

Bethel College

Upper 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. You are caring for a post-op patient and have orders to give Mefoxin 1 gram IVPB every 8 hours. The medication comes mixed from pharmacy in a 50 mL IVPB. The drug book states to administer the medication over 40 minutes. How fast will you give this medication in both mL/hr and gtts/min with IV tubing that has a drop factor of 10 gtts/mL?
_____ **75** _____ mL/hr _____ **13** _____ gtts/min

X mL/hr = 50 mL/40 min x 60 min/hr

X gtts/min = 10 gtts/mL x 75 mL/hr x hr/60 min

2. The physician has ordered Diflucan 200 mg to be given IVPB. The pharmacy sends the medication mixed in 100 mL. The drug book states to administer the medication over 1 hour. How fast will you administer this medication in both mL/hr and gtts/min with IV tubing that has a drop factor of 20 gtts/mL?
_____ **100** _____ mL/hr _____ **33** _____ gtts/min

X mL/hr = 100 mL/hr

X gtts/min = 20 gtts/mL x 100 mL/hr x hr/60 min

3. You have orders to give Lasix 100 mg IVPB every 12 hours. Pharmacy sends the medication in 100 mL of D5W. The drug book states to administer at a rate of Lasix 2 mg/min. How fast will you administer this medication? The label reads D5W 100 mL, Lasix 100 mg (10 mL).
_____ **132** _____ mL/hr

X min = min/2 mg x 100 mg/1

X mL/hr = 110 mL/50 min x 60 min/hr

4. You are admitting a patient following open heart surgery. The physician orders Dopamine 7.5 mcg/kg/min to keep the SBP above 100 but not to exceed 140. The patient's initial BP is 90/48. The patient's pre-op weight was recorded as 155 pounds. How fast will you administer the Dopamine? The Dopamine comes premixed with 400 mg in 250 mL.
 _____ **20** _____ mL/hr

X mL/hr = 250 mL/400 mg x mg/1000 mcg x 7.5 mcg/kg/min x kg/2.2 lbs x 155 lbs/1 x 60 min/hr

5. You are now working in CCU and are admitting a patient with hypertensive crisis. The physician has ordered Nipride to infuse at 0.8 mcg/kg/min. The patient weighs 132 pounds. How fast will you administer this medication? The medication comes mixed with 50 mg in 250 mL.
 _____ **14** _____ mL/hr

X mL/hr = 250 mL/50 mg x 1 mg/1000 mcg x 0.8 mcg/kg/min x kg/2.2 lbs x 132 lbs/1 x 60 min/hr

6. The normal pediatric dose of an antibiotic is 8 mg/kg every 8 hours. How many mg will you give in one dose and how many will you give total for the day for a child who weighs 50 pounds?
 _____ **182** _____ mg/dose _____ **546** _____ mg/day

X mg/dose = 8 mg/kg/dose x kg/2.2 lbs x 50 lbs/1

X mg/day = 182 mg/dose x 3 doses/day

7. A 4 kg infant is admitted with severe pneumonia and has orders for IV Nebcin. The physician ordered 5 mg/kg/day to be administered in 3 equal doses every 8 hours. How many mg will you administer at each dose?
 _____ **6.7** _____ mg/dose

X mg/dose = 5 mg/kg/day x 4 kg/1 x 1 day/3 doses

8. You have orders to give gr ½ of Codeine for pain management. The tablets come with 30 mg per tablet. How many tablets will you administer?
_____ **1** _____ tab

$$\mathbf{X \text{ tab} = \text{tab}/30 \text{ mg} \times 60 \text{ mg/gr} \times 1 \times \text{gr } 1/2/1}$$

9. You have orders to give gr 1/8 of Morphine Sulfate. The medication comes prepared with 10 mg/mL. How much will you administer?
_____ **0.75** _____ mL

$$\mathbf{X \text{ mL} = \text{mL}/10 \text{ mg} \times 60 \text{ mg/gr} \times 1 \times \text{gr } 1/8 /1}$$

10. You have orders to immediately start your patient with ventricular concerns on a Lidocaine drip at 1 mg/min. The medication comes prepared from pharmacy with 2 grams in 500 mL. The patient weighs 120 pounds. How fast will you administer this medication?
_____ **15** _____ mL/hr

$$\mathbf{X \text{ mL/hr} = 500 \text{ mL}/2 \text{ g} \times \text{g}/1000 \text{ mg} \times 1 \text{ mg/min} \times 60 \text{ min/hr}$$

11. You are caring for a patient who is in atrial fib with a fast ventricular response who has not responded to other medications. The physician orders Amiodorone 150 mg bolus over 10 minutes and then a continuous drip at 1 mg/min for 6 hours. The pharmacy sends the bolus in 100 mL. The continuous infusion comes prepared with 450 mg in 250 mL. How fast will you administer the bolus and the continuous infusion?
Bolus _____ **600** _____ mL/hr Continuous _____ **33** _____ mL/hr

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

$$\mathbf{X \text{ mL/hr} = 250 \text{ mL}/450 \text{ mg} \times 1 \text{ mg/min} \times 60 \text{ min/hr}$$

12. You have orders to administer Dilantin 8 mg/kg/day in divided doses to be given every 6 hours for a young child with seizures. The child weighs 25 pounds. The Dilantin comes prepared with 150 mg/5 mL. How many mL will you administer per dose?

_____ **0.76** _____ mL/dose

$$\mathbf{X \text{ mL/dose} = 5 \text{ mL}/150 \text{ mg} \times 8 \text{ mg/kg/day} \times \text{kg}/2.2 \text{ lbs} \times 25 \text{ lbs}/1 \times 1 \text{ day}/4 \text{ doses}}$$