Cox College
Springfield, MO

Dosage Calculation Competency

Level II

Practice Worksheets

By placing name on this exam the tester assumes responsibility for knowing and complying with the General Rules for Dosage Rounding and Additional Notes as published on the Cox College Website.

STUDENT NAME: _____ **DATE:** ____ / ____ / ____

STUDENT I.D. #: _____ **ADVISOR:** _____

A 95% must be achieved on the competency exam to progress in the Nursing Program. Retesting can not occur the same day as the failed exam. Each exam may be repeated once within the testing period unless there are no more published dates available. Testing process must be completed within specified testing dates. Failure to pass competency exam will result in following the remediation process as outlined in the student handbook.

Student will be allowed one hour to complete this competency. If the student leaves during testing the exam will be collected and graded at that point whether completed or not.

A student photo ID is required to take the Dosage Calculation Competency Exam.

Only simple four function calculators are allowed for testing. Students may not share calculators.

DIRECTIONS:

Place all personal items in designated area.

Silence all cell phones.

Calculate the correct dosage and show your work on the exam.

- **Failure to label answers will result in missing the problem.**
- **Failure to show work will result in missing the problem**

Once exam is complete submit to faculty in room and proceed to designated waiting area to receive notification of score.

THERE ARE **20** QUESTIONS TO THIS TEST.

DO NOT OPEN THIS TEST OR BEGIN UNTIL DIRECTED TO START

COX COLLEGE
Springfield, Missouri
Dosage Calculation Competency
Math Review—Level II

Equivalents:

1 kilogram (kg)	=	1000 Grams (GM)
1 Gram (g)	=	1000 milligrams (mg)
1 mg	=	1000 micrograms (mcg)
1 Liter (L)	=	1000 milliliters (mL)
1 mL	=	1 cubic centimeter (cc)
30 mL	=	1 ounce (oz)
65 mg	=	1 grain (gr)
2.2 pounds (lb)	=	1 kilogram (KG)

1. 10 gr = _____mg

2. 60 ml = _____oz

3. 2 tsp = _____ml

4. 140 lb = _____KG

5. 0.001 mg = _____mcg

6. 260 mg = _____gr

7. 4 oz = _____ml

8. 3 L = _____ml

9. 0.2 mg = _____mcg

10. 1591 GM= _____lb = _____lb _____ oz

11. 3069 GM= _____lb = _____lb _____ oz

12. 0.5 gr= _____mcg

13. ¾ oz = _____ml

14. 1/100 gr= _____mg

15. 4 lb 4 oz = _____GM

16. 5.3 lb = _____KG

COX COLLEGE
Springfield, Missouri
Dosage Calculation Competency
Sample Test—Level II

1. KCl 10 mEq po is ordered for the client, referring to the information on the label, how much should be given?
Give _____

2. Aricept 0.01 GM po is ordered at hs. Using the label, what should the nurse administer?
Give _____

3. The Physician orders 4 mg/KG for K. C. who weighs 42 lbs.
How many mg will you give? _____

4. J. M. (weight 165 lbs.) is to receive epogen 50 units/KG. Pharmacy sends 4000 units/ml. How many ml will you give? _____

5. C. Y., 18 months old is admitted for dehydration. The physician order D5 ½ NS 500 ml over 8 hours. The tubing is 15 gtt/ml. What will be your drip rate? _____

6. Heparin 4000 units SQ is ordered. Your vial contains 5 ml of Heparin labeled 10,000 units/ml. Give _____

7. Lanoxin 0.25 mg IM daily. Your ampule is labeled 0.5 mg/2ml. Give _____

8. R. G. (195 lbs) is to receive 4mg/KG/day in divided doses q8h. How many mg will he receive q8h? _____

9 IV D5W continuously at 50 ml/hr. Your drip factor is 60. Set drip rate at _____

10. IV Normal Saline at 200 ml/hr. Your drip factor is 15. Set drip rate at _____

11. Your client needs 100 ml infused in 30 minutes. What rate would you set the IV pump to? _____

12. Digoxin 0.5 mg po daily. You have scored tablets of 0.25 mg. Give _____

13. An infant weights 1600 GM. What is it's weight in pounds and oz? _____

14. Valium 6 mg IV q6h prn agitation. Valium comes in a vial labeled 10 mg/2 ml. Give _____

15. Atropine sulfate 0.6 mg IM now. You have available a vial labeled 0.4 mg/ml. Give _____

16. You are to infuse 600 ml of solution over 2 hours. Your tubing has a drop factor of 15. What will your gtt/min be? _____

17. Rocephin 750 mg IM daily. Your reconstituted solution contains 1 GM in 4 ml. Give _____

18. The heparin drip is mixed 25,000 units in 250 ml NS. You are to deliver 700 units per hour. How many ml will deliver 700 units? _____

19. Solu Cortef 0.2 GM IM now. You have Solu Cortef 250 mg/2ml available. Give _____.

20. Dilantin 60 mg po q12h is ordered for a child weighing 14 KG. The recommended safe dose for a child is 8 to 10 mg/KG/day. You have Dilantin scored 30 mg chewable tablets.

What is the safe dose range in 24 hours? _____

What is the safe amount per dose? _____

Is the ordered dose safe? _____

How many tablets would you give? _____

21. You are to give 1500 units of Epogen. Epogen comes 4000 units per ml. Which type of syringe will you use?
a. 3ml Syringe
b. Insulin Syringe
c. TB syringe

COX COLLEGE
Springfield, Missouri
Dosage Calculation Competency
Sample Test—Level II
Answer Sheet

Equivalents:

1. 10 gr = __650_____mg

2. 60 ml = __2_____oz

3. 2 tsp = __10_____ml

4. 140 lb = ___63.64_____KG

5. 0.001 mg = ___1_____mcg

6. 260 mg = ____4_____gr

7. 4 oz = ____120_____ml

8. 3 L = ____3000_____ml

9. 0.2 mg = ___200_____mcg

10. 1591 GM= ___3.5_____lb = __3___lb __8___ oz

11. 3069 GM= ___6.75_____lb = __6___lb __12___ oz

12. 0.5 gr= __32,500_____mcg

13. ¾ oz = _____22.5_____ml

14. 1/100 gr= ____0.65_____mg

15. 4 lb 4 oz = ___1931.82_____GM

16. 5.3 lb = ____2.41_____KG

COX COLLEGE
Springfield, Missouri
Dosage Calculation Competency
Sample Test—Level Two
Answer Sheet

1. 7.5 ml
2. 2 tablets
3. 76.36 mg
4. 0.94 ml
5. 16 gtts/min
6. 0.4ml
7. 1 ml
8. 118.18 mg
9. 50 gtt/min
10. 50 gtt/min
11. 200ml/hr
12. 2 tablets
13. 3 lb 8 oz
14. 1.2 ml
15. 1.5 ml
16. 75 gtt/min
17. 3 ml
18. 7 ml
19. 1.6 ml
20. 112-140 mg per 24 hours; 56-70 mg per dose; yes; 2 tablets
21. c) TB syringe

Dosage Comp Level II Practice worksheet
Keys worked in Dimensional Analysis

#1. 7.5 mL

Wanted	Conversion	Have		Answer
mL	15mL	10mEq	15x10	7.5
		20 mEq	20	

#2. 2 tablets

Wanted	Dose on hand	Conversion	Order		Answer
Capsules	1 tablet	1000 mg	0.01 gm	1x1000x0.01	2
		5 mg	1 gm	5x1	

#3. 76.36 mg

Wanted	Order	Conversion	weight		Answer
mg	4mg	1 kg	42 #	4x1x42	76.3636
		1kg	2.2#	1x2.2	

#4. 0.94 mL

Wanted	Have on Hand	Order	Conversion	weight		Answer
mL	1 mL	50 units	1 kg	165 #	1x50x1x165	0.9375
	4000 units	1 kg	2.2 #		4000x1x2.2	

#5. 16 drops per minute

Flow rate	Drip factor	Order	Conversion		Answer
gtt	15 gtt	500 mL	1 hr	15x500x1	15.625
min	1 mL	8 Hr	60 min	1x8x60	

#6. . 0.4 mL

Wanted	Dose on hand	Order		Answer
mL	1 mL	4,000 units	1x4,000	0.4
	10,000 units		10,000	

#7. 1 mL

Wanted	Have on hand	Order		Answer
mL	2 mL	0.25 mg	2x0.25	1
	0.5mg		0.5	

#8. 118.18 mg

Wanted	Order	Conversion	weight	Conversion	Dose frequency		Answer
Mg	4mg	1 kg	195 #	1 day	8 hours	4x1x195x1x8	118.18181
	1kg	2.2#		24 hours		1x2.2x24	

#9. 50 drops per minute

Flow rate	Drip factor	Order	Conversion		Answer
gtt	60 gtt	50 mL	1 hr	60x50x1	50
min	1 mL	1 Hr	60 min	1x1x60	

#10 50 drops per minute

Flow rate	Drip factor	Order	Conversion		Answer
gtt	15 gtt	200 mL	1 hr	15x200x1	50
min	1 mL	1 Hr	60 min	1x1x60	

#11 200 mL/hr

Wanted	Dose on hand	Order		Answer
mL	100 mL	60 min	100x60	200
hr	30 min	1 hr	30x1	

#12. 2 tablets

Wanted	Dose on hand	Order		Answer
Tablets	1 tablet	0.5 mg	1x0.5	2
	0.25 mg		0.25	

#13. 3 pounds 8 ounces

Wanted	Conversion	conversion	Have		Answer
pounds	2.2ound	1 kg	1600 grams	2.2x1600	3.52 pounds
	1 kg	1000 mg		1000	

Second Step Convert pound decimal to ounce

Wanted	Conversion	Have		Answer
oz	16 oz	0.52 pound	16x0.52	8.32 ounces
	1 pound		1	

#14. 1.2 mL

Wanted	Have on hand	Order		Answer
mL	2 mL	6 mg	2x6	1.2
	10 mg		10	

#15 1.5 mL.

Wanted	Have on hand	Order		Answer
mL	1 mL	0.6 mg	1x0.6	1.5
	0.4 mg		0.4	

#16 75gtt/min

Flow rate	Drip factor	Order	Conversion		Answer
gtt	15gtt	600 mL	1 hr	15x600x1	75
Min	1 mL	2 hour	60 min	1x2x60	

#17. 3 mL

Wanted	Have on hand	Conversion	Order		Answer
mL	4 mL	1 gm	750 mg	4x1x750	3 mL
	1 gm	1000 mg		1x1000	

#18. 7 mL

Wanted	Have on hand	Order		Answer
mL	250 mL	700 units	250x700	7
	25000 units		25000	

#19. 1.6 mL

Wanted	Have on hand	Conversion	Order		Answer
mL	2 mL	1000 mg	0.2 gm	2x1000x0.2	1.6
	250 mg	1 gm		250x1	

20. 112-140 mg per 24 hour period, 56-70 mg/dose, yes; 2 tablets

8 mg/kg/day calculation

Wanted	Order	weight		Answer
Mg	8mg	14 kg	8x14	112
	1kg			

10 mg/kg/day

Wanted	Order	weight		Answer
Mg	10mg	14 kg	10x14	140
	1kg			

Per dose 8 mg/kg/day calculation

Wanted	Order	weight	Conversion	Dose frequency		Answer
Mg	8mg	14 kg	1 day	12 hours	8x14x1x12	56
	1kg		24 hours		1x24	

Per dose 10 mg/kg/day

Wanted	Order	weight	Conversion	Dose frequency		Answer
Mg	10mg	14 kg	1 day	12 hours	10x14x1x12	70
	1kg		24 hours		1x24	

2 tablets

Wanted	Dose on hand	Order		Answer
tablets	1 tablet	60 mg	1x60	2
	30 mg		30	

21 TB syringe – amount is < 1mL so want a syringe to measure in 10th

Wanted	Have on hand	Order		Answer
mL	1 mL	1500 units	1x1500	0.38
	4000 units		4000	