Injection Dosage Calculations

1. A child is ordered 9 mg of gentamicin by IM. Stock ampoules contain 20 mg in 2 mL. What volume is needed for the injection?
   a. 0.9 mL
   b. 0.5 mL
   c. 2.2 mL
   d. 2.5 mL

2. Pethidine 85 mg is to be given IM. The stock ampoules contain pethidine 100 mg in 2 mL. What is the volume of stock required?
   a. 0.9 mL
   b. 1.2 mL
   c. 1.7 mL
   d. 0.6 mL

3. The doctor prescribes vancomycin 500 mg. Stock on hand contains 1 g in 10 mL, once diluted. What volume is required for injection?
   a. 1 mL
   b. 2 mL
   c. 0.5 mL
   d. 5 mL

4. A patient is ordered 200 mg of furosemide (frusemide). Stock is 250 mg in 5 mL. What volume is required for the injection?
   a. 4 mL
   b. 2 mL
   c. 1.25 mL
   d. 0.8 mL

5. A patient is ordered pethidine 65 mg. Stock ampoules of pethidine contain 100 mg in 2 mL. Calculate the volume to be drawn up for injection.
   a. 0.7 mL
   b. 1.5 mL
   c. 0.9 mL
   d. 1.3 mL
6. Pethidine 60 mg is ordered. Stock ampoules contain 100 mg in 2 mL. What volume of stock needs to be drawn up for the injection?
   a. 0.6 mL  
   b. 1.2 mL  
   c. 1.7 mL  
   d. 0.8 mL

7. Tramadol hydrochloride 80 mg is required. The available stock contains 100 mg in 2 mL. What volume of stock needs to be drawn up for the injection?
   a. 0.8 mL  
   b. 1.25 mL  
   c. 1.6 mL  
   d. 0.6 mL

8. Digoxin ampoules on hand contain 500 mcg in 2 mL. Digoxin 150 mcg is ordered. Calculate the volume of stock to be drawn up for injection.
   a. 3.3 mL  
   b. 0.3 mL  
   c. 0.5 mL  
   d. 0.6 mL

9. Erythromycin 200 mg is ordered. On stock are ampoules containing 300 mg in 10 mL. What volume of stock solution needs to be drawn up for the injection?
   a. 0.67 mL  
   b. 1.5 mL  
   c. 6.7 mL  
   d. 3.2 mL

10. Atropine 800 mcg is ordered. In stock are 1.2 mg in 1 mL. What volume of stock solution needs to be drawn up for the injection?
    a. 0.67 mL  
    b. 1.3 mL  
    c. 0.8 mL  
    d. 1.2 mL

11. Metoclopramide 7 mg is ordered. In stock are ampoules with 10 mg/2 mL. What volume of stock solution needs to be drawn up for the injection?
    a. 0.7 mL  
    b. 1.4 mL  
    c. 1.2 mL  
    d. 0.4 mL
12. Morphine 12 mg is ordered. The stock ampoules have 15 mg/mL. What volume of stock solution needs to be drawn up for the injection?

   a. 0.8 mL  
   b. 1.25 mL  
   c. 0.6 mL  
   d. 1.4 mL

13. Heparin 3000 units is ordered. Stock available is 5000 units/mL. What volume of stock solution needs to be drawn up for the injection?

   a. 1.67 mL  
   b. 1.2 mL  
   c. 0.6 mL  
   d. 0.4 mL

14. Buscopan 0.24 mg is ordered. On stock are ampoules with 0.4 mg/2 mL. What volume of stock solution needs to be drawn up for the injection?

   a. 1.2 mL  
   b. 6 mL  
   c. 2.4 mL  
   d. 0.17 mL

15. Ondansetron 5 mg is ordered. Stock ampoule contains 4 mg in 2 mL. What volume of stock solution needs to be drawn up for the injection?

   a. 0.8 mL  
   b. 1.2 mL  
   c. 0.6 mL  
   d. 2.5 mL

16. Gentamicin 70 mg is prescribed. Stock on hand is 80 mg in 2 mL. What volume of stock solution needs to be drawn up for the injection?

   a. 1.14 mL  
   b. 1.8 mL  
   c. 0.9 mL  
   d. 0.57 mL

17. Ceftriaxone 1250 mg has been ordered. In stock are ampoules of 1 g/3 mL. What volume of stock solution needs to be drawn up for the injection?

   a. 3.8 mL  
   b. 0.42 mL  
   c. 1.9 mL  
   d. 0.8 mL
18. Vancomycin 1.2 g has been prescribed. In stock are 1000 mg/5mL ampoules. What volume of stock solution needs to be drawn up for the injection?
   a. 1.2 mL  
   b. 0.83 mL  
   c. 6 mL  
   d. 0.6 mL  

19. Pethidine 70 mg is to be given IM. What volume of stock is required if ampoules contain pethidine 100 mg in 2 mL?
   a. 0.7 mL  
   b. 2.86 mL  
   c. 0.35 mL  
   d. 1.4 mL  

20. Digoxin ampoules on hand contain 500 mcg in 2 mL. What volume is needed for an injection of 275 mcg?
   a. 0.55 mL  
   b. 1.8 mL  
   c. 1.1 mL  
   d. 0.75 mL  

21. Buscopan 0.18 mg is ordered. Stock ampoules contain 0.4 mg/2 mL. What volume is to be drawn up for injection?
   a. 9.0 mL  
   b. 4.5 mL  
   c. 0.9 mL  
   d. 0.2 mL  

22. A patient is ordered hydroxyzine hydrochloride 20 mg, IM. Ampoules contain 50 mg/mL. What volume is required for injection?
   a. 0.75 mL  
   b. 1.24 mL  
   c. 2.5 mL  
   d. 0.4 mL  

23. A patient is to be given an injection of chlorpromazine hydrochloride 25 mg IM. What volume is required if stock ampoules contain 25 mg/mL?
   a. 2 mL  
   b. 1.6 mL  
   c. 1 mL  
   d. 0.5 mL
24. A patient is prescribed tobramycin sulfate 75 mg IM. What amount of stock solution is required if stock is 80 mg/2mL?
   a. 9 mL  
   b. 1.9 mL  
   c. 1.1 mL  
   d. 4.5 mL

25. A patient is ordered heparin sodium 4000 units subcutaneously. In stock are heparin sodium 5000 units/mL. How much volume is required for the injection?
   a. 1.5 mL  
   b. 0.67 mL  
   c. 1.33 mL  
   d. 0.8 mL
Answer Key to Infusion: Quiz 3

Q01  a  20 mg ÷ 2 = 10 mg/mL; 9 mg ÷ 10 mg = 0.9 mL
Q02  c  100 mg ÷ 2 = 50 mg/mL; 85 mg ÷ 50 mg/mL = 1.7 mL
Q03  d  1000 mg in 10 mL; 100 mg per mL; 500 mg ÷ 100 gm/mL = 5 mL
Q04  a  250 mg ÷ 5 = 50 mg/mL; 200 mg ÷ 50 mg/mL = 4 mL
Q05  d  100 mg ÷ 2 = 50 mg/mL; 65 mg ÷ 50 mg/mL = 1.3 mL
Q06  b  100 mg ÷ 2 = 50 mg/mL; 60 mg ÷ 50 mg/mL = 1.2 mL
Q07  c  100 mg ÷ 2 = 50 mg/mL; 80 mg ÷ 50 mg/mL = 1.6 mL
Q08  d  500 mcg ÷ 2 = 250 mcg/mL; 150 mcg ÷ 250 mcg/mL = 0.6 mL
Q09  c  300 mg ÷ 10 = 30 mg/mL; 200 mg ÷ 30 mg/mL = 6.7 mL
Q10  a  1.2 mg = 1200 mcg; 800 mcg ÷ 1200 mcg/mL = 0.67 mL
Q11  b  10 mg ÷ 2 = 5 mg/mL; 7 mg ÷ 5 mg/mL = 1.4 mL
Q12  a  12 mg ÷ 15 mg/mL = 0.8 mL
Q13  c  3000 units ÷ 5000 units/mL = 0.6 mL
Q14  a  0.4 mg ÷ 2 = 0.2 mg/mL; 0.24 mg ÷ 0.2 mg/mL = 1.2 mL
Q15  d  4 mg ÷ 2 = 2 mg/mL; 5 mg ÷ 2 mg/mL = 2.5 mL
Q16  b  80 mg ÷ 2 = 40 mg/mL; 70 mg ÷ 40 mg/mL = 1.8 mL
Q17  a  1 g = 1000 mg; 1000 mg ÷ 3 = 333 mg/mL; 1250 mg ÷ 333 mg/mL = 3.8 mL
Q18  c  1000 mg ÷ 5 = 200 mg/mL; 1.2 g x 1000 = 1200 mg ÷ 200 mg/mL = 6 mL
Q19  d  100 mg ÷ 2 = 50 mg/mL; 70 mg ÷ 50 mg/mL = 1.4 mL
Q20  c  500 mcg ÷ 2 = 250 mcg/mL; 275 mcg ÷ 250 mcg/mL = 1.1 mL
Q21  c  0.4 mg ÷ 2 = 0.2 mg/mL; 0.18 mg ÷ 0.2 mg/mL = 0.9 mL
Q22  d  20 mg ÷ 50 mg/mL = 0.4 mL
Q23  c  23 mg ÷ 25 mg/mL = 1 mL
Q24  b  80 mg/2mL ÷ 2 = 40 mg/mL; 75 mg ÷ 40 mg/mL = 1.875 or 1.9 mL
Q25  d  4000 units ÷ 5000 units/mL = 0.8 mL