NRSNG Med Math Calculation Practice Problems

1. Ordered: D5W 1,000 mL IV over 8 hours. Drip factor 10 gtt/mL. How many drops per minute should this infusion deliver?

2. Ordered: Digoxin 250 mcg. Available: 0.125 mg/10 mL. How much medication should the patient receive (mL)?

3. Ordered: Sulfamethoxazole/Trimethoprim 4 mg/kg IV q12 hour. The patient weighs 220 pounds. Available: Sulfamethoxazole/Trimethoprim 500 mg/5 mL. a) How many mL will be administered to the patient in a 24-hour period? b) How many mL per dose?

4. Ordered Bethanechol 25 mg PO. Available 12.5 mg scored tablets. How many tablets should the patient receive per dose?

5. Ordered Normal Saline 50 mL over 30 minutes. The drip factor is 15 gtt/mL. At what drip rate should this infusion run?

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6. The physician ordered Hydrochlorothiazide (HCTZ) 500 mg PO b.i.d. Available are scored HCTZ tabs at 0.125 g. How many tablets will you give?

7. The physician ordered Amoxicillin 750 mg PO daily. Available are scored Amoxil tablets, 250 mg. How many tablets will you give per dose?

8. The physician ordered Furosemide oral solution 60 mg to be given as a single dose. Available is Furosemide oral solution, 60 mL bottle that contains 20 mg/2.5 mL. How many mL will you give?

9. The physician ordered Sucralfate 1,000 mg. On hand are Sucralfate scored tabs, 1 g. How many tablets will you give?

10. The physician ordered 3.75 mg of Warfarin sodium. Available are Warfarin 7.5 mg scored tablets. How many tablets will you give?

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11. The physician ordered 0.2 g of Meprobamate. The dose on hand is 200 mg tabs. How many tablets will you give?

12. The provider has ordered Normal Saline 1,000 mL to be infused over 6 hours. The infusion set delivers 10 gtt/mL (drop factor). What should the drip rate be?

13. The provider has ordered D5W 2,500 mL to be infused over 24 hours. What rate should the IV pump be set at?

14. 1,000mL solution of D5NS with 20,000 units of Heparin is infusing at 20 mL per hour. The IV set delivers 60 gtts/mL. How many units of Heparin is the patient receiving each hour?

15. Thorazine 37.5 mg has been ordered for your patient. The only available dosage is 25 mg/mL. What amount will you give?

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16. You are to give 90 mg of Inderal. The available dosage strength is a scored 60 mg tablet. What amount will you give?

17. A doctor orders 400 mg of Rocephin IV to be given to a 40.8 lb child every 6 hours. Available is Rocephin 100 mg in 20 mL Normal Saline. The medication label shows that 75-150 mg/kg per day is the appropriate dosage range. Is this doctor's order appropriate? If so, how much should be administered per dose?

18. Solumedrol 1.5 mg/kg is ordered for a child weighing 94.8 lb. Solumedrol is available as 125 mg / 2 mL. How many mL must the nurse administer?

19. Administer Dopamine 5 mcg/kg/min. Dopamine is mixed 400 mg in 250 mL. The patient weighs 164 lbs. How many mL per hour will be administered?

20. Order: Administer Lasix 1 mg/kg/day in two divided doses. The patient weighs 172 lbs. Lasix is available in a vial labelled 20 mg/mL. How many mL should be given per dose?

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21. Convert 5000 mL to liters

22. Convert 0.25 liters to mL

23. Convert 60 mg to grains

24. Convert 250 mg to g

25. Convert 30 mL to ounces

26. Convert 2 tsp to mL

27. Convert 75 mcg to mg

28. Convert 197 lbs to kg

29. Convert 49.3 kg to lbs

30. Convert 6.5 ounces to mL

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ANSWER KEY:

1. 21 gtt/min
2. 20 mL
3. a) 8 mL in 24 hours b) 4 mL/dose
4. 2 tabs
5. 25 gtt/min
6. 4 tabs
7. 3 tabs
8. 7.5 mL
9. 1 tab
10. 0.5 tabs
11. 1 tab
12. 28 gtt/min
13. 104.2 mL/hr
14. 400 units/hr
15. 1.5 mL/dose
16. 1.5 tabs
17. a) YES *(1600 mg per day is in the range of 1390.9 mg – 2781.8 mg)* b) 80 mL
18. 1 mL
19. 14 mL/hr
20. 2 mL
21. 5 L
22. 250 mL
23. 1 grain
24. 0.25 g
25. 1 ounce
26. 10 mL
27. 0.075 mg
28. 89.5 kg
29. 108.5 kg
30. 195 mL