The following questions **MAY HAVE MORE** than one answer. You may choose from A, B, C, or D below. Please read carefully. *(Each question is worth 2 points)*

1. Which of the following graphs below represents an **EXTRAVASCULAR DOSE**?

2. Which of the following graphs below represents an **INTRAVENOUS DOSE**?

3. Which of the following graphs below represents a **TWO-COMPARTMENT MODEL**?

4. What equation is used to describe the plasma concentration-time curve in **GRAPH B**?

5. In **GRAPH A** above, what is the $C_{max}$ and $T_{max}$?

6. In **GRAPH B** above, what is the initial concentration, $C_p^*$?

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**D. None**

For the following answers, you will need to use the above graphs and give YOUR BEST ESTIMATE. *(Each question is worth 2.5 points)*

5. In **GRAPH A** above, what is the $C_{max}$ and $T_{max}$?

6. In **GRAPH B** above, what is the initial concentration, $C_p^*$?
SHORT ANSWERS – Answer ANY TWO of the following questions #7, #8, or #9. Please be as thorough as possible with your answers and provide examples (visuals) if necessary. (4 points each)

7. Define enterohepatic cycling and describe how this process can alter plasma concentration-time curve profiles.

8. Describe how the first-pass effect can alter plasma concentration time curves of drugs.

9. How can a dosage form alter the bioavailability of a drug?

TRUE or FALSE for questions 10 - 13 below (1 point each).

10. The half-life ($t_{1/2}$) changes with increasing dose for drugs that display non-linear pharmacokinetics.

11. The half-life ($t_{1/2}$) remains constant for zero-order pharmacokinetics.

12. The half-life ($t_{1/2}$) remains the same with increasing dose for drugs that display first-order pharmacokinetics.

13. Drugs with a low volume of distribution ($V_d$), $< 5$ L, indicate that the drug is predominately located in the vascular compartment.