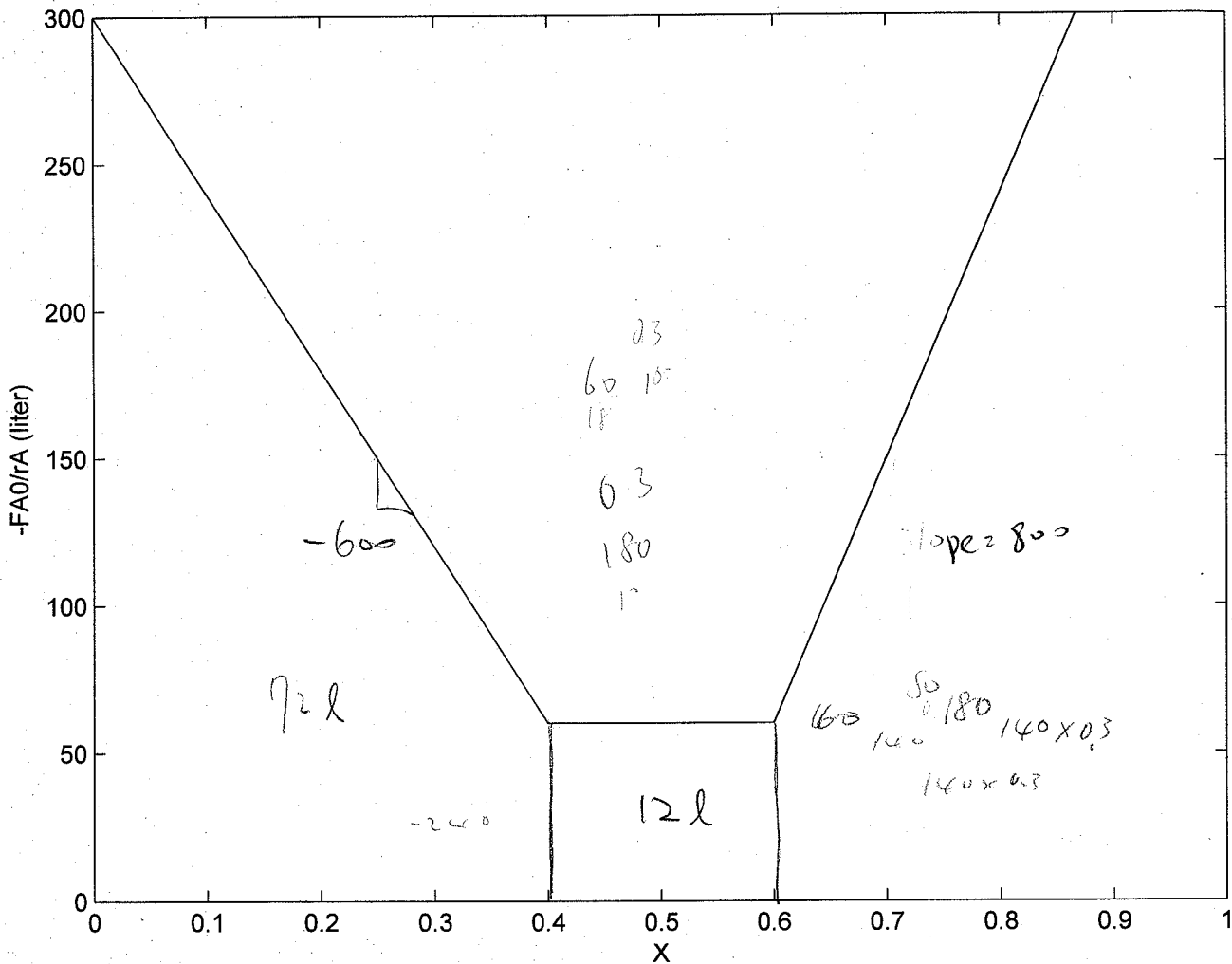


## Assignment 2

Problems 1, 2, 3 and 5

- 1) Baby Hippo is 2.25 years of age
- 2) Conversion for baby Hippo is 0.395
- 3) conversion decreases for this autocatalytic reaction when 3 CSTRs are used
- 4) Transient CSTR or semibatch problem

### 3 problem 2)



d) PFR  $\rightarrow$  CSTR,  $X_{A1} = 0.4$ ,  $24 = (X_{A2} - 0.4) \cdot [(X_{A2} - 0.6) \cdot 800 + 60]$   
 $X_{A2} \approx 0.647$

e) CSTR  $\rightarrow$  PFR  $0.4 \cdot 60 = 24$ ,  $X_{A1} = 0.4$   
 $72 - 12 = [60 + (60 + 800(X_{A2} - 0.6))] \cdot (X_{A2} - 0.6) =$   
 $X_{A2} \approx 0.85$  (0.9 if use S.R.)