LATEX PRACTICE

RAUL VILLALOBOS

Que) Work

A $\rightarrow$ B

$$W = P_i \Delta V = 5.40 \times 10^5 \text{ Pa} \times (0.451 - 0.272) \text{ m}^3 = 96660 \text{ J}$$

B $\rightarrow$ C

$$W = \frac{P_i V_i - P_f V_f}{\gamma - 1} = \frac{5.40 \times 10^5 \text{ Pa} 0.451 \text{ m}^3 - 1.55 \times 10^5 \text{ Pa} 0.950 \text{ m}^3}{1 + \frac{2}{3} - 1} = 144435 \text{ J}$$

C $\rightarrow$ A

$$W = P_i V_i \ln\left(\frac{V_f}{V_i}\right) = 1.55 \times 10^5 \text{ Pa} 0.950 \text{ m}^3 \ln\left(\frac{0.272 \text{ m}^3}{0.950 \text{ m}^3}\right) = -184160 \text{ J}$$

W_{net}

$$W_{net} = (96660 + 144435 - 184160) \text{ J} = 56935 \text{ J}$$