

## Beginning Math Practice

1. A nurse is caring for a client who has heart failure and a prescription for digoxin 125 mcg PO daily. Available is digoxin PO 0.25 mg/tablet. How many tablets should the nurse administer per dose? (Round the answer to the nearest tenth. Use a leading zero if it applies. Do not use a trailing zero.)

0.5 tablet(s)

$$\frac{\text{Tab}}{\text{dose}} = \frac{1 \text{ tab}}{0.25 \text{ mg}} \times \frac{1 \text{ mg}}{1000 \text{ mcg}} \times \frac{125 \text{ mcg}}{1} = \frac{125}{250} = 0.5 \text{ tab/dose}$$

2. A nurse is caring for a client who is to receive liquid medications via a gastrostomy tube. The client is prescribed phenytoin 250 mg. The amount available is phenytoin oral solution 25 mg/5 mL. How many mL should the nurse administer per dose? (Round the answer to the nearest whole number. Use a leading zero if it applies. Do not use a trailing zero.)

50 mL

$$\frac{\text{mL}}{\text{dose}} = \frac{5 \text{ mL}}{25 \text{ mg}} \times \frac{250 \text{ mg}}{1} = \frac{1250}{25} = 50 \text{ mL/dose}$$

3. A nurse is preparing to administer digoxin 0.25 mg PO daily. The amount available is digoxin 0.125 mg tablets. How many tablets should the nurse administer? (Round the answer to the nearest whole number. Use a leading zero if it applies. Do not use a trailing zero.)

2 tablets

$$\frac{\text{Tabs}}{\text{dose}} = \frac{1 \text{ tab}}{0.125 \text{ mg}} \times \frac{0.25 \text{ mg}}{1} = \frac{0.25}{0.125} = 2 \text{ tab}$$

4. A nurse is preparing to administer amoxicillin 350 mg PO. Available is amoxicillin 250 mg/5 mL. How many mL should the nurse administer? (Round to the nearest whole number.)

7 mL

$$\frac{\text{mL}}{\text{dose}} = \frac{5 \text{ mL}}{250 \text{ mg}} \times \frac{350 \text{ mg}}{1} = \frac{1750}{250} = 7 \text{ mL}$$

5. A nurse is preparing to administer aspirin 650 mg PO every 12 hr. The amount available is aspirin 325 mg tablets. How many tablets should the nurse administer? (Round the answer to the nearest whole number. Use a leading zero if it applies. Do not use a trailing zero.)

2 tablet(s)

$$\frac{\text{tab}}{\text{dose}} = \frac{1 \text{ tab}}{325 \text{ mg}} \times \frac{650 \text{ mg}}{1} = \frac{650}{325} = 2$$

6. A nurse is preparing to administer potassium chloride 20 mEq suspension PO daily. The amount available is potassium chloride suspension 10 mEq/mL. How many mL should the nurse administer? (Round the answer to the nearest tenth/whole number. Use a leading zero if it applies. Do not use a trailing zero.)

2 mL

$$\frac{\text{mL}}{\text{dose}} = \frac{1 \text{ mL}}{10 \text{ mEq}} \times \frac{20 \text{ mEq}}{1} = \frac{20}{10} = 2 \text{ mL}$$

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7. A nurse is preparing to administer amoxicillin 250 mg PO every 8 hr. The amount available is amoxicillin 125 mg tablets. How many tablets should the nurse administer with each dose? (Round the answer to the nearest whole number. Use a leading zero if it applies. Do not use a trailing zero.)

$$\underline{2} \text{ tablet(s)} \quad \frac{\text{tab}}{\text{dose}} = \frac{1 \text{ tab}}{125 \text{ mg}} \times \frac{250 \text{ mg}}{1} = \frac{250}{125} = 2$$

8. A nurse is preparing to administer amoxicillin 320 mg PO every 12 hr to an infant. The amount available is amoxicillin suspension 400 mg/5 mL. How many mL should the nurse administer per dose? (Round the answer to the nearest tenth. Use a leading zero if it applies. Do not use a trailing zero.)

$$\underline{4} \text{ mL} \quad \frac{\text{mL}}{\text{dose}} = \frac{5 \text{ mL}}{400 \text{ mg}} \times \frac{320 \text{ mg}}{1} = \frac{1600}{400} = 4 \text{ mL}$$

9. A nurse is preparing to administer gabapentin 900 mg PO once daily for a client who has neuropathic pain. The amount available is gabapentin 300 mg/capsule. How many capsules should the nurse administer per dose? (Round the answer to the nearest whole number. Use a leading zero if it applies. Do not use a trailing zero.)

$$\underline{3} \text{ capsules} \quad \frac{\text{cap}}{\text{dose}} = \frac{1 \text{ cap}}{300 \text{ mg}} \times \frac{900 \text{ mg}}{1} = \frac{900}{300} = 3$$

10. A nurse is preparing to administer digoxin 12 mcg/kg/day PO to divide equally every 12 hr to a school-age child who weighs 66 lb. Available is digoxin elixir 0.05 mg/mL. How many mL should the nurse administer per dose? (Round the answer to the nearest tenth. Use a leading zero if it applies. Do not use a trailing zero.)

$$\frac{17.424}{100} = 17.4$$

$$\underline{17.4} \text{ mL} \quad \frac{\text{mL}}{\text{dose}} = \frac{1 \text{ mL}}{0.05 \text{ mg}} \times \frac{1 \text{ mg}}{1000 \text{ mcg}} \times \frac{12 \text{ mcg}}{\text{kg/day}} \times \frac{2.2 \text{ kg}}{1 \text{ lb}} \times \frac{66 \text{ lbs}}{1} \times \frac{1 \text{ day}}{2 \text{ dose}} = \frac{1742.4}{100} = 17.4$$

11. A nurse is preparing to administer morphine sulfate 2 mg IV bolus. Available is morphine sulfate 10 mg/mL. How many mL should the nurse administer per dose? (Round the answer to the nearest tenth. Use a leading zero if it applies. Do not use a trailing zero.)

$$\underline{0.2} \text{ mL} \quad \frac{\text{mL}}{\text{dose}} = \frac{1 \text{ mL}}{10 \text{ mg}} \times \frac{2 \text{ mg}}{1} = \frac{2}{10} = 0.2 \text{ mL}$$

12. A nurse is caring for a client who has schizophrenia and is experiencing hallucinations. The provider prescribes chlorpromazine 50 mg IM every 4 hr as needed. Available is chlorpromazine injection 25 mg/mL. How many mL should the nurse administer per dose? (Round the answer to the nearest whole number. Use a leading zero if it applies. Do not use a trailing zero.)

$$\underline{2} \text{ mL} \quad \frac{\text{mL}}{\text{dose}} = \frac{1 \text{ mL}}{25 \text{ mg}} \times \frac{50 \text{ mg}}{1} = \frac{50}{25} = 2 \text{ mL}$$

What syringe/needle?  
22-25 G 1 to 1.5 inch needle  
3 mL syringe  
Where to administer?  
Over 1 mL  
Vastus Lateralis or Ventrogluteal

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13. A nurse is preparing to instill 840 mL of enteral nutrition via a client's gastrostomy tube over 24 hr using an infusion pump. The nurse should set the infusion pump to deliver how many mL/hr? (Round the answer to the nearest whole number. Use a leading zero if it applies. Do not use a trailing zero.)

$$\underline{35} \text{ mL/hr} \quad \frac{\text{mL}}{\text{hr}} = \frac{840 \text{ mL}}{24 \text{ hr}} = 35$$

14. A nurse is preparing to administer furosemide 40 mg IV. Available is furosemide 10 mg/1 mL. How many mL should the nurse administer per dose?

$$\underline{4} \text{ mL} \quad \frac{\text{mL}}{\text{mg}} = \frac{1 \text{ mL}}{10 \text{ mg}} \times \frac{40 \text{ mg}}{1} = \frac{40}{10} = 4$$

15. A nurse is preparing to administer 250 mg of an antibiotic IM. Available is 3 g/5 mL. How many mL should the nurse administer per dose? (Round the answer to the nearest tenth. Use a leading zero if it applies. Do not use a trailing zero.)

$$\underline{0.4} \text{ mL} \quad \frac{\text{mL}}{\text{g}} = \frac{5 \text{ mL}}{3 \text{ g}} \times \frac{1 \text{ g}}{1000 \text{ mg}} \times \frac{250 \text{ mg}}{1} = \frac{1250}{3000} = 0.41666... = 0.4 \text{ mL}$$

Site = Any

16. A nurse is preparing to administer lidocaine 50 mg IV bolus. Available is lidocaine 200 mg/mL. How many mL should the nurse administer per dose? (Round the answer to the nearest tenth. Use a leading zero if it applies. Do not use a trailing zero.)

$$\underline{0.25} \text{ mL} \quad \frac{\text{mL}}{\text{mg}} = \frac{1 \text{ mL}}{200 \text{ mg}} \times \frac{50 \text{ mg}}{1} = \frac{50}{200} = 0.25 \text{ mL}$$

17. A nurse is preparing to administer heparin 2,000 units by IV bolus. Available is heparin injection 5,000 units/mL. How many mL should the nurse administer? (Round the answer to the nearest tenth. Use a leading zero if it applies. Do not use a trailing zero.)

$$\underline{0.4} \text{ mL} \quad \frac{\text{mL}}{\text{units}} = \frac{1 \text{ mL}}{5000} \times \frac{2000 \text{ units}}{1} = \frac{2000}{5000} = 0.4 \text{ mL}$$

18. A nurse is preparing to administer heparin 3,000 units by IV bolus. Available is heparin injection 5,000 units/mL. How many mL should the nurse administer? (Round the answer to the nearest tenth. Use a leading zero if it applies. Do not use a trailing zero.)

$$\underline{0.6} \text{ mL} \quad \frac{\text{mL}}{\text{units}} = \frac{1 \text{ mL}}{5000} \times \frac{3000 \text{ units}}{1} = \frac{3000}{5000} = 0.6 \text{ mL}$$

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19. A nurse is caring for a client who is receiving heparin 3,800 units subcutaneous daily. Available is heparin 5,000 units/mL. How many mL should the nurse administer? (Round the answer to the nearest tenth.)
- 0.8 mL      $\frac{\text{mL}}{\text{mL}} = \frac{1 \text{ mL}}{5000} \times \frac{3800}{1} = \frac{3800}{5000} = 0.76 = 0.8 \text{ mL}$
- Needle 25G 5/8-1 inch  
Syringe 1-3 mL  
Location - abdomen or other SQ site*

20. A nurse is preparing to administer haloperidol 5 mg IM to a client. The amount available is haloperidol 20 mg/mL. How many mL should the nurse administer? (Round the answer to the nearest hundredth. Use a leading zero if it applies. Do not use a trailing zero.)
- 0.25 mL      $\frac{\text{mL}}{\text{mL}} = \frac{1 \text{ mL}}{20 \text{ mg}} \times \frac{5 \text{ mg}}{1} = \frac{5}{20} = 0.25 \text{ mL}$
- Needle 20-25G 1-1.5 inch  
Syringe 1-3 mL  
Location = Any IM Location*

21. A nurse is preparing to administer clindamycin 300 mg by intermittent IV bolus over 30 min to a client who has a staphylococci infection. Available is clindamycin premixed in 50 mL 0.90% sodium chloride (NaCl). The nurse should set the IV pump to deliver how many mL/hr? (Round the answer to the nearest whole number. Use a leading zero if it applies. Do not use a trailing zero.)
- 100 mL/hr      $\frac{\text{mL}}{\text{hr}} = \frac{50 \text{ mL}}{1 \text{ hr}} \times \frac{60 \text{ min}}{30 \text{ min}} \times \frac{300}{300} = \frac{3000}{30} = 100 \text{ mL/hr}$

22. A nurse is preparing to administer total parental nutrition (TPN) 1800 mL to infuse over 24 hr. The nurse should set the IV pump to deliver how many mL/hr? (Round the answer to the nearest whole number. Use a leading zero if it applies. Do not use a trailing zero.)
- 75 mL/hr      $\frac{\text{mL}}{\text{hr}} = \frac{1800}{24} = 75 \text{ mL/hr}$

23. A nurse is caring for client who has sepsis and a prescription for vancomycin 1 g in 250 mL dextrose 5% (D5W) over 2 hr by IV intermittent bolus. The nurse should set the IV pump to deliver how many mL/hr? (Round the answer to the nearest whole number. Use a leading zero if it applies. Do not use a trailing zero.)
- 125 mL/hr      $\frac{\text{mL}}{\text{hr}} = \frac{250 \text{ mL}}{2} = 125$

24. A nurse is caring for a client who is postoperative following an appendectomy and is prescribed D5 lactated Ringer's at 150 mL/hr by continuous IV infusion for 12 hr. The drop factor of the manual IV tubing is 20 gtt/mL. The nurse should set the manual IV infusion to deliver how many gtt/min? (Round the answer to the nearest whole number. Use a leading zero if it applies. Do not use a trailing zero.)
- 8 gtt/min      $\frac{\text{gtt}}{\text{min}} = \frac{20 \text{ gtt}}{\text{mL}} \times \frac{150 \text{ mL}}{1 \text{ hr}} \times \frac{1 \text{ hr}}{30 \text{ min}} \times \frac{1}{12 \text{ hr}} = \frac{3000}{360} = 8.33 \dots = 8$

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25. A client is prescribed 1 g potassium phosphate IV to be infused continuously over 6 hr. Available is 1 g potassium phosphate in 250 mL dextrose 5% water (D5W). The nurse should set the IV pump to run at how many mL/hr? (Round the answer to the nearest whole number. Use a leading zero if it applies. Do not use a trailing zero.)

$$\underline{42} \text{ mL/hr} \quad \frac{\text{mL}}{\text{hr}} = \frac{250 \text{ mL}}{6 \text{ hrs}} = 41.666... = 42$$

26. A nurse is preparing to administer cefazolin IVPB over 20 min. Available is cefazolin 1 g in 100 mL of dextrose 5% in water (D5W). The drop factor of the manual IV tubing is 15gtt/mL. The nurse should set the IV infusion to deliver how many gtt/min? (Round the answer to the nearest whole number. Use a leading zero if it applies. Do not use a trailing zero.)

$$\underline{75} \text{ gtt/min} \quad \frac{\text{gtt}}{\text{min}} = \frac{15 \text{ gtt}}{1 \text{ mL}} \times \frac{100 \text{ mL}}{20 \text{ min}} = \frac{1500}{20} = 75$$

27. A nurse is preparing to administer ticarcillin / clavulanate 3.1 g by intermittent IV bolus over 30 min. Available is ticarcillin / clavulanate 3.1 g in 50 mL 0.9% sodium chloride (NSS). The nurse should set the IV pump to deliver how many mL/hr? (Round the answer to the nearest whole number. Use a leading zero if it applies. Do not use a trailing zero.)

$$\underline{100} \text{ mL/hr} \quad \frac{\text{mL}}{\text{hr}} = \frac{50 \text{ mL}}{30 \text{ min}} \times \frac{60 \text{ min}}{1 \text{ hr}} = \frac{3000}{30} = 100 \quad \text{or double the volume and you have your rate}$$

28. A nurse is preparing to administer fluconazole 400 mg by intermittent IV bolus daily. Available is fluconazole 400 mg in 0.9% sodium chloride (NaCl) 200 mL to infuse over 2 hr. The nurse should set the IV pump to deliver how many mL/hr? (Round the answer to the nearest tenth/whole number. Use a leading zero if it applies. Do not use a trailing zero.)

$$\underline{100} \text{ mL/hr} \quad \frac{\text{mL}}{\text{hr}} = \frac{200 \text{ mL}}{2 \text{ hr}} = 100 \text{ mL/hr}$$

29. A nurse is preparing to administer 0.9% sodium chloride 1,000 mL IV to infuse over 8 hr. The nurse should set the IV pump to deliver how many mL/hr? (Round the answer to the nearest whole number. Use a leading zero if it applies. Do not use a trailing zero.)

$$\underline{125} \text{ mL/hr} \quad \frac{\text{mL}}{\text{hr}} = \frac{1000 \text{ mL}}{8 \text{ hr}} = 125 \text{ mL/hr}$$

30. A nurse is preparing to start an IV infusion of lactated Ringer's for a client who sustained a burn injury. The client is prescribed 5,200 mL of fluid over the first 24 hr. How many mL/hr should the nurse set the pump to infuse for the first 8 hr? (Round the answer to the nearest whole number. Use a leading zero if it applies. Do not use a trailing zero.)

$$\underline{216} \text{ mL/hr} \quad \frac{\text{mL}}{\text{hr}} = \frac{5200}{24} = 216 \text{ mL/hr}$$