

HW 05

(12)

$$T_H = 400^\circ\text{C} = (273 + 400)\text{K} = 673\text{K}$$

$$T_L = 20^\circ\text{C} = (273 + 20)\text{K} = 293\text{K}$$

$$e_{\text{CARNOT}} = \frac{T_H - T_L}{T_H} (100) = \frac{673 - 293}{673} (100) = \underline{\underline{56\%}}$$

CARNOT EFFICIENCY IS MAXIMUM POSSIBLE!

(13)

$$Q_{\text{IN}} = 28\text{kJ} \quad W = 7\text{kJ}$$

$$e = \frac{W}{Q_{\text{IN}}} (100) = \frac{7\text{kJ}}{28\text{kJ}} (100)$$

$$\underline{\underline{e = 25\%}}$$