Injection Dosage Calculations

1. Digoxin ampoules on hand contain 500 mcg in 2 mL. What volume is needed to administer 350 mcg?
   a. 1.2 mL
   b. 0.7 mL
   c. 0.5 mL
   d. 1.4 mL

2. Stock heparin has a strength of 5000 units per mL. What volume must be drawn up to give 6500 units?
   a. 0.8 mL
   b. 1.5 mL
   c. 1.3 mL
   d. 0.5 mL

3. A patient is prescribed naloxone 0.6 mg, I.V. Stock ampoules contain 0.4 mg/2 mL. What volume should be drawn up for injection?
   a. 0.7 mL
   b. 1.5 mL
   c. 3 mL
   d. 0.9 mL

4. How much morphine solution must be withdrawn for a 7.5 mg dose if a stock ampoule contains 15 mg in 1 mL?
   a. 0.5 mL
   b. 2 mL
   c. 1.5 mL
   d. 0.75 mL

5. Phenobarbitone 40 mg has been prescribed. Stock ampoules contain 200 mg/mL. What volume needs to be drawn for the injection?
   a. 5 mL
   b. 0.2 mL
   c. 2.5 mL
   d. 0.6 mL
6. Morphine 5.5 mg is prescribed for a patient. Stock ampoules contain 10 mg/mL. What volume has to be drawn up for injection?
   a. 0.55 mL
   b. 5.5 mL
   c. 1.5 mL
   d. 0.75 mL

7. A patient is prescribed erythromycin 250 mg. Stock on hand contains 1 g in 10 mL once diluted. What volume of stock needs to be drawn up for the injection?
   a. 25 mL
   b. 2.5 mL
   c. 0.04 mL
   d. 0.25 mL

8. An adult with TB is to be given 500 mg of capreomycin every second day, IM. The stock on hand contains 1 g in 3 mL. What volume of stock needs to be drawn up for the injection?
   a. 1.5 mL
   b. 0.3 mL
   c. 1 mL
   d. 0.7 mL

9. Penicillin 450 mg is ordered. Stock ampoules contain 600 mg in 5 mL. What volume of stock needs to be drawn up for the injection?
   a. 0.75 mL
   b. 1.3 mL
   c. 3.8 mL
   d. 0.6 mL

10. Atropine 0.5 mg is ordered. The stock ampoules contain 0.6 mg in 1 mL. What volume of stock solution needs to be drawn up for the injection?
    a. 0.83 mL
    b. 1.2 mL
    c. 0.67 mL
    d. 1.4 mL

11. The patient is prescribed capreomycin 850 mg. The stock ampoules contain 2 g per mL. What volume of stock solution needs to be drawn up for the injection?
    a. 0.8 mL
    b. 2.35 mL
    c. 0.43 mL
    d. 1.2 mL
12. Buscopan 0.25 mg is ordered. Available are stock ampoules with 0.4 mg/2 mL. What volume of stock solution needs to be drawn up for the injection?
   a. 0.63 mL
   b. 1.5 mL
   c. 1.3 mL
   d. 0.8 mL

13. Benzylpenicillin 1500 mg is prescribed. Stock available is 1.2 g in 10 mL. What volume of stock solution needs to be drawn up for the injection?
   a. 1.25 mL
   b. 12.5 mL
   c. 0.13 mL
   d. 0.8 mL

14. Pethidine 80 mg is ordered for the patient. The stock ampoules contain 100 mg/2 mL. What volume of stock solution needs to be drawn up for the injection?
   a. 1.6 mL
   b. 0.8 mL
   c. 1.2 mL
   d. 0.6 mL

15. Furosemide (frusemide) 150 mg is ordered. Stock available is 250 mg in 5 mL. What volume of stock solution needs to be drawn up for the injection?
   a. 0.6 mL
   b. 3 mL
   c. 1.67 mL
   d. 8.3 mL

16. Tramadol 120 mg is ordered. Available in stock is 100 mg in 2 mL. What volume of stock solution needs to be drawn up for the injection?
   a. 1.2 mL
   b. 0.4 mL
   c. 0.83 mL
   d. 2.4 mL

17. Morphine 7.5 mg has been prescribed to a patient. In stock are ampoules of 10 mg in 1 mL. What volume of stock solution needs to be drawn up for the injection?
   a. 0.75 mL
   b. 1.33 mL
   c. 1.5 mL
   d. 7.5 mL
18. Dexamethasone 3 mg has been ordered. The available stock ampoules contain 4 mg/mL. What volume of stock solution needs to be drawn up for the injection?

a. 1.24 mL  
b. 0.75 mL  
c. 7.5 mL  
d. 0.6 mL

19. Phenobarbitone 60 mg is to be given IM. Stock ampoules contain 200 mg/mL. Is the volume of stock required:

a. Equal to 1 mL  
b. Less than 1 mL  
c. More than 1 mL

20. A patient is ordered benzylpenicillin 900 mg. On hand is benzylpenicillin 600 mg in 5 mL (once diluted). What volume is to be drawn up for injection?

a. 7.5 mL  
b. 0.7 mL  
c. 1.5 mL  
d. 3.3 mL

21. A patient is prescribed vancomycin 900 mg. What amount of stock solution is required if ampoules contain 1 g per 10 mL?

a. 0.9 mL  
b. 1.1 mL  
c. 9 mL  
d. 4.5 mL

22. How much morphine must be drawn up for a 10 mg dose if a stock ampoule contains 15 mg in 1 mL?

a. 1.5 mL  
b. 0.33 mL  
c. 0.67 mL  
d. 1.33 mL

23. Naloxolone hydrochloride 0.3 mg IM is ordered. Stock ampoules contain 0.4 mg/mL. What volume is to be drawn up for injection?

a. 1.25 mL  
b. 0.75 mL  
c. 0.5 mL  
d. 12 mL
24. A patient is ordered glycopyrrolate 200 mcg IM 60 minutes pre-op. The stock supply of glycopyrrolate is 0.2 mg/mL. What volume is required for injection?

   a. 1 mL  
   b. 0.75 mL  
   c. 1.24 mL  
   d. 2.67 mL

25. A patient is to be given an injection of enoxaparin sodium 40 mg. What volume is required if stock ampoules contain 300 mg/mL?

   a. 0.33 mL  
   b. 0.63 mL  
   c. 0.13 mL  
   d. 1.33 mL
Answer Key to Infusion: Quiz 2

Q01  d  500 mcg ÷ 2 = 250 mcg/mL; 350 mcg ÷ 250 mcg/mL = 1.4 mL
Q02  c  6500 units ÷ 5000 units/mL = 1.3 mL
Q03  c  0.4 mg ÷ 2 = 0.2 mg/mL; 0.6 mg ÷ 0.2 mg/mL = 3 mL
Q04  a  7.5 mg ÷ 15 mg/mL = 0.5 mL
Q05  b  40 mg ÷ 200 mg/mL = 0.2 mL
Q06  a  5.5 mg ÷ 10 mg/mL = 0.55 mL
Q07  b  1 g x 1000 = 1000 mg; 1000 mg ÷ 10 = 100 mg/mL; 250 mg ÷ 100 mg/mL = 2.5 mL
Q08  a  1 g = 1000 mg; 1000 mg ÷ 3 = 333 mg/mL; 500 mg ÷ 333 mg/mL = 1.5 mL
Q09  c  600 mg ÷ 5 = 120 mg/mL; 450 mg ÷ 120 mg/mL = 3.8 mL
Q10  a  0.5 mg ÷ 0.6 mg/mL = 0.83 mL
Q11  c  2 g = 2000 mg/mL; 850 mg ÷ 2000 mg/mL = 0.43 mL
Q12  c  0.4 mg ÷ 2 = 0.2 mg/mL; 0.25 mg ÷ 0.2 mg/mL = 1.3 mL
Q13  b  1.2 g = 1200 mg; 1200 mg ÷ 10 = 120 mg/mL; 1500 mg ÷ 120 mg/mL = 12.5 mL
Q14  a  100 mg ÷ 2 = 50 mg/mL; 80 mg ÷ 50 mg/mL = 1.6 mL
Q15  b  250 mg ÷ 5 = 50 mg/mL; 150 mg ÷ 50 mg/mL = 3 mL
Q16  d  100 mg ÷ 2 = 50 mg/mL; 120 mg ÷ 50 mg/mL = 2.4 mL
Q17  a  7.5 mg ÷ 10 mg/mL = 0.75 mL
Q18  b  3 mg ÷ 4 mg/mL = 0.75 mL
Q19  b  60 mg ÷ 200 mg/mL = 0.3 mL which is LESS than 1 mL
Q20  a  600 mg ÷ 5 = 120 mg/mL; 900 mg ÷ 120 mg/mL = 7.5 mL
Q21  c  1 g = 1000 mg; 1000 mg ÷ 10 = 100 mg/mL; 900 mg ÷ 100 mg/mL = 9 mL
Q22  c  10 mg ÷ 15 mg/mL = 0.67 mL
Q23  b  0.3 mg ÷ 0.4 mg/mL = 0.75 mL
Q24  a  0.2 mg x 1000 = 200 mcg; 200 mcg ÷ 200 mcg/mL = 1 mL
Q25  c  40 mg ÷ 300 mg/mL = 0.13 mL