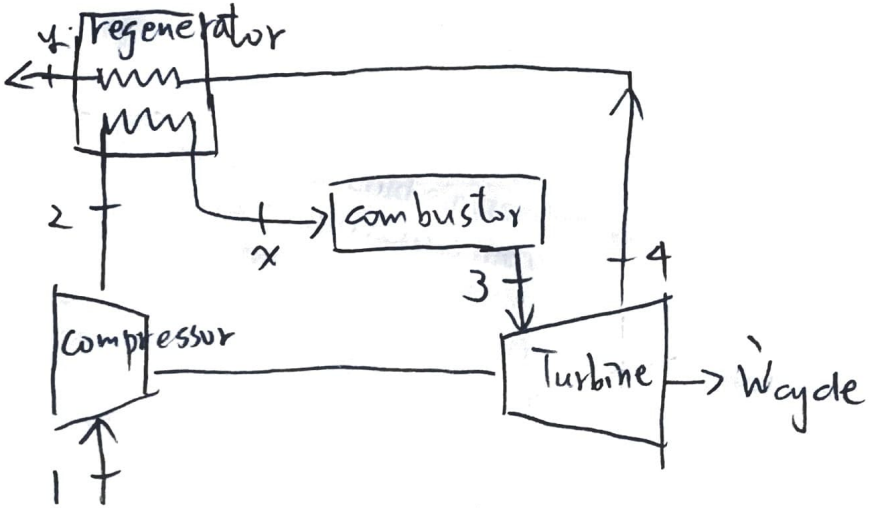
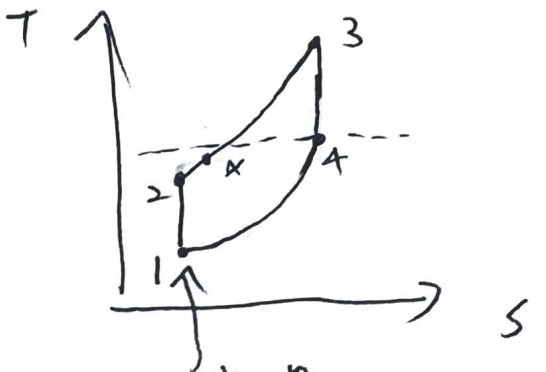
熱力小考 2nd 蘇品瑄 E14082181

(a)





② $T_4 > T_2$

① 常溫 常壓] 氣體

(b) $\eta = 1 - \frac{T_1}{T_2}$

$$r = \frac{P_2}{P_1} = \left(\frac{T_2}{T_1}\right)^{k/k-1} = \frac{P_3}{P_1} = \left(\frac{T_3}{T_1}\right)^{k/k-1}$$

$(\because P_2 = P_3)$

$$\Rightarrow \frac{T_2}{T_1} = r^{k-1/k}$$

$$\boxed{\frac{T_1}{T_2} = \left(\frac{T_1}{T_3}\right) r^{k-1/k}}$$