PHA 5127 Dose Optimization I

Case Study V

1. **List the assumptions that apply to a one-compartment-body model (IV-bolus administration)**
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2. **Indicate with an arrow, (-), or (?) for how a change in the given parameter would affect the other parameters.**

CL	VD	Dose	AUC	k_e
↑				
	↓			
		↑		
			↑	
				↑

3. **TRUE (T) or FALSE (F)**

   The clearance of a drug relates the dose with $AUC_{0-tlast}$ (assume IV-bolus administration)

   T   F

4. **Patient A receives 100 mg of drug A. Patient B 200 mg of drug B. Evaluate the following statements. (Assume IV-bolus administration).**

   The AUC_∞ of patient A must be as double as high as the AUC_∞ of patient B

   T   F

   Both patients must show the same free concentrations at time point zero if the volume of distribution of drug B is as double as high the volume of distribution of A

   T   F

   If patient B received 400 mg of drug B instead of 200 mg, his AUC_∞ is likely to be twice as high.

   T   F

5. **On slide 227, there is the following equation:**

$$CL_{total} = CL_{ren} + CL_{bil} + CL_{met}$$

   Could you think of a situation for which this equation would not be correct?