Introductory Level Drug Dosage Practice Problems

Topics covered:

Metric Conversions .......................................................... page 2
General Conversions ......................................................... page 3
Oral Dosages ................................................................. page 4
Parenteral Dosages .......................................................... page 7
Reconstitution of Powdered Drugs ...................................... page 10
<table>
<thead>
<tr>
<th></th>
<th>Metric Conversion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>300 mg = __________ g</td>
</tr>
<tr>
<td>2</td>
<td>238 g = __________ mcg</td>
</tr>
<tr>
<td>3</td>
<td>28 mL = __________ L</td>
</tr>
<tr>
<td>4</td>
<td>42 g = ____________ kg</td>
</tr>
<tr>
<td>5</td>
<td>0.024 L = __________ mL</td>
</tr>
<tr>
<td>6</td>
<td>635 mcg = __________ mg</td>
</tr>
<tr>
<td>7</td>
<td>50 mL = ____________ L</td>
</tr>
<tr>
<td>8</td>
<td>16 g = ____________ mg</td>
</tr>
<tr>
<td>9</td>
<td>100 mg = ____________ g</td>
</tr>
<tr>
<td>10</td>
<td>0.015 g = __________ mg</td>
</tr>
<tr>
<td>11</td>
<td>8 mg = ____________ g</td>
</tr>
<tr>
<td>12</td>
<td>10 mg = ____________ g</td>
</tr>
<tr>
<td>13</td>
<td>60 mg = ____________ g</td>
</tr>
<tr>
<td>14</td>
<td>300 mg = __________ g</td>
</tr>
<tr>
<td>15</td>
<td>0.2 mg = ____________ g</td>
</tr>
<tr>
<td>16</td>
<td>1.2 g = ____________ mg</td>
</tr>
<tr>
<td>17</td>
<td>0.0025 kg = __________ g</td>
</tr>
<tr>
<td>18</td>
<td>0.065 g = __________ mg</td>
</tr>
<tr>
<td>19</td>
<td>0.005 L = __________ mL</td>
</tr>
<tr>
<td>20</td>
<td>1.5 L = ____________ cc</td>
</tr>
<tr>
<td>21</td>
<td>2 mL = ____________ cc</td>
</tr>
<tr>
<td>22</td>
<td>250 cc = ____________ L</td>
</tr>
<tr>
<td>23</td>
<td>2 kg = ____________ g</td>
</tr>
<tr>
<td>24</td>
<td>56.08 cc = __________ mL</td>
</tr>
<tr>
<td>25</td>
<td>79,200 mL = __________ L</td>
</tr>
<tr>
<td>26</td>
<td>1 L = ____________ mL</td>
</tr>
<tr>
<td>27</td>
<td>1 g = ____________ mg</td>
</tr>
<tr>
<td>28</td>
<td>1 mL = ____________ L</td>
</tr>
<tr>
<td>29</td>
<td>1.05 g = ____________ kg</td>
</tr>
<tr>
<td>30</td>
<td>18 mcg = __________ mg</td>
</tr>
<tr>
<td>31</td>
<td>0.4 mg = __________ mcg</td>
</tr>
<tr>
<td>32</td>
<td>25 g = ____________ kg</td>
</tr>
<tr>
<td>33</td>
<td>30 mg = ____________ mcg</td>
</tr>
<tr>
<td>34</td>
<td>5 mL = ____________ L</td>
</tr>
<tr>
<td>35</td>
<td>450 cc = __________ L</td>
</tr>
<tr>
<td>36</td>
<td>23 mcg = __________ mg</td>
</tr>
<tr>
<td>37</td>
<td>625 mcg = __________ mg</td>
</tr>
<tr>
<td>38</td>
<td>16 g = ____________ mg</td>
</tr>
<tr>
<td>39</td>
<td>1.5 g = ____________ mg</td>
</tr>
<tr>
<td>40</td>
<td>475 mL = ____________ L</td>
</tr>
<tr>
<td>41</td>
<td>2 kL = ____________ L</td>
</tr>
<tr>
<td>42</td>
<td>0.75 L = ____________ mL</td>
</tr>
<tr>
<td>43</td>
<td>8.65 mL = ____________ L</td>
</tr>
<tr>
<td>44</td>
<td>7.56 g = ____________ mg</td>
</tr>
</tbody>
</table>
1. 3 g = gr __________
2. 84 lb = __________ kg
3. ʒ iss = __________ mL
4. 15 mg = gr _______
5. 2.5 mL = _________ t
6. gr ss = __________ mg
7. 7.5 mg = gr _______
8. gr xx = __________ g
9. gr 1/8 = __________ mg
10. 75 mL = __________
11. 0.6 mg = gr _______
12. 15 mL = __________
13. gr ¼ = __________ mg
14. 0.03 g = gr _______
15. gr 1/150 = __________ mg
16. gr viiss = ________ g
17. 13 t = __________ cc
18. 15 cc = __________
19. 20 mL = __________ t
20. 4 T = __________ cc
21. 9 kg = __________ lb
22. 3 L = 3 __________
23. 55 kg = __________ lb
24. 3 t = __________ mL
25. 99 lb = __________ kg
26. 0.4 mg = gr _______
27. 0.6 mg = gr _______
28. gr x = __________ mg
29. 300 mg = gr _______
30. 90 mg = gr _______
31. 60 mL = __________
32. gr 1/6 = __________ mg
33. 30 mg = gr _______
34. 40 kg = __________ lb
35. 7.16 kg = __________ g
36. 110 lb = __________ kg
37. 3.5 kg = __________ lb
38. 63 lb = __________ kg
39. 120 mL = __________ oz
Oral Dosages

1. The physician writes an order for Diabinese 0.1 g p.o. q.d. The drug container label reads Diabinese 100 mg tablets.
   Give: _____________ tablet(s)

2. Duricef 500 mg tablets available. The order is for Duricef 0.5 g p.o. b.i.d.
   Give: ________________ tablet(s)

3. Urecholine 10 mg scored tablets available. Order: Urecholine 15 mg p.o. t.i.d.
   Give: ________________ tablet(s)

4. Order: Hydrochlorothiazide 12.5 mg p.o. t.i.d. 25 mg scored tablets available.
   Give: ________________ tablet(s)

5. Order: Lanoxin 0.125 mg p.o. b.i.d.
   Supply: Lanoxin 0.25 mg scored tablets.
   Give: ________________ tablet(s)

6. Order: Motrin 600 mg p.o. b.i.d.
   Supply: Motrin 300 mg tablets
   Give: ________________ tablet(s)

7. Order: Slow-K 16 mEq p.o. stat
   Supply: Slow – K 8 mEq tablets
   Give: ________________ tablet(s)

   Give: ________________ tablet(s)

9. Zaroxolyn 5 mg scored tablets available. Order: Zaroxolyn 7.5 mg p.o. b.i.d.
   Give: ________________ tablet(s)

10. Coumadin 5 mg p.o. q.d. ordered. Coumadin 2.5 mg tablets available.
    Give: ________________ tablet(s)

11. The doctor orders 650 mg acetaminophen p.o. stat for a patient, but the drug available is in 325 mg tablets. How many tablets should you give?

12. A patient is prescribed 250 mg clozapine p.o. daily. How many tablets should he take if each scored tablet contains 100 mg?

13. The doctor’s order reads glyburide 1.5 mg iii tablets p.o. daily. What is the total dose in milligrams?
14. A patient is receiving 500 mg of Ceclor oral suspension. The label says Ceclor 250 mg/5 mL, and the bottle contains 100 mL. How many milliliters of Ceclor should you give?

15. A patient needs 400 mg of erythromycin oral suspension. The label says erythromycin 200 mg/5 mL. How many milliliters should you give?

16. The doctor orders 100 mg Dilantin oral suspension t.i.d. for a patient. The label says Dilantin 125 mg/5 mL. How many milliliters should you give?

17. Order: Demerol syrup 75 mg p.o. q.4h p.r.n. pain
   Supply: Demerol syrup 50 mg per 5 mL
   Give: ______________ mL

18. Order: Pen-Vee K 1 g p.o. 1h pre-op dental surgery
   Supply: Pen-Vee K oral suspension 250 mg (400,000 U) per 5 mL
   Give: ______________ mL

19. Order: Amoxicillin 100 mg p.o. q.i.d.
   Supply: 80 mL bottle of Amoxil (amoxicillin) oral pediatric suspension 125 mg per 5 mL
   Give: ______________ mL

20. Order: Tylenol 0.5 g p.o. q.4h p.r.n. pain
   Supply: Tylenol 500 mg in 5 mL
   Give: ______________ mg

21. Order: Promethazine HCl 25 mg p.o. h.s. pre-op
   Supply: Phenergan Plain (promethazine HCl) 6.25 mg per teaspoon
   Give: ______________ mL

22. Order: Pathocil 125 mg p.o. q.6h a.c.
   Supply: Pathocil suspension 62.5 mg per 5 mL
   Give: ______________ mL

23. Order: Erythromycin suspension 600 mg p.o. q.6h
   Supply: Erythromycin 400 mg/5 mL
   Give: ______________ mL

24. Order: Ceclor suspension 225 mg p.o. b.i.d.
   Supply: Ceclor suspension 375 mg per 5 mL
   Give: ______________ mL
25. The doctor orders 4 g of Amoxicillin p.o. b.i.d. Use the medication label below to find the appropriate amount in mL of a single dose for the patient.

Give: ________ mL

26. A dosage of 300 mg b.i.d. is ordered for a patient suffering from an infection. Using the information provided on the medication label below, find the daily dosage the patient requires.

Give: ________ capsule(s)

27. The doctor prescribes a daily dosage of 500 mg for a patient to be divided into two doses. Find the amount of medication in mL required for an individual dose for this patient by using the label below.

Give: ________ mL
Parenteral Dosages

1. Order: Atropine sulfate 0.15 mg SC stat
   Supply: Atropine sulfate 0.4 mg per mL
   Give: _________ mL

2. The drug order reads morphine sulfate gr 1/6 IM q.3-4h p.r.n., and the label states morphine sulfate 15 mg per mL. How many mL do you administer?

3. Order: Codeine gr ¼ SC q.4h p.r.n., pain
   Supply: 20 mL vial Codeine labeled 30 mg per mL
   Give: _________ mL

4. Order: Bicillin 2,400,000 U IM stat
   Supply: 10 mL vial of Bicillin containing 600,000 U per mL
   Give: _________ mL

5. Order: Digoxin 600 mcg IV stat
   Supply: 0.5 mg in 2 mL
   Give: _________ mL

6. Order: Procaine penicillin G 2.4 million U IM stat
   Supply: Wycillin (Procaine penicillin G) disposable, single-dose syringe containing 2,400,000 U/2 mL
   Give: _________ mL

7. Order: Tigan 200 mg IM stat, then 100 mg q.6h p.r.n. nausea
   Supply: 2 mL vial Tigan containing 100 mg per mL
   Give: _________ mL stat and _________ mL q.6h

8. Order: Heparin 8000 U SC q.8h
   Supply: 10,000 U per mL
   Give: _________ mL

9. Order: Potassium chloride 15 mEq added to each 1000 mL IV fluid container
   Supply: Potassium chloride 30 mL vial containing 2 mEq/mL
   Give: _________ mL

10. Order: Demerol 60 mg IM q.4h p.r.n. pain
    Supply: Demerol 75 mg per 1.5 mL
    Give: _________ mL
11. The doctor prescribes 4 mg of I.M. morphine every 3 hours for a patient’s pain. The drug is available in a prefilled syringe containing 10 mg of morphine/mL. How many milliliters of morphine should you waste?

12. The doctor orders 100 mg of methylprednisolone (Solu-Medrol) I.M. every 4 hours for a patient with asthma. The vial contains 120 mg/mL. How much Solu-Medrol should you give?

13. The doctor prescribes 100 mg of gentamicin I.M. for a patient. The vial available contains 40 mg/mL. How much gentamicin should you give?

14. Order: Atropine gr 1/100 IM on call preoperatively  
   Supply: 0.4 mg per mL  
   Give: _________ mL

15. Order: Morphine sulfate gr 1/6 IM q.3-4h p.r.n.  
   Supply: Morphine sulfate 10 mg per mL  
   Give: _________ mL

16. Order: Procaine penicillin G 400,000 U IM t.i.d.  
   Supply: 300,000 U per mL  
  Give: _________ mL

17. Order: Heparin 4500 U SC q.d.  
   Supply: 10,000 USP Units per mL  
   Give: _________ mL

18. Order: Compazine 7.5 mg IM q.3-4h p.r.n. nausea and vomiting  
   Supply: 10 mL vial Compazine containing 5 mg per mL  
   Give: _________ mL

19. Order: Vistaril 20 mg IM q.4h p.r.n. nausea  
   Supply: 10 mL vial of Vistaril 25 mg/mL  
   Give: _________ mL

20. Order: Gentamicin sulfate 60 mg IM b.i.d.  
   Supply: 2 mL vial Garamycin (gentamicin sulfate) 40 mg/mL  
   Give: _________ mL
21. The doctor prescribes 0.04 g Tobramycin IM t.i.d. for a patient. Find the total daily dosage for this patient using the medication label below.
Give: ________ mL.

![Tobramycin image](https://dailymed.nlm.nih.gov/dailymed/archives/fdaDrugInfo.cfm?archiveid=14737)

22. A patient has a severe migraine, and the doctor prescribes 18 mg of Sumatriptan subcut stat. Use the label below to calculate the correct dosage for the patient.
Give: ________ mL.


23. A patient develops a post-operative vitamin B12 deficiency, so the doctor prescribes 2 mg of Cyanocobalamin IM daily. Use the medication label below to find the correct daily dosage for the patient.
Give: ________ mL.

![Cyanocobalamin image](https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=2fb653d6-e2b2-4969-831b-c0dc37b9a0ce)
Reconstitution of Powdered Drugs

1. A patient needs 25 mg of gentamicin I.M. The label says to add 1.3 ml sterile diluent to yield 50 mg/1.5 ml. How many milliliters of reconstituted solution should you give the patient?

2. The doctor orders 500 mg of ampicillin for a patient. A 1 g vial of powdered ampicillin is available. The label says to add 4.5 ml sterile water to yield 1 g/5 ml. How many milliliters of reconstituted ampicillin should you give?

3. For use as a topical antiseptic, the therapeutic protocol is to reconstitute hydrogen peroxide to ½ strength with normal saline used as the solvent. You decide to make 4 ounces that can be kept in a sterile container at the patient’s bedside for traction pin care. How many ounces of each do you need to prepare 4 ounces of a ½ strength hydrogen peroxide topical antiseptic?

4. Suppose a physician orders a patient’s wound irrigated with 2/3 strength hydrogen peroxide and normal saline solution q.4h while awake. The nurse needs 60 mL per irrigation and will do 3 irrigations during her 12 hour shift. She will need to prepare 60 mL x 3 irrigations = 180 mL total solution. How much stock hydrogen peroxide and normal saline are needed?

5. How would you prepare 480 mL of 1/3 strength for wound irrigation from liquid stock hydrogen peroxide, with saline as the solvent?

6. How would you prepare 4 ounces of ¼ strength for skin cleansing from liquid stock hydrogen peroxide, with saline as the solvent?

7. 500 mL 50% betadine solution using normal saline. _____________ mL stock betadine; _____________ mL normal saline.

8. 300 mL 20% acetic acid solution. _______ mL stock acetic acid; _______ mL water.

9. The physician orders 800 mL of ¼ strength Sustacal through a gastrostomy tube over 8 hours to supplement a patient while he sleeps. Sustacal ready-to-use formula comes in 10 ounce cans. How many mL of Sustacal are there in the solution? How many cans are needed?

10. A physician orders Ensure ¼ strength 120 mL q.2h via NG tube x 3 feedings for a patient who is recovering from gastric surgery. Available are 4 and 8 ounce cans of Ensure, ready-to-use formula. How many mL of Ensure are there in the solution? How many cans are needed?
11. A doctor orders 500 mg of Cefdinir daily for a patient. Using the medication label below find the:
   Amount of diluent needed for reconstitution: _______________ 
   Total volume produced by reconstitution: _______________ 
   Daily dosage for the patient in mL: _______________

12. The order calls for 2,000 mcg of Vecuronium IV to be given b.i.d. Using the medication label below find the:
   Amount of diluent required for reconstitution: _______________
   Daily dosage for patient in mL: _______________
Metric Conversions

1. 300 mg = 0.3 g
2. 238 g = 238,000,000 mcg
3. 28 mL = 0.028 L
4. 42 g = 0.042 kg
5. 0.024 L = 24 mL
6. 635 mcg = 0.635 mg
7. 50 mL = 0.05 L
8. 16 g = 16,000 mg
9. 100 mg = 0.1 g
10. 0.015 g = 15 mg
11. 8 mg = 0.008 g
12. 10 mg = 0.01 g
13. 60 mg = 0.06 g
14. 300 mg = 0.3 g
15. 0.2 mg = 0.0002 g
16. 1.2 g = 1,200 mg
17. 0.0025 kg = 2.5 g
18. 0.065 g = 65 mg
19. 0.005 L = 5 mL
20. 1.5 L = 1,500 cc
21. 2 mL = 2 cc
22. 250 cc = 0.25 L
23. 2 kg = 2,000 g
24. 56.08 cc = 56.08 mL
25. 79,200 mL = 79.2 L
26. 1 L = 1,000 mL
27. 1 g = 1,000 mg
28. 1 mL = 0.001 L
29. 1.05 g = 0.00105 kg
30. 18 mcg = 0.018 mg
31. 0.4 mg = 400 mcg
32. 25 g = 0.025 kg
33. 30 mg = 30,000 mcg
34. 5 mL = 0.005 L
35. 450 cc = 0.45 L
36. 23 mcg = 0.023 mg
37. 625 mcg = 0.625 mg
38. 16 g = 16,000 mg
39. 1.5 g = 1,500 mg
40. 475 mL = 0.475 L

41. 2 kL = 2,000 L
42. 0.75 L = 750 mL
43. 8.65 mL = 0.00865 L
44. 7.56 g = 7,560 mg

General Conversions (Problems with two answers have two conversion factors)

1. 3 g = gr 45 or gr 50
2. 84 lb = 38.2 kg
3. \(\text{3 iss} = 6 \text{ mL or 7.5 mL}\)
4. 15 mg = gr 1/4
5. 2.5 mL = 1/2 t
6. gr ss = 30 mg
7. 7.5 mg = gr 1/8
8. gr xx = 1.2 g or 1.3 g
9. gr 1/8 = 7.5 mg
10. 75 mL = 3 18 ¾ or 3 15
11. 0.6 mg = gr 1/100
12. 15 mL = 3 3/4 or 3 3
13. gr ¾ = 45 mg
14. 0.03 g = gr 1/2
15. gr 1/150 = 0.4 mg
16. gr viiss = 0.5 g
17. 13 t = 65 cc
18. 15 cc = 3 3/4 or 3 3
19. 20 mL = 4 t
20. 4 T = 60 cc
21. 9 kg = 19.8 lb
22. 3 L = 3 750 or 3 800
23. 55 kg = 121 lb
24. 3 t = 15 mL
25. 99 lb = 45 kg
26. 0.4 mg = gr 1/150
27. 0.6 mg = gr 1/100
28. gr x = 600 mg
29. 300 mg = gr 5
30. 90 mg = gr 1 1/2
31. 60 mL = 3 15 or 3 12
32. gr 1/6 = 10 mg
33. 30 mg = gr 1/2
34. 40 kg = 88 lb
35. 7.16 kg = 7,160 g
36. 110 lb = 50 kg
37. 3.5 kg = 7.7 lb
38. 63 lb = 28.6 kg
39. 120 mL = 4 oz

**Oral Dosages**

1. 1 tablet
2. 2 tablets
3. 1.5 tablets
4. 0.5 tablets
5. 0.5 tablets
6. 2 tablets
7. 1 tablet
8. 2 tablets
9. 1.5 tablets
10. 2 tablets
11. 2 tablets
12. 2.5 tablets
13. 4.5 mg/day
14. 10 mL
15. 10 mL
16. 4 mL
17. 7.5 mL
18. 20 mL
19. 4 mL
20. 1 t
21. 20 mL
22. 2 t
23. 7.5 mL
24. 3 mL
25. 100 mL/dose
26. 4 capsules/day
27. 10 mL/dose

**Parenteral Dosages**

1. 0.4 mL
2. 0.7 mL
3. 0.5 mL
4. 4 mL
5. 2.4 mL
6. 2 mL
7. 2 mL stat and 1 mL q.6h
8. 0.8 mL
9. 7.5 mL
10. 1.2 mL
11. 0.6 mL
12. 0.8 mL
13. 2.5 mL
14. 1.5 mL
15. 1 mL
16. 1.3 mL
17. 0.45 mL
18. 1.5 mL
19. 0.8 mL
20. 1.5 mL
21. 3 mL/day
22. 1.5 mL
23. 2 mL/day

**Reconstitution**

1. 0.8 mL
2. 2.5 mL
3. 2 oz H$_2$O$_2$ and 2 oz NS
4. 120 mL H$_2$O$_2$ and 60 mL NS
5. Add 160 mL H$_2$O$_2$ to 320 mL NS
6. Add 1 oz H$_2$O$_2$ to 3 oz NS
7. 250 mL stock betadine; 250 mL NS
8. 60 mL stock acetic acid; 240 mL water
9. 600 mL Sustacal in the solution; 2 cans of Sustacal needed
10. 30 mL of Ensure in solution; Use one 4 oz can of Ensure
11. Amount of diluent needed for reconstitution: 80 mL
   Total volume of reconstitution: 100 mL
   Daily dosage for patient: 10 mL/day
12. Amount of diluent required for reconstitution: 20 mL
   Daily dosage for patient: 4 mL/day