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.

$$\frac{100}{60} \times 10 = 17 \text{ gtt/min}$$

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?

$$\frac{1}{1} \times 150 \qquad 300 \text{ mL/hour}$$

$= 150 \times 2 = 300$ pump only reads

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?

$$\frac{20}{25} = 0.8 \text{ mL}$$

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?

$$\frac{3}{5} \times 1 = 0.6 \text{ mL}$$

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?

$$2 \text{ mL}$$

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?

$$\frac{200}{300} \times 2 \qquad 1.3 \text{ mL}$$

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.

$$\frac{80}{80} \times 50 = 50 \text{ mL}$$

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

$$\frac{1500}{125} = 12 \text{ hours}$$

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

$$\frac{1}{1} \times 150 = 150 \times 2$$

↑
to get to an hour

300 mL/hour

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?

$$\frac{600}{75} =$$ 8 hours

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?

$$\frac{100}{20} \times 1 =$$ 5 mL

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

85.8 ÷ 22 = 39   50 × 39 = 1950 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?

375 mg

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 ÷ 22 = 30   2 × 30 = 60   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 millimeter of fluid?

$$\frac{5}{5} \times 20$$ 4 mg

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

$$\frac{1,000}{6} =$$ 166.7 mL/hr

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

$$\frac{100}{1} = 100 \text{ mL/hour}$$

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

$$\frac{1000}{125} = 8 \text{ hours}$$

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?

$$\frac{1300}{20,000} \times 250 = 16.3 \text{ mL/hr}$$

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?

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

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?

$$\frac{270}{30} = 9 \text{ hours} \qquad 7:30 \text{ pm or } 1930$$

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.

$$\frac{2}{40} \times 1000 = 50 \text{ mL/hour}$$

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.

$$\frac{.05}{150} \times 500 = 0.17 \text{ mL/hour}$$

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

$$\frac{100}{30} = 3.33 \times 2 = 6.7 \text{ mL/hour}$$

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

$$\frac{1500}{720} \times 20 = 42 \text{ gtts/min}$$