KSU – Chemical Engineering Department
ChE 320 (Chemical Reactor Engineering) – TUT #2
Name: **ID:** **SN:**

The reaction: $A \rightarrow B + C$, was carried out and the following data recorded:

X	0	0.1	0.2	0.4	0.6	0.7	0.8
$F_{Ao}/-r_A$ (m^3)	0.89	1.08	1.33	2.05	3.54	5.06	8.0

a. What is the CSTR volume necessary to achieve 45% conversion?

b. What is the CSTR volume added in series to the first to achieve 67% conversion?

c. Repeat (a) and (b) for PFR with conversions 50% and 75% respectively.

d. Over what range of conversions would the PFR and CSTR reactor volumes be identical?