Metronidazole (S = 1.0) follows a two-compartment pharmacokinetic model. After administering a single intravenous dose (1 g) in a female patient, the equation best describing metronidazole kinetics was:

\[ Cp = 95 \mu g/mL e^{-\frac{2.72}{hr}t} + 4.9 \mu g/mL e^{-\frac{0.257}{hr}t} \]

1. Calculate the elimination half-life for the drug above? (3 points).

2. Calculate the area under the curve? (3 points).

3. Calculate the \( V_p \)? (3 points).

4. Calculate the \( C_p \) at 15 minutes? (4 points).
Use the following information to answer the remaining questions.

Three people have had their serum creatinine measured. AJ, a male, has a serum creatinine of 1.0 mg%, is 5 feet 9 inches tall and is 38 years old. DR, a female, has a serum creatinine of 0.9 mg%, is 5 feet 4 inches tall and is 47 years old. Finally, MT is a 71 year old male, 6 feet 7 inches tall and has a serum creatinine of 1.0 mg%.

5. Rank in order which individual has the highest creatinine clearance to the individual with the lowest creatinine clearance (4 points)
   a. MT>DR>AJ
   b. AJ>DR>MT
   c. AJ>MT>DR
   d. DR>MT>AJ
   e. DR>AJ>MT

6. What is the IBW of DR? (4 points)
   a. 93.7 kg
   b. 54.7 kg
   c. 70.7 kg
   d. 59.2 kg
   e. None of the above

7. What is the IBW of MT? (4 points)
   a. 59.2 kg
   b. 93.7 kg
   c. 54.7 kg
   d. 70.7 kg
   e. None of the above