

Calculation Worksheet #2

1. The IV order is for D₅W to infuse at 100 mL/hr. The drop factor is 10 gtt/mL. How many drops per minute (gtt/min) should the pump be set to run? Round final answer to whole number.

$$100 \text{ mL} \times 10 \text{ gtt/mL} = 1,000 \text{ gtt/mL}$$

$$1,000/60 \text{ min} = 16.6$$

ANSWER: 17 gtt/min

2. Medication order: Rocephin 1 g IV every 12 hours over 30 minutes. Available: rocephin 1 g in 150 mL NS. At what rate would you set your pump?

$$150 \text{ mL}/0.5 \text{ hr} = 300 \text{ ml/hr}$$

ANSWER: 300 ml/hr

3. Medication order: Vistaril 20 mg IM q4h PRN for nausea. The 10 mL vial that you have available is labeled 25 mg/mL. How many mL will you draw up to give?

$$20 \text{ mg}/? \text{ mL} \times 1 \text{ mL}/25 = 0.8 \text{ mL}$$

ANSWER: 0.8 mL

4. Medication order: Haldol 3 mg IM q6h PRN for agitation. The 1 mL vial that you have available is labeled 5 mg/mL. How many mL will you draw up to give?

$$3 \text{ mg}/? \text{ mL} \times 1 \text{ mL}/5 \text{ mg} = 0.6 \text{ mL}$$

ANSWER: 0.6 mL

5. Medication order: heparin 5000 units subQ every 12 hours. Drug available: heparin 10,000 units/2 mL. How many mL will you administer for the day?

$$5000 \text{ units}/? \text{ mL} \times 2 \text{ mL}/10,000 \text{ units} = 1 \text{ mL}$$

ANSWER: 1 mL

6. A patient has an order for 200 mg q8h of cimetidine (Tagamet) to be administered intramuscularly. The vial of 8 mL contains 300 mg per 2 mL. How many mL would you give q8h?

$$200 \text{ mg}/? \text{ mL} \times 2 \text{ mL}/300 \text{ mg} = 1.3 \text{ mL}$$

ANSWER: 1.3 mL

7. Medication order: Garamycin 80 mg IVPB over 30 minutes. Available: Garamycin (gentamicin sulfate) 80 mg in 50 mL of D₅W. Calculate the flow rate in mL/hr.

$$50 \text{ mL}/0.5 \text{ hr} = 100 \text{ mL/hr}$$

ANSWER: 100 mL/hr

8. You have an IV infusing at 125 mL/hr. How long will it take 1500 mL to infuse?

$$1500 \text{ mL}/125 \text{ mL/hr} = 12 \text{ hr}$$

ANSWER: 12 hr

9. Medication order: rocephin 1 g IV every 12 hours over 30 minutes. Available: rocephin 1 g in 150 mL NS. At what rate would you set your pump?

$$150 \text{ mL}/0.5 \text{ hr} = 300 \text{ mL/hr}$$

ANSWER: 300 mL/hr

10. An infusion pump is set to administer 75 mL/hr to a patient. How many hours will it take for the patient to receive 600 mL of fluid?

$$600 \text{ mL}/75 \text{ mL/hr} = 8 \text{ hr}$$

ANSWER: 8 hr

11. A patient is to receive lidocaine hydrochloride (Xylocaine) 100 mg as an intravenous bolus. The Xylocaine is labeled 20 mg/mL. How many milliliters should be administered?

$$100 \text{ mg}/? \text{ mL} \times 1 \text{ mL}/20 \text{ mg} = 5 \text{ mL}$$

ANSWER: 5 mL

12. Medication order: 50 mg/kg/day. Patient weight: 85.8 pounds. The patient will receive ____ mg/day.

$$85.8 \text{ lbs}/2.2 \text{ kg} = 39 \text{ kg}$$

$$50 \text{ mg} \times 39 \text{ kg} = 1,950 \text{ mg/day}$$

ANSWER: 1,950 mg/day

13. Medication order: Amoxicillin 2.5 mL every 8 hours. Available is Amoxicillin 250 mg/5mL. The nurse will administer how many mg for the day?

$$2.5 \text{ mL}/? \text{ mg} \times 250 \text{ mg}/5 \text{ mL} = 25 \text{ mg}$$

$$25 \text{ mg} \times 3 = 75 \text{ mg/day}$$

ANSWER: 75 mg/day

14. Medication order: Ondansetron 2 mg - 4 mg/kg/Q 4 hours po PRN nausea. The patient weighs 66 lbs. What is the minimum amount of medication in grams that can be administered every 4 hours?

$$66 \text{ lbs}/2.2 \text{ kg} = 30 \text{ kg}$$

$$2 \text{ mg} \times 30 \text{ kg} = 60 \text{ mg}$$

ANSWER: 60 mg

15. Medication order: 5 mL of normal saline is added to a vial of Lasix 20 mg/5 mL. How many milligrams of Lasix are in each milliliter of fluid?

$$20 \text{ mg}/5 \text{ mL} = 4 \text{ mg/mL}$$

ANSWER: 4 mg/mL

16. Medication order: administer 1,000 mL of normal saline IV over 6 hours. At which rate should the nurse administer the medication?

$$1,000 \text{ mL}/6\text{hr} = 167 \text{ mL/hr}$$

ANSWER: 167 mL/hr

17. Administer gentamicin 1 G/100 mL IVPB over 1 hr. At what rate should the nurse administer the medication?

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

ANSWER: 100 mL/hr

18. Administer 1,000 mL D5W to at a rate of 125 mL/hour. How many hours will it take to infuse 1 L?

$$1,000 \text{ mL}/125 \text{ mL} = 8$$

ANSWER: 8 hrs

19. Administer heparin sodium 1,300 units/hour by IV. The pharmacy prepares the medication and delivers an IV bag 20,000 units/250 mL D5W. At what rate should the nurse administer the medication?

$$1,300 \text{ units}/? \text{ hrs} \times 250 \text{ mL} = 16 \text{ mL}$$

ANSWER: 16 mL/hr

20. Administer D5 ½ at 100 mL/hour. The drop factor is 15 gtt/mL. How many drops per minute (gtt/min) should the pump be set to run?

$$100 \text{ mL} \times 15 \text{ gtt} / 60 \text{ min} = 25 \text{ gtt/min}$$

ANSWER: 25 gtt/min

21. Medication order: Administer an IV at 30 mL/hour. The IVAC indicates that 270 mL are remaining in the present IV bag. The time is exactly 10:30 am.

At what time will the infusion be completed?

$$270 \text{ mL}/30 \text{ mL} = 9 \text{ hrs}$$

ANSWER: 19:30

22. Administer Magnesium Sulfate 2 gm/ hour IV. Sent from the pharmacy is Magnesium Sulfate 40 gm/1000 mL. The nurse should set the pump at

_____ mL/hour.

$$40 \text{ gm}/2\text{gm/hr} = 20 \text{ gm/hr}$$

$$1000 \text{ mL}/20 \text{ gm/hr} = 50 \text{ mL/hr}$$

50 mL/hr

23. Administer Ritodrine IV 50 mcg/min. The pharmacy sent Ritodrine 150 mg premixed in 500 mL D5W. The nurse should set the IV pump at

_____ mL/hour.

$$500 \text{ mL}/50 \text{ mcg}/\text{min} = 10 \text{ mL}/\text{hr}$$

ANSWER: 10 mL/hr

24. Administer Keflex 2.0 g /100 mL in D5W in thirty minutes. The nurse should set the IV pump at _____mL/hour.

$$100 \text{ mL}/0.5 \text{ hr} = 200 \text{ mL}$$

ANSWER: 200 mL/hr

25. Administer 1.5 L Lactated Ringers in 12 hours. Calculate the rate of flow if the drop factor is 20 gtt/mL.

$$15,000 \text{ mL} \times 20 \text{ gtt} = 30,000$$

$$30,000 \text{ gtt} /720 \text{ minutes} = 42 \text{ gtt}/\text{min}$$

ANSWER: 42 gtt/min