

PHA 5127

First Exam

Fall 2006

On my honor, I have neither given nor received unauthorized aid in doing this assignment.

Name

Put all answers on the bubble sheet

TOTAL _____/125 pts

Question Set I (True or False)
(15 points)

True (A) or False (B). On the bubble sheet mark *A* for true or *B* for false

A drug that does not bind to plasma proteins and tissue components has a V_d of 41 L

- 1.) T F The drug is likely to be hydrophilic
- 2.) T F V_T is likely to be round 18 L
- 3.) T F The relatively small V_d of 41 L suggests that the hepatic clearance has to be pronounced.
- 4.) T F At equilibrium, the free drug concentrations in plasma and tissue will be identical.
- 5.) T F At equilibrium, the total blood concentrations in plasma and tissue will be identical.

Question Set II
(10 points)

Imagine a drug that is given as an intravenous bolus. The dose was 80 mg. The elimination follows first order principles. 2 hours after administration the drug a concentration C1 of 1.48 $\mu\text{g/ml}$ is observed. Four hours after the administration the concentration C2 was 0.74 $\mu\text{g/ml}$

6.) What is the elimination rate constant of this drug? (10 points)

A) 0.346 h⁻¹

B) 0.693 h

C) 0.693 h⁻¹

D) 0.346 $\mu\text{g}/(\text{ml}\cdot\text{h})$

E) 0.370 h⁻¹

7.) What will the concentration be 8 hours after injection? (10 points)

A) 0.370 $\mu\text{g/ml}$

B) 0.370 mg/ml

C) 0 $\mu\text{g/ml}$

D) 0.185 $\mu\text{g/ml}$

E) none of the above