1) The same dose (500 mg) of drug A was administered to two distinct patients via IV-bolus. The following plasma-concentration-time profiles were obtained. The blue line is Subject 1 and the red line is subject 2. Answer the questions below.

True or false: [4 points]

a) The clearance of subject 1 is higher to the clearance in subject 2. (T/F)

b) The AUC0-t of the subject 1 is higher to the AUC0-t of subject 2. (T/F)

c) The Vd of the subject 2 is higher to the Vd of subject 1. (T/F)

d) The tissue binding in subject 1 is higher to the tissue binding in patient 2. (T/F)

2) True or False [4 points ]

i) A change in clearance will always affect the volume of distribution (T/F)

ii) First order elimination and linear pharmacokinetics indicate that the drug follows a one compartmental body model. (T/F)

iii) When a parent drug is administered orally, the metabolite can be eliminated faster than the parent drug if the Km (first order elimination rate constant of metabolite) is greater than ke (first order elimination rate constant of the parent drug) (T/F)
iv) Absorption is always a first order process. (T/F)

3) Identify which plots indicate linear pharmacokinetics [2 points]

a)

b)