PHA 5127
Case Study 2
Fall 2007

1. Patient A.M. is given a 60 mg dose of gentamicin. The volume of distribution for this patient is 10 L and the concentration after 8 hours is 1.4 mg/L. Calculate the k_e. What is the half-life?

2. Assuming a one compartment body model and a 1st order process, please graph the following on semilog paper and predict the concentration after 6 hours.

Time (hours)	Concentration (mg/L)
1	80
3	42
5	22

3. Using 110 mg/L as the starting concentration and a k_e of 0.318 hour^{-1} calculate the concentration after 6 hours.

4. True of False

a. In a one-compartment body model it is assumed that a drug distributes to all areas of the body instantaneously.

b. Pharmacodynamics is the study of the time course of a drug's absorption, distribution, metabolism, and elimination.

c. The k_e of a drug is 0.00333 min^{-1}. After 2 hours 67% of the drug is remaining in the body.