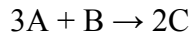1. The gas-phase reaction

   $3A + B \rightarrow 2C$

   is to be carried out isothermally. The molar feed is 50% A and 50% B, at a pressure of 16.4 atm and 227 ^{o}C.

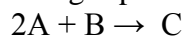   a. What are C_{Ao}, δ, and ε?

   b. Calculate the concentrations of A and B when the conversion of A is 60%.

   c. Complete the stoichiometric table.

Species	initial	change	leaving
A	N_{Ao}	$- N_{Ao}X$	
B	$\Theta_B N_{Ao}$		
C	0		

2. The gas phase reaction
   $2A + B \rightarrow C$
   is carried out in a PFR. The feed is equal molar in A and B and the temperature is 500 K and the entering pressure is 1660 kPa. The ideal gas constant, R = 8.314 kPa.L/mol.K. Show that $C_B = C_{Ao}$.