

Bethel College

Lower Level Math/Drug Proficiency Spring Review 1 KEY

Calculate the following problems. Unless indicated, all medications involving mL greater than 1 should be rounded to the nearest tenth. Answers in mL that are less than 1 should be rounded to the nearest hundredth. All answers involving tablets should be recorded in terms of # of tabs (or ½ tabs).

1. You have orders to give Furosemide 60 mg. Available are Lasix 20 mg per tablet. How many tablets will you administer?

_____ **3** _____ tab.

$$\mathbf{X \text{ tab} = 1 \text{ tab}/20 \text{ mg} \times 60 \text{ mg}/1}$$

2. Prepare 200 mg oral dosage of paramethadone from available strength 300 mg per mL. How much will you administer?

_____ **0.67** _____ mL.

$$\mathbf{X \text{ mL} = 1 \text{ mL}/300 \text{ mg} \times 200 \text{ mg}/1}$$

3. NeoCalglucon syrup has a dosage strength of 345 mg per 15 mL. You need to give 575 mg. You would give _____ **25** _____ mL.

$$\mathbf{X \text{ mL} = 15 \text{ mL}/345 \text{ mg} \times 575 \text{ mg}/1}$$

4. Benztropine mesylate 1500 mcg has been ordered. Dosage strength available is 0.5 mg tabs. How many tabs would you need?

_____ **3** _____ tab.

$$\mathbf{X \text{ tab} = 1 \text{ tab}/0.5 \text{ mg} \times 1 \text{ mg}/1000 \text{ mcg} \times 1500 \text{ mcg}/1}$$

5. An oral solution of KCL contains 40 mEq per 30 mL. The order reads to give 30 mEq KCL. You would need _____ **22.5** _____ mL.

$$\mathbf{X \text{ mL} = 30 \text{ mL}/40 \text{ meq} \times 30 \text{ meq}/1}$$

6. Codeine strength 15 mg tabs available. Prepare a gr 1/2 dosage. _____ **2** _____ tab.

$$\mathbf{X \text{ tab} = 1 \text{ tab}/15 \text{ mg} \times 60 \text{ mg}/\text{gr} 1 \times \text{gr} 1/2/1}$$

7. Terpin hydrate 3 tsp has been ordered. How many mL will this be? 15 mL.

$$\mathbf{X \text{ mL} = 5 \text{ mL}/1 \text{ tsp} \times 3 \text{ tsp}/1}$$

8. You have orders to give 0.125 mg dosage of Lanoxin IVP. The medication is available in a solution of 0.5 mg per 2 mL. How much will you administer? 0.5 mL.

$$\mathbf{X \text{ mL} = 2 \text{ mL}/0.5 \text{ mg} \times 0.125 \text{ mg}/1}$$

9. The order is for 1 mg Stelazine IM. The solution available is 5 mg per 10 mL. You would give 2 mL.

$$\mathbf{X \text{ mL} = 10 \text{ mL}/5 \text{ mg} \times 1 \text{ mg}/1}$$

10. You have orders to give Lovenox 1 mg/kg SQ every 12 hours. The patient weighs 135 lbs. How much will you administer?
61 mg.

$$\mathbf{X \text{ mg} = 1 \text{ mg}/\text{kg} \times 1 \text{ kg}/2.2 \text{ lbs} \times 135 \text{ lbs}/1}$$

11. Your patient returns from the OR with orders to infuse 1000 mL LR over the next 8 hours. How fast will you administer this IV in both mL/hr and gtts/min using IV tubing with a drop factor of 10 gtts/mL?

$$\underline{\hspace{2cm}} \mathbf{125} \underline{\hspace{2cm}} \text{ mL/hr.}$$

$$\underline{\hspace{2cm}} \mathbf{21} \underline{\hspace{2cm}} \text{ gtts/min.}$$

$$\mathbf{X \text{ mL/hr} = 1000 \text{ mL}/8 \text{ hr}}$$

$$\mathbf{X \text{ gtts/min} = 10 \text{ gtts/mL} \times 125 \text{ mL/hr} \times \text{hr}/60 \text{ min}}$$

12. Use the following information involving the reconstitution of a powdered medication. Nafcil IM requires the addition of 6.6 mL of sterile water for reconstitution. It retains its potency for 48 hr. after reconstitution when refrigerated. The reconstituted solution has a dosage strength of 250 mg per mL. To prepare a 400 mg dosage you will need to withdraw 1.6 mL.

$$\mathbf{X \text{ mL} = 1 \text{ mL}/250 \text{ mg} \times 400 \text{ mg}/1}$$

13. A physician orders the IV reduced to 50 mL/hr. You have decided to use microdrip tubing with 60 gtts/mL. How fast will you administer the IV in gtts/min?
_____50_____gtts/min.

$$\text{X gtts/min} = 60 \text{ gtts/mL} \times 50 \text{ mL/hr} \times \text{hr}/60 \text{ min}$$

14. You are infusing IV solution at 150 mL/hr. How many gtts/min will this be with IV tubing with a drop factor of 20 gtts/mL?
_____50_____gtts/min.

$$\text{X gtts/min} = 20 \text{ gtts/mL} \times 150 \text{ mL/hr} \times \text{hr}/60 \text{ min}$$

15. You have orders to give Rocephin 1 gram IVPB every 24 hours. The medication comes prepared from pharmacy in 50 mL. The drug book states to administer the medication over 30 minutes. How fast will you administer this medication using both mL/hr and gtts/min with IV tubing with a drop factor of 15 gtts/mL?
_____100_____mL/hr. _____25_____gtts/min.

$$\text{X mL/hr} = 50 \text{ mL}/30 \text{ min} \times 60 \text{ min}/1 \text{ hr}$$

$$\text{X gtts/min} = 15 \text{ gtts/mL} \times 100 \text{ mL/hr} \times \text{hr}/60 \text{ min}$$

16. You have orders to give Levaquin IVPB 500 mg in 100 mL D5W. The drug book states to administer it over 1 hour. How fast will you set your IV pump to administer this medication? How fast will you administer it using gtts/min with IV tubing with a drop factor of 10 gtts/mL?
_____100_____mL/hr. _____17_____gtts/min.

$$\text{X mL/hr} = 100 \text{ mL}/1 \text{ hr}$$

$$\text{X gtts/min} = 10 \text{ gtts/mL} \times 100 \text{ mL/hr} \times \text{hr}/60 \text{ min}$$

17. You are caring for a patient following a hysterectomy. She has orders for 500 mg Kefzol IVPB every 8 hours for 3 doses. The medication comes mixed from pharmacy in 60 mL. The drug book tells you to administer the medication over 20 minutes. How fast will you set your IV pump? _____180_____mL/hr.

$$\text{X mL/hr} = 60 \text{ mL}/20 \text{ min} \times 60 \text{ min}/\text{hr}$$

18. The physician has ordered IVP Solu-Medrol 80 mg every 8 hours. The medication comes prepared with 120 mg in 2 mL. How much will you administer?
_____1.3_____mL.

$$\mathbf{X \text{ mL} = 2 \text{ mL}/120 \text{ mg} \times 80 \text{ mg}/1}$$

19. You have orders to give IVP Lasix 60 mg to your patient with HF. The medication comes prepared with 20 mg/mL. How much will you administer?
_____3_____mL.

$$\mathbf{X \text{ mL} = 1 \text{ mL}/20 \text{ mg} \times 60 \text{ mg}/1}$$

20. You are caring for a patient with a suspected DVT. The physician orders a Heparin bolus for them of 60 units/kg. The patient weighs 165 lbs. The Heparin comes from pharmacy in a vial with 10,000 units per 1 mL. How much will you administer in both units and mLs?
_____4500_____units. _____0.45_____mLs.

$$\mathbf{X \text{ units} = 60 \text{ units}/\text{kg} \times 1 \text{ kg}/2.2 \text{ lbs} \times 165 \text{ lbs}/1}$$

$$\mathbf{X \text{ mL} = 1 \text{ mL}/10,000 \text{ units} \times 4500 \text{ units}/1}$$

21. Now you have orders to start the patient from question #20 on a Heparin drip at 12 units/kg/hr. The Heparin comes prepared from pharmacy with 25,000 units in 500 mL. How many units per hour will the patient be receiving and what will you set your IV pump at to deliver this dose?
_____900_____units/hr. _____18_____mL/hr.

$$\mathbf{X \text{ units}/\text{hr} = 12 \text{ units}/\text{kg} \text{ hr} \times 1 \text{ kg}/2.2 \text{ lbs} \times 165 \text{ lbs}/1}$$

$$\mathbf{X \text{ mL}/\text{hr} = 500 \text{ mL}/25,000 \text{ units} \times 900 \text{ units}/\text{hr}}$$

22. The order is to infuse IV D5W at 100 mL/hr. Calculate rate of flow if set calibration is 20 gtts/mL. _____33_____gtts/min.

$$\mathbf{X \text{ gtts}/\text{min} = 20 \text{ gtts}/\text{mL} \times 100 \text{ mL}/\text{hr} \times \text{hr}/60 \text{ min}}$$

23. Morphine is available as a gr $\frac{1}{4}$ per mL solution. You need to prepare a gr $\frac{1}{6}$ dose. Give _____0.67_____mL.

$$\mathbf{X \text{ mL} = 1 \text{ mL}/\text{gr} \frac{1}{4} \times \text{gr} \frac{1}{6} /1}$$

24. Procan SR 1.5 g is ordered and you have Procan SR 750 mg sustained release tablets. You will give _____**2**_____tab.

$$\mathbf{X \text{ tab} = 1 \text{ tab}/750 \text{ mg} \times 1000 \text{ mg}/1 \text{ g} \times 1.5 \text{ g}/1}$$

25. Determine the infusion time for an IV which contains 600 mL of D5 1/2 NS and is infusing at a rate of 125 mL/hr. _____**4.8**_____hours.

$$\mathbf{X \text{ hr} = \text{hr}/125 \text{ mL} \times 600 \text{ mL}/1}$$