Cox College
Springfield, MO

Updated 8/2014

Dosage Calculation Competency
Level 1
Practice Sheet

STUDENT NAME: _____ DATE: ____ / ____ / ____

STUDENT I.D. #: _____ ADVISOR: _____

A 95% must be achieved on the competency exam to progress in the Nursing Program. Retesting cannot 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.**
- All metric weights should be rounded to the nearest hundredth.
- Rounding should only be done at the last step in the problem.
- Round tablets/capsules to the nearest whole or half tablet (if scored).
- Liquid volumes greater than 1 mL/cc should be rounded to the nearest tenth. If volumes are less than 1 mL/cc, round to the nearest hundredth.
- Drip Rates - Calculate drip rates to the tenths place and round off to the nearest whole number
- IV pump drip rates – Calculate to the hundredths place and round to the tenths place.

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

For additional practice problems see:

Curren, A.M. (2010). *Dimensional Analysis for Meds* (4th ed). New York; Delmar.

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Dosage Calculation Competency
Math Review—Level One

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)

Round the following to the nearest hundredth.

1. 68.1883 = _____
2. 0.012 = _____
3. 3.655 = _____
4. 2.1709 = _____
5. 4.209 = _____
6. 0.0006 = _____
7. 3.2 = _____
8. 0.096 = _____
9. 0.995 = _____
10. 19.999 = _____

24 hour clock conversion:

1. 1815 on the 24-hour clock is the same as _____ in the 12 hour time.

2. On the 24-hour clock 3:05 pm is the same as _____.

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Dosage Calculation Competency
Practice Test—Level One

1. 300 mg = _____ GM

2. 3825 g = _____ lb.

3. 255 mg = _____ GM

4. 650 mg = _____ gr

5. 140 lb = _____ KG

6. 3 L = _____ mL

7. 1400 g = _____ lbs

8. 10 gr = _____ mcg

9. 4 oz = _____ mL

10. 240 mg = _____ gr.

11. The physician has ordered 100 mg Demerol po now. Read the label and determine how many tablets to administer. _____

12. Synthroid 0.1 mg p.o. daily. You have Synthroid in 50 mcg tablets. Give _____

13. Tetracycline syrup 250 mg p.o. q.i.d. You have tetracyline syrup 2000 mg in 60 mL. How many mL's will you give? _____

14. The physician orders: Potassium Chloride 10 mEq p.o now. Read the label and determine how much to give. _____

15. Polymox suspension 150 mg tid. You have Polymox oral suspension 125 mg/5 mL in an 80 mL bottle. Give _____

16. Sodium Salicylate gr 2 rectally every 4 hours. You have 130 mg suppository. Give _____

17. Demerol 40 mg IM q 3 hrs. for pain. The drug is available in an ampule containing 50 mg/mL. Give _____

18. A newborn infant weights 3200 g. The mother wants to know the baby's weight in pounds. Answer _____

19. Bronkodyl elixir 0.05 g po q 6 hrs must be given using the solution containing 80 mg per 15 mL. Give _____

ANSWER SHEET – LEVEL I PRACTICE TEST

Rounding to the hundredth.

1. 68.19
2. 0.01
3. 3.66
4. 2.17
5. 4.21
6. 0
7. 3.2
8. 0.1
9. 1
10. 20

24 hour clock Conversion

1. 6:15 PM
2. 1505

Sample Exam

1. 0.3
2. 8.42
3. 0.26
4. 10
5. 63.64
6. 3000
7. 3.08
8. 650,000
9. 120
10. 3.69
11. 2 tablets
12. 2 tablets
13. 7.5 mL
14. 7.5 mL
15. 6 mL
16. 1 suppository
17. 0.8 mL
18. 7.04 lbs
19. 9.4 mL

Dosage Comp Level I Practice worksheet
Keys worked in Dimensional Analysis

#1. 0.3 GM

Wanted	Conversion	Have		Answer
GM	1 GM	300 mg	1x300	0.3
	1000 mg	1	1000x1	

#2. 8.42 lbs

Wanted	Conversion	Conversion	weight		Answer
pounds	2.2 #	1 KG	3825 g	2.2x1x3825	8.42
	1 KG	1000 g	1	1x1000x1	

#3. 0.26 GM

Wanted	Conversion	Have		Answer
	1 GM	255 mg	1x255	0.26
	1000 mg	1	1000x1	

#4. 10 gr

Wanted	Conversion	Have		Answer
gr	1 gr	650 mg	1x650	10 gr
	65 mg	1	65x1	

#5. 63.64 KG

Wanted	Conversion	Have		Answer
KG	1 KG	140 #	1x140	63.64
	2.2 #	1	2.2x1	

#6. 3000 mL

Wanted	Conversion	Have		Answer
mL	1000 mL	3 L	1000x3	3000
	1 L	1	1x1	

#7. 3.08 pounds

Wanted	Conversion	Conversion	Have		Answer
lbs	2.2 #	1 KG	1400 g	2.2x1x1400	3.08
	1 KG	1000g	1	1x1000x1	

#8. 650,000 mcg

Wanted	Conversion	Conversion	Have		Answer
mcg	1000 mcg	65 mg	10 gr	1000x65x10	650,000
	1 mg	1 gr	1	1x1x1	

#9. 120 mL

Wanted	Conversion	Have		Answer
mL	30 mL	4 oz	30x4	120
	1 oz	1	1x1	

#10 3.69 gr

Wanted	Conversion	Have		Answer
gr	1 gr	240 mg	1x240	3.69 gr
	65 mg	1	65x1	

#11 2 tablets

Wanted	Dose on hand	Order		Answer
tablets	1 tablet	100 mg	1x100	2
	50 mg	1	50x1	

#12. 2 tablets

Wanted	Dose on hand	Conversion	Order		Answer
tablets	1 tablet	1000 mcg	0.1 mg	1x1000x0.1	2
	50 mcg	1 mg	1	50x1x1	

#13. 7.5 mL

Wanted	Have on hand	Order		Answer
mL	60 mL	250 mg	60x250	7.5
	2000 mg	1	2000x1	

#14. 7.5 mL

Wanted	Have on hand	Order		Answer
mL	15 mL	10 mEq	15x10	7.5
	20 mEq	1	20x1	

#15. 6 mL

Wanted	Have on hand	Order		Answer
mL	5 mL	150 mg	5x150	6
	125 mg	1	125x1	

#16 1 suppository

Wanted	Dose on hand	Conversion	Order		Answer
suppository	1 supp	65 mg	2 gr	1x65x2	1
	130 mg	1 gr	1	130x1x1	

#17. 0.8 mL

Wanted	Have on hand	Order		Answer
mL	1 mL	40 mg	1x40	0.8
	50 mg	1	50x1	

#18. 7.04 lbs

Wanted	Conversion	Conversion	Have		Answer
lbs	2.2 lbs	1 KG	3200 gm	2.2x1x3200	7.04
	1 KG	1000g	1	1x1000x1	

#19. 9.4 mL

Wanted	Have on hand	Conversion	Order		Answer
mL	15 mL	1000 mg	0.05 g	15x1000x0.05	9.375
	80 mg	1 g	1	80x1x1	