CHFEN 3553: Chemical Reaction Engineering

Assignment 2: Due January 27, 2006

1. Study the digestion of the hippopotamus described in the web module of your CD-ROM. Write a short paragraph explaining the major assumptions made, key values and equations used, and results obtained in the example.
2. Solve problems 1,2,3 and 5 in the Problems section of the module.
3. Problem 2-7 in your text, parts d and e.
4. For batch, PFR and CSTR systems with no volume change, derive integrated or algebraic rate expressions that relate time (batch) or residence time (flow reactors) to desired conversion for the following reactions.
    a. Zero order
    b. First order
    c. First order reversible
    d. Second order
    e. n^{th} order