

2-3 (Heat Addition → Constant Volume)

$$Q_{in} = m C_v \Delta T$$

$$\frac{P_3}{P_2} = \frac{T_3}{T_2}$$

heat addition

1-2
Isentropic

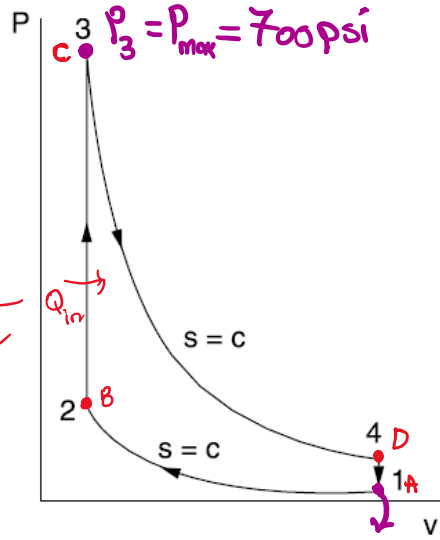
$$\frac{T_2}{T_1} = \left(\frac{V_1}{V_2} \right)^{k-1}$$

(pg. 145 FE Handbook)

For air → $k = 1.4$

$$\left(\frac{V_1}{V_2} \right) = r = 8$$

$$\frac{P_2}{P_1} = \left(\frac{V_1}{V_2} \right)^k$$



$$r = 8$$
$$r = \frac{V_1}{V_2} = 8$$

$$P_1 = 14 \text{ psi}$$
$$T_1 = 60^\circ \text{ F}$$