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Math 1020 Project

- 1- Interpret the percent strength 25.6%. Answer  $25.6\% = \frac{25.6g \text{ of pure drug}}{100mL \text{ of solution}}$
- 2- Interpret the percent strength 5.7%. Answer  $5.7\% = \frac{5.7g \text{ of pure drug}}{100mL \text{ of solution}}$
- 3- Interpret the percent strength 8.3%. Answer  $8.3\% = \frac{8.3g \text{ of pure drug}}{100mL \text{ of solution}}$
- 4- Describe how you mix the 25.6% and 5.7% solutions to get 1 L of an 8.3% solution. Round to the nearest natural number in mL.  
Answer: Step one. Convert 1 L to 1,000mL  $1L \times \frac{1000mL}{1L} = 1000mL$   
Step two:  $1000mL \times \frac{8.3-5.7}{25.6-5.7} = 130.65=131mL$   
Step three: Start with 131mL of the 25.6% solution and add the 5.7% solution until the total volume is 1000mL of the 8.3% solution.
- 5- How many mL of the 25.6% solution do you use? Answer: 131mL
- 6- How many grams of pure drug are there in the above volume? Round to the nearest tenth.  
Answer:  $\frac{25.6g}{100mL} \times \frac{131mL}{1} = 33.5g$ .
- 7- How many mL of the 5.7% solution do you use? Answer:  $1000mL - 131mL = 869mL$
- 8- How many grams of pure drug are there in the above volume? Round to the nearest tenth.  
Answer:  $869mL \times \frac{5.7g}{100mL} = 49.5g$
- 9- Find the sum of the number of grams of pure drug from the 25.6% and 5.7% solutions. Answer:  
 $33.5g + 49.5g = 83g$
- 10- How many grams of pure drug are there in 1 L of the 8.3% solution?  
Answer:  $1L \times \frac{1000mL}{1L} \times \frac{8.3g}{100mL} = 83g$