Week 2 Quiz – Routes of Administration and First Pass Effect

Name _________________________________ can potentially reduce oral bioavailability

1. Which of the following is not a “true” route of administration?
   A. oral  
   B. nasal  
   C. topical  
   D. buccal

2. If F = 0.8 for oral administration and the dose is 100 mg, how much drug reaches the systemic circulation?
   A. 100 mg  
   B. 80 mg  
   C. 8 mg  
   D. 0.8 mg

3. If 100% of the dose is absorbed it can be assumed that 100% of the dose reached the systemic circulation.
   A. True  
   B. False

4. If 100% of the dose reaches the systemic circulation following oral administration it can be assume that 100% of the dose was absorbed.
   A. True  
   B. False

5. When the IV bolus dose of a drug is doubled which of the following also doubles?
   I. $C_p^0$ = initial plasma concentration
   II. AUC = Area Under the Curve
   III. $F$ = Bioavailability (Absolute Availability)
   A. I  
   B. II  
   C. I and II  
   D. II and III  
   E. I, II and III

6. Bioavailability is always less than 100% ($F = 1$) of the dose administered.
   A. True  
   B. False
7. The first pass effect can be due to which of the following?
   A. Gut wall metabolism and liver metabolism
   B. Gut wall metabolism alone
   C. Liver metabolism alone

8. In addition to the first pass effect, what else can potentially reduce oral bioavailability?
   A. Incomplete dissolution of the dosage form
   B. Degradation an acid labile drug in the stomach
   C. Dosage form fails to release the drug
   D. Two of the above can potentially reduce oral bioavailability
   E. All of the above can potentially reduce oral bioavailability

9. Which of the following route of administration does not require absorption to reach the systemic circulation?
   A. SC
   B. IV
   C. IM
   D. Buccal
   E. Rectal

10. Following nasal administration of a drug intended to provide systemic effect, what is the concentration of drug in the blood at time = 0 (the time when the dose is administered)
    A. The concentration in the blood is at its maximum
    B. The concentration in the blood is equal to zero (0)
    C. The concentration is one half of the maximum concentration