

Bethel College

Lower Level Math/Drug Proficiency Spring Review 2 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. 45 mL = \_\_\_\_\_ **1.5** \_\_\_\_\_ oz.

**X oz = 1 oz/30 mL x 45 mL/1**

2. The order is for Digoxin 250 mcg. The available drug is Digoxin tablets 0.125 mg. How many tabs will you give? \_\_\_\_\_ **2** \_\_\_\_\_ tab.

**X tab = tab/0.125 mg x mg/1000 mcg x 250 mcg/1**

3. The order is heparin 18,000 units every 8 hours. You have heparin 20,000 units per mL. How many mL will you give? \_\_\_\_\_ **0.9** \_\_\_\_\_ mL.

**X mL = 1 mL/20,000 units x 18,000 units/1**

4. The order is for Keflin 2 g in 150 mL IVPB to be infused over 1 ½ hours. The set calibration is 15 gtts/mL. What is the flow rate in mL/hr and gtts/min?  
\_\_\_\_\_ **100** \_\_\_\_\_ mL/hr.                      \_\_\_\_\_ **25** \_\_\_\_\_ gtts/min.

**X mL/hr = 150 mL/90 min x 60 min/hr**

**X gtts/min = 15 gtts/mL x 100 mL/hr x hr/60 min**

5. The order is to run 500 mL for 10 hours using a microdrip. What is the flow rate?  
\_\_\_\_\_ **50** \_\_\_\_\_ gtts/min.

**X gtts/min = 60 gtts/mL x 500 mL/10 hr x hr/60 min**

6. You have orders to give Solu-Medrol 90 mg IVP every 8 hours. The medication comes prepared with 120 mg in 2 mL. How much will you administer?  
\_\_\_\_\_ **1.5** \_\_\_\_\_ mL.

**X mL = 2 mL/120 mg x 90 mg/1**

7. The physician has ordered Digoxin 0.125 mg IVP stat in addition to the usual morning dose. The medication comes with 500 mcg in 2 mL. How much will you draw up and administer for this order?

\_\_\_\_\_ **0.5** \_\_\_\_\_ mL.

$$\mathbf{X \text{ mL} = 2 \text{ mL}/500 \text{ mcg} \times 1000 \text{ mcg}/1 \text{ mg} \times 0.125 \text{ mg}}$$

8. You have orders to give Phenergan 25 mg IM prn nausea and vomiting. The medication comes in an ampule with 50 mg per 1 mL. How much will you draw up to administer?

\_\_\_\_\_ **0.5** \_\_\_\_\_ mL.

$$\mathbf{X \text{ mL} = 1 \text{ mL}/50 \text{ mg} \times 25 \text{ mg}/1}$$

9. The physician orders Isolyte H (1000 mL) to infuse over 8 hours. How fast will you administer this IV in both mL/hr and gtts/min with tubing that has a drop factor of 20 gtts/mL?

\_\_\_\_\_ **125** \_\_\_\_\_ mL/hr.                      \_\_\_\_\_ **42** \_\_\_\_\_ gtts/min.

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

$$\mathbf{X \text{ gtts/min} = 20 \text{ gtts/mL} \times 125 \text{ mL/hr} \times \text{hr}/60 \text{ min}}$$

10. The patient you are caring for has an IV infusing at 85 mL/hr and there is about 400 mL left up in the bag. How long will it take this IV to finish infusing?

\_\_\_\_\_ **4.7** \_\_\_\_\_ hr.

$$\mathbf{X \text{ hr} = \text{hr}/85 \text{ mL} \times 400 \text{ mL}/1}$$

11. The physician has ordered Mefoxin 1 gram to be given IVPB every 8 hours. The medication comes from pharmacy in 50 mL. The drug book states this can be given over 30 minutes. How fast will you infuse this medication in mL/hr and gtts/min with an IV tubing drop factor of 10 gtts/mL?

\_\_\_\_\_ **100** \_\_\_\_\_ mL/hr.                      \_\_\_\_\_ **17** \_\_\_\_\_ gtts/min.

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

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



16. You have orders to infuse a 1500 mL solution of hyperal from 1900 in the evening to 0600 in the morning. How fast will you administer this solution?

136.4 mL/hr.

$$\mathbf{X \text{ mL/hr} = 1500 \text{ mL} / 11 \text{ hr}}$$

17. You have orders to give Aspirin gr 5 stat to a patient admitted with chest pain. The tablets come with 325 mg per tablet. How many will you administer?

1 tab.

$$\mathbf{X \text{ tab} = \text{tab} / 325 \text{ mg} \times 60 \text{ mg/gr} \times 1 \times \text{gr} \ 5 / 1}$$

18. You are admitting a patient with a pulmonary embolus who needs to be started on Heparin. You have orders for a bolus of 60 units/kg IV. The patient weighs 200 lbs. The Heparin comes prepared in a vial with 10,000 units/mL. How many units will you need to give and how many mL will you draw up to give this dose?

5455 units. 0.55 mL.

$$\mathbf{X \text{ units} = 60 \text{ units/kg} \times \text{kg} / 2.2 \text{ lbs} \times 200 \text{ lbs} / 1}$$

$$\mathbf{X \text{ mL} = \text{mL} / 10,000 \text{ units} \times 5455 \text{ units} / 1}$$

19. You will now start the patient in question #18 on a Heparin drip at 12 units/kg/hr. The Heparin comes prepared with 25,000 units in 500 mL D5W. How many units/hr will you be giving and how many mL/hr will you set the pump for?

1091 units/hr. 21.8 mL/hr.

$$\mathbf{X \text{ units/hr} = 12 \text{ units/kg/hr} \times \text{kg} / 2.2 \text{ lbs} \times 200 \text{ lbs} / 1}$$

$$\mathbf{X \text{ mL/hr} = 500 \text{ mL} / 25,000 \text{ units} \times 1091 \text{ units/hr}}$$