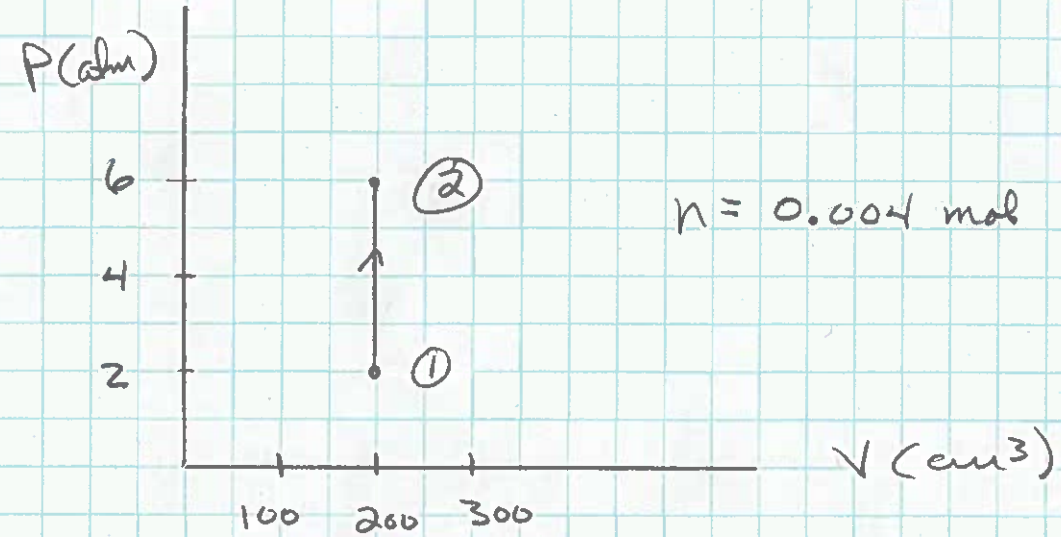

a.) V = constant for 1 → 2 ⇒ isochoric

b.) $V_1 = V_2 = (200\ cm^3)\left(\frac{1m}{100\ cm}\right)^3 = 200\times10^{-6}\ m^3$

So $PV = nRT \Rightarrow T_1 = \frac{P_1 V_1}{nR}$

and $P_1 = 2\ atm. = 2.026\times10^5\ Pa$

So $T_1 = 1218.4\ K = 945.4°C$

Could also do: $T_2 = \frac{P_2 V_2}{nR}$

with $P_2 = 6\ atm = 6.078\times10^5\ Pa.$

OR for V = const.

$$\frac{V}{nR} = \frac{T}{P} = \text{const.} \Rightarrow \frac{T_1}{P_1} = \frac{T_2}{P_2}$$

$$T_2 = T_1\left(\frac{P_2}{P_1}\right) = 3655.2\ K = 3382.2°C$$