Injection Dosage Calculations

1. An injection of morphine 8 mg is ordered. Ampoules on hand contain 10 mg in 1 mL. What volume must be drawn up the injection?
   a. 0.6 mL
   b. 0.8 mL
   c. 1.25 mL
   d. 1.5 mL

2. A patient is to be given flucloxacillin 250 mg by injection. Stock vials contain 1 g in 10 mL, after dilution. Calculate the required volume needed for injection.
   a. 2.5 mL
   b. 0.25 mL
   c. 25 mL
   d. 1.25 mL

3. A patient is to receive an injection of gentamicin 60 mg, IM. What volume is required if ampoules on hand contain 80 mg/2 mL?
   a. 1.3 mL
   b. 1.5 mL
   c. 0.75 mL
   d. 0.66 mL

4. A patient is to receive an I.V. dose of gentamicin 160 mg. Stock ampoules contain 100 mg in 2 mL. What volume needs to be drawn up for injection?
   a. 1.6 mL
   b. 0.6 mL
   c. 3.2 mL
   d. 0.8 mL

5. Heparin is available at a strength of 5000 units/5mL. What volume is needed to give 800 units?
   a. 0.8 mL
   b. 6.25 mL
   c. 0.2 mL
   d. 1.5 mL
6. A patient is to be given ranitidine 40 mg. Stock ampoules have a strength of 50 mg/2mL. Calculate the volume of stock needed for injection.

   a. 1.25 mL  
   b. 0.8 mL  
   c. 1.6 mL  
   d. 0.4 mL

7. A patient is ordered metoclopramide 15 mg, for nausea. The ampoules available contain 10 mg/mL. Calculate the volume of stock to be drawn up for injection.

   a. 1.5 mL  
   b. 0.7 mL  
   c. 2.5 mL  
   d. 0.5 mL

8. A patient is ordered benzylpenicillin 800 mg. On hand is benzylpenicillin 1.2 g in 6 mL. What volume of stock needs to be drawn up for the injection?

   a. 2 mL  
   b. 1 mL  
   c. 4 mL  
   d. 0.8 mL

9. Stock calciparine contains 25,000 units in 1 mL. 15,000 units of calciparine are ordered. What volume of stock needs to be drawn up for the injection?

   a. 1.7 mL  
   b. 0.6 mL  
   c. 1.3 mL  
   d. 0.4 mL

10. Morphine 20 mg is prescribed to a patient. The available stock is 15 mg in 1 mL. What volume of stock solution needs to be drawn up for the injection?

    a. 0.75 mL  
    b. 1.5 mL  
    c. 0.6 mL  
    d. 1.3 mL

11. Naloxone 0.35 mg is ordered. In stock are 0.4 mg/mL. What volume of stock solution needs to be drawn up for the injection?

    a. 1.14 mL  
    b. 0.67 mL  
    c. 0.88 mL  
    d. 1.2 mL
12. 1750 units of heparin are ordered for a patient. In stock are ampoules with 1000 units per mL. What volume of stock solution needs to be drawn up for the injection?
   a. 0.6 mL  
   b. 1.2 mL  
   c. 17 mL  
   d. 1.8 mL

13. Calciparine 7,000 units is ordered. The stock ampoules have 25,000 units in 1 mL. What volume of stock solution needs to be drawn up for the injection?
   a. 0.28 mL  
   b. 3.6 mL  
   c. 1.8 mL  
   d. 0.56 mL

14. Phenobarbitone 70 mg is ordered for a patient. Available stock ampoules contain 200 mg/mL. What volume of stock solution needs to be drawn up for the injection?
   a. 2.85 mL  
   b. 0.70 mL  
   c. 1.4 mL  
   d. 0.35 mL

15. The patient is prescribed 200 mcg of digoxin. Stock available is 500 mcg in 2 mL. What volume of stock solution needs to be drawn up for the injection?
   a. 2.5 mL  
   b. 0.4 mL  
   c. 0.8 mL  
   d. 1.25 mL

16. Capreomycin 800 mg is prescribed. Stock ampoules are available with 1 g in 5 mL. What volume of stock solution needs to be drawn up for the injection?
   a. 0.8 mL  
   b. 2 mL  
   c. 6.25 mL  
   d. 4 mL

17. Vancomycin 800 mg is ordered. The stock ampoule contain 1 g in 5 mL. What volume of stock solution needs to be drawn up for the injection?
   a. 2 mL  
   b. 0.8 mL  
   c. 4 mL  
   d. 0.6 mL
18. Buscopan 25 mg has been prescribed. Available stock is 20 mg in 1 mL. What volume of stock solution needs to be drawn up for the injection?

a. 1.3 mL
b. 0.8 mL
c. 1.5 mL
d. 0.5 mL

19. Naloxone 0.5 mg has been ordered for a patient. The ampoules available contain 0.4 mg/mL. What volume of stock solution needs to be drawn up for the injection?

a. 0.8 mL
b. 13 mL
c. 1.3 mL
d. 2.6 mL

20. Heparin 12,000 units, S.C., is ordered. Stock ampoules contain 25,000 units/5 mL. What volume should be drawn up?

a. 0.5 mL
b. 1.2 mL
c. 2.1 mL
d. 2.4 mL

21. A patient is ordered tramadol hydrochloride 75 mg, IM. Ampoules contain 100 mg in 2 mL. What volume is required for injection?

a. 0.75 mL
b. 1.24 mL
c. 1.5 mL
d. 2.67 mL

22. A patient is to be given an injection of erythromycin 190 mg. What volume is required if stock ampoules contain 300 mg/10mL?

a. 1.6 mL
b. 6.3 mL
c. 0.63 mL
d. 4.2 mL

23. The order is for clindamycin phosphate 300 mg IM. What amount of stock solution is required if ampoules contain 150 mg/mL?

a. 2.5 mL
b. 0.2 mL
c. 2 mL
d. 4.5 mL
24. A patient is ordered atropine sulfate 0.6 mg IM on call to the operating room. The stock in supply is 0.6 mg/mL. What volume is required for this injection?

a. 1.5 mL  
b. 0.5 mL  
c. 1.33 mL  
d. 1 mL

25. Atropine sulfate 0.4 mg IM is ordered on call to the operating room. Stock ampoules contain 0.4 mg/mL. What volume is to be drawn up for injection?

a. 0.9 mL  
b. 1 mL  
c. 4.5 mL  
d. 0.2 mL
Answer Key to Infusion: Quiz 1

Q01  b  8 mg ÷ 10 mg/mL = 0.8 mL
Q02  a  1000 mg in 10 mL; 100 mg in 1 mL; 250 mg ÷ 100 mg/mL = 2.5 mL
Q03  b  80 mg ÷ 2 = 40 mg/mL; 60 mg ÷ 40 mg/mL = 1.5 mL
Q04  c  100 mg ÷ 2 = 50 mg/mL; 160 mg ÷ 50 mg/mL = 3.2 mL
Q05  a  5000 units ÷ 5 = 1000 units/mL; 800 units ÷ 1000 units/mL = 0.8 mL
Q06  c  50 mg ÷ 2 = 25 mg/mL; 40 mg ÷ 25 mg/mL = 1.6 mL
Q07  a  15 mg ÷ 10 mg/mL = 1.5 mL
Q08  c  1.2 g = 1200 mg; 1200 mg ÷ 6 = 200 mg/mL; 800 mg ÷ 200 mg/mL = 4 mL
Q09  b  15,000 units ÷ 25,000 units/mL = 0.6 mL
Q10  d  20 mg ÷ 15 mg/mL = 1.3 mL
Q11  c  0.35 mg ÷ 0.4 mg/mL = 0.88 mL
Q12  d  1750 units ÷ 1000 units/mL = 1.8 mL
Q13  a  7,000 units ÷ 25,000 units/mL = 0.28 mL
Q14  d  70 mg ÷ 200 mg/mL = 0.35 mL
Q15  c  500 mcg ÷ 2 = 250 mcg/mL; 200 mcg ÷ 250 mcg/mL = 0.8 mL
Q16  d  1 g = 1000 mg; 1000 mg ÷ 5 = 200 mg/mL; 800 mg ÷ 200 mg/mL = 4 mL
Q17  c  1 g = 1000 mg; 1000 mg ÷ 5 = 200 mg/mL; 800 mg ÷ 200 mg/mL = 4 mL
Q18  a  25 mg ÷ 20 mg/mL = 1.3 mL
Q19  c  0.5 mg ÷ 0.4 mg/mL = 1.3 mL
Q20  d  25,000 units ÷ 5 = 5,000 units/mL; 12,000 units ÷ 5000 units/mL = 2.4 mL
Q21  c  100 ÷ 2 = 50 mg/mL; 75 mg ÷ 50 mg/mL = 1.5 mL
Q22  b  300 mg ÷ 10 = 30 mg/mL; 190 mg ÷ 30 mg/mL = 6.3 mL
Q23  c  300 mg ÷ 150 mg/mL = 2 mL
Q24  d  0.6 mg ÷ 0.6 mg/mL = 1 mL
Q25  b  0.4 mg ÷ 0.4 mg/mL = 1 mL