Case Study 1

1. A 50 year old male suffering from pneumonia was given a 1000mg IV bolus dose of the antibiotic Baqilmycin. The following table contains his plasma concentrations.

Time (min)	Concentration (mg/L)
5	7.8
30	5.7
60	3.9
100	2.4
200	0.7

Calculate the half-life, $AUC_{0-\infty}$, and the volume of distribution.

2. The same patient was also given a 500mg IV bolus dose of Grebohol. His initial plasma concentration is 10mg/L. If protein binding in the tissue is equal for both drugs, what is the difference in plasma protein binding between the two? (use a plasma volume of 3L and a tissue volume of 38L)

3. The following table contains plasma concentrations for Grebohol.

Time(min)	Concentration (mg/L)
5	9.75
30	8.5
60	7
100	5
200	0

What is the difference between Baqilmycin's and Grebohol's elimination? What would cause a drug to be eliminated in such a way?