

Instructor's Guide

Calculating Drug Dosages

A PATIENT-SAFE APPROACH TO NURSING AND MATH

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Basic Math



Basic Math Review



■ ■ ■ Basic Math

Students taking a dosage calculation course should already have a basic understanding of how to add, subtract, multiply, and divide fractions and decimals.

AVAILABLE RESOURCES:

Basic Math Interactive Tutorial

Student Practice Worksheet: Using Decimals and Fractions in Medication Administration

Student Practice Worksheet: Using Decimals in Medication Administration

Student Practice Worksheet: Rounding Decimals in Medication Administration

Podcast: Math Competency and Anxiety

Basic Math Diagnostic Exam

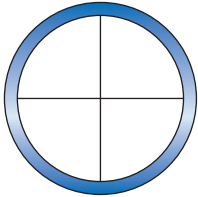
WORKSHEET: USING DECIMALS AND FRACTIONS IN
MEDICATION ADMINISTRATION

Name: _____

Date: _____

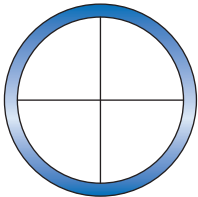
For extra practice, solve the following problems.

1. The nurse is to give $\frac{3}{4}$ of a tablet. Shade in the amount the nurse will give.



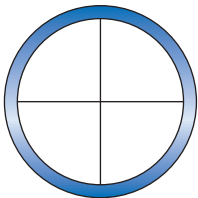
The decimal equivalent of the fraction $\frac{3}{4}$ is _____

2. The nurse is to give $\frac{1}{2}$ of a tablet. Shade in the amount the nurse will give.



The decimal equivalent of the fraction $\frac{1}{2}$ is _____

3. The nurse is to give $\frac{1}{4}$ of a tablet. Shade in the amount the nurse will give.



The decimal equivalent of the fraction $\frac{1}{4}$ is _____

4. The following tablets were given to the patient during the 7 a.m. to 3 p.m. shift. What is the total number of tablets that the day nurse gave the patient during the shift? _____

Medication	Amount	Time Given
Digoxin 0.25 mg PO daily	tab $\frac{1}{2}$	[9 a.m.]
KCl 10 mEq PO twice a day	tab $1\frac{1}{2}$	[10 a.m.]
Furosemide 20 mg PO daily	tab $\frac{1}{2}$	[10 a.m.]
Levothyroxine 0.1 mg PO daily	tab 1	[10 a.m.]
Hydralazine 15 mg PO daily	tab $1\frac{1}{2}$	[10 a.m.]
Meperidine 50 mg PO q3h PRN pain	tab 1	[7:30 a.m. and 2 p.m.]
Meperidine 100 mg PO q3h PRN pain	tabs 2	[10:30 a.m.]

5. The doctor orders 0.65 g of a medication. The pharmacy sends the following: one bottle of tablets labeled 0.225 g per tablet and another bottle labeled 0.2 g per tablet.

If the nurse gives one tablet from each bottle, the patient will receive _____ g. To give the ordered dose, the nurse must give _____ tablet(s) of 0.225 g and _____ tablets(s) of 0.2 g.

6. The doctor orders 7.5 mg of a medication. The pharmacy sends the following: one bottle of capsules labeled 3 mg per capsule and another bottle labeled 1.5 mg per capsule.

If the nurse gives one capsule from each bottle, the patient will receive _____ mg.

To give the ordered dose, the nurse must give _____ of the 3 mg capsules(s) and _____ of the 1.5 mg capsules(s).

WORKSHEET: USING DECIMALS IN MEDICATION ADMINISTRATION

Name: _____

Date: _____

For extra practice, use the Physician's Orders and the Drug Label to solve the following problems.

To solve the problems, divide the ordered amount from the Physician's Orders by the amount found on the Drug Label.

1.

Date	Physician's Orders
7/24	Give 0.5 of Drug A.
Patient's name ID *****	

Drug Label
Drug A 0.25

The calculated dose is: _____

2.

Date	Physician's Orders
7/24	Give 0.125 of Drug B.
Patient's name ID *****	

Drug Label
Drug B 0.5

The calculated dose is: _____

3.

Date	Physician's Orders
7/24	Give 2.25 of Drug C.
Patient's name ID *****	

Drug Label
Drug C 4.5

The calculated dose is: _____

4.

Date	Physician's Orders
7/24	Give 150 of Drug D.
Patient's name ID *****	

Drug Label
Drug D 1.2

The calculated dose is: _____

5.

Date	Physician's Orders
7/24	Give 6.25 of Drug E.
Patient's name ID *****	

Drug Label
Drug E 25

The calculated dose is: _____

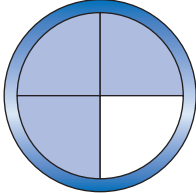
**WORKSHEET: ROUNDING DECIMALS IN MEDICATION
ADMINISTRATION****Name:** _____**Date:** _____*For extra practice, solve the following problems.*

1. After calculating a drug dose, the nurse arrives at 1.67777 mL as the answer. The nurse is instructed to round the answer to the thousandths place. The nurse will give _____ mL of the drug.
2. After calculating a drug dose, the nurse arrives at 1.67777 mL as the answer. The nurse is instructed to round the answer to the hundredths place. The nurse will give _____ mL of the drug.
3. After calculating a drug dose, the nurse arrives at 1.67777 mL as the answer. The nurse is instructed to round the answer to the tenths place. The nurse will give _____ mL of the drug.
4. After calculating a drug dose, the nurse arrives at 1.67777 mL as the answer. The nurse is instructed to round the answer to a whole number. The nurse will give _____ mL of the drug.
5. After calculating a drug dose, the nurse arrives at 2.43333 mL as the answer. The nurse is instructed to round the answer to the thousandths place. The nurse will give _____ mL of the drug.
6. After calculating a drug dose, the nurse arrives at 2.43333 mL as the answer. The nurse is instructed to round the answer to the hundredths place. The nurse will give _____ mL of the drug.
7. After calculating a drug dose, the nurse arrives at 2.43333 mL as the answer. The nurse is instructed to round the answer to the tenths place. The nurse will give _____ mL of the drug.
8. After calculating a drug dose, the nurse arrives at 2.43333 mL as the answer. The nurse is instructed to round the answer to a whole number. The nurse will give _____ mL of the drug.
9. After calculating a drug dose, the nurse arrives at 0.45 mL as the answer. The nurse is instructed to round the answer to the tenths place. The nurse will give _____ mL of the drug.
10. After calculating a drug dose, the nurse arrives at 1.84 mL as the answer. The nurse is instructed to round the answer to a whole number. The nurse will give _____ mL of the drug.

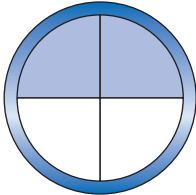
Answers to Worksheets

WORKSHEET: USING DECIMALS AND FRACTIONS IN MEDICATION ADMINISTRATION

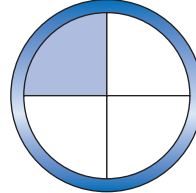
1. 0.75



2. 0.5



3. 0.25



4. 8 tablets

5. 0.425 g

2 tabs of 0.225 g and 1 tab of 0.2 g

6. 4.5 mg

2 of the 3 mg capsules and 1 of the 1.5 mg capsules OR 1 of the 3 mg capsules and 3 of the 1.5 mg capsules

WORKSHEET: USING DECIMALS IN MEDICATION ADMINISTRATION

1. The calculated dose is 2.

2. The calculated dose is 0.25.

3. The calculated dose is 0.5.

4. The calculated dose is 125.

5. The calculated dose is 0.25.

WORKSHEET: ROUNDING DECIMALS IN MEDICATION ADMINISTRATION

1. Thousandths place = 1.678

2. Hundredths place = 1.68

3. Tenths place = 1.7

4. Whole number = 2

5. Thousandths place = 2.433

6. Hundredths place = 2.43

7. Tenths place = 2.4

8. Whole number = 2

9. Tenths place = 0.5

10. Whole number = 2

Basic Math Diagnostic Exam

BASIC MATH DIAGNOSTIC EXAM

Name: _____

Date: _____

Score: _____

Instructions: Solve the following problems. Reduce all fractions to the lowest terms. Show all work in the space provided. Write your answer on the answer line. Each question is worth 5 points.

■ ■ ■ Addition:

1. $121 + 5 + 4,795 + 12 + 13,274 =$ _____

2. $34.88 + 3,640 + 7 + 0.41 =$ _____

3. $46 + 0.3053 + 973.70 + 3034.08 =$ _____

4. $18\frac{2}{9} + \frac{5}{3} + \frac{4}{12} =$ _____

5. $6\frac{1}{5} + 4\frac{2}{3} + \frac{1}{2} =$ _____

■ ■ ■ Subtraction:

6. $32,363 - 7,895 =$ _____

7. $4 - 0.824 =$ _____

8. $42.908 - 2.59 =$ _____

9. $11\frac{3}{8} - 4\frac{6}{10} =$ _____

10. $5\frac{3}{4} - 2\frac{4}{5} =$ _____

■ ■ ■ Multiplication:

11. $3,752 \times 406 =$ _____

12. $4\frac{2}{7} \times \frac{1}{2} =$ _____

13. $3\frac{1}{3} \times 1\frac{5}{6} =$ _____

14. $25\frac{2}{5} \times 5 =$ _____

15. $35.005 \times 1.05 =$ _____

DIVISION: *Work division problems three places to the right of the decimal point. Round the final answer to the hundredths place (two places to the right of the decimal point).*

16. $452 \div 12 =$ _____

17. $5.60 \div 14 =$ _____

18. $4\frac{1}{5} \div \frac{1}{75} =$ _____

19. $4\frac{1}{4} \div 1\frac{1}{2} =$ _____

20. $2\frac{1}{5} \div 3 =$ _____

Answers

PROBLEM	ANSWER
1.	18,207
2.	3682.29
3.	4054.0853
4.	$20\frac{2}{9}$ or 20.22
5.	$11\frac{11}{30}$ or 11.37
6.	24,468
7.	3.176
8.	40.318
9.	$6\frac{31}{40}$ or 6.78
10.	$2\frac{19}{20}$ or 2.95
11.	1,523,312
12.	$2\frac{1}{7}$ or 2.14
13.	$6\frac{1}{9}$ or 6.11
14.	127
15.	36.75525
16.	37.67
17.	0.4
18.	315
19.	$2\frac{5}{6}$ or 2.83
20.	$\frac{11}{15}$ or 0.73

Safety in Medication Administration



Safety in Medication Administration

LEARNING OUTCOMES

- Discuss safety practices that help to prevent medication administration errors.
- Identify medication safety practices that assist patients and families in taking greater responsibility for management of their medication therapy.
- Discuss how the Six Rights of Medication Administration promote safe practice.

■ ■ ■ Available Resources:

Student Practice Worksheet: Safety in Medication Administration

Safe Dosage Resources: ISMP Standards, Joint Commission DNU List, BEERS criteria

Podcasts: Promoting Patient Safety & Medication Errors

Chapter 1 PowerPoint

Instructor test bank

CHAPTER 1: SAFETY IN MEDICATION ADMINISTRATION

Name: _____

Date: _____

Instructions: For questions 1 to 4, select *True* if the statement is true; select *False* if the statement is false.

- | | True | False |
|---|--------------------------|--------------------------|
| 1. For safe practice, the nurse must use one accurate patient identifier before administering any medication. | ☐ | ☐ |
| 2. Best practices in medication administration include providing the nurse with a quiet, distraction-free area to prepare medications. | ☐ | ☐ |
| 3. The Six Rights of Medication Administration include right drug, dose, route, patient, time, and documentation. | ☐ | ☐ |
| 4. The primary focus of a culture of safety is collaboration of all health-care professionals to determine who was responsible for a medical error. | ☐ | ☐ |

Instructions: Check (✓) the correct statement(s) that apply to the following medication orders. Give a rationale for your answer.

5. **Electronic Medical Record** **Provider Orders** 

Name	I. Patient	Age	76	Gender	M	DOB	12-1-xx
MR #	98322	Allergies	NKDA	Room	317-1		
Provider	T. Physician, MD		Date	2-19-xx	← →		

▼ **Order**

Clonidine 0.1 mg. PO at bedtime.

- ☐ The medication order has a trailing zero. _____
- ☐ The medication order contains all of the necessary components. _____
- ☐ There should not be a period (.) after the unit of measurement. _____

6. **Electronic Medical Record** **Provider Orders** ✕

Name	Z. Patient	Age	49	Gender	M	DOB	11-7-xx
MR #	50974	Allergies	NKDA	Room	234		
Provider	P. Physician, MD	Date	10-7-xx	← →			

▼ **Order**

Heparin 8,000units subcut daily.

- ☐ The medication order is written correctly. _____
- ☐ The dose should be written “8000 units.” _____
- ☐ Prior to administering heparin, the nurse needs to understand why the patient is receiving this medication.

7. **Electronic Medical Record** **Provider Orders** ✕

Name	F. Patient	Age	51	Gender	M	DOB	5-9-xx
MR #	39956	Allergies	Penicillin	Room	112-A		
Provider	A. Physician, MD	Date	9-8-xx	← →			

▼ **Order**

Penicillin G 1 million units IV q.6h

- ☐ The dose of the medication should be written 1,000,000 units. _____
- ☐ The nurse is correct to question the ordered medication. _____
- ☐ The medication order contains all of the necessary components. _____

Instructions: Check (✓) the most appropriate nursing action(s) for the following medication orders.

8. **Electronic Medication Record** MAR 

Name H. Patient Age 69 Gender F DOB 8-22-xx

MR # 79226 Allergies NKDA Room 110-B

Date 8-19-xx Time 1700 ← →

Scheduled Medications

Time	Drug name	Dose	Route	Freq.	Adm.
1700	Lovastatin	20 mg	PO	daily	

PRN Medications

	Ibuprofen	200 mg	PO	q.6h prn headache	1000
--	-----------	--------	----	-------------------------	------

The nurse is reviewing the electronic medication administration record (MAR) of the patient. For the 1500—2300 p.m. shift, the nurse is correct to:

- ☐ Administer lovastatin to the patient at 1700.
- ☐ Delay the administration of ibuprofen until bedtime.
- ☐ Administer ibuprofen with lovastatin at 1700 if the patient has a headache.

9. **Medication Administration Record** MAR

Date 9-12-xx Allergies _____

Scheduled Medications

Time	Drug name	Dose	Route	Freq.	Adm.
0900	Synthroid	200 mcg	PO	daily	

PRN Medications

	B. Patient	MR # 35788
	Age 81	DOB 6-19-xx
	A. XXX M.D.	RM 70-A

A patient is admitted at 0830 to the hospital unit. The day shift nurse is reviewing the paper copy of the newly admitted patient's MAR. The most appropriate clinical decision for the nurse is to:

- ☐ Administer the 0900 dose as ordered.
- ☐ Check to see if the patient has taken the morning dose of Synthroid at home.
- ☐ Ask another nurse to verify the dose.
- ☐ Question the patient's allergies to medication. The allergy box on the patient's MAR has no data entered.

10.

Medication Administration Record					MAR
Date <u>8-13-xx</u>		Allergies <u>NKDA</u>			
Scheduled Medications					
Time	Drug name	Dose	Route	Freq.	Adm.
1400	NiMODipine	60 mg	PO	q.4h	
PRN Medications					
G. Patient MR # 94421 Age 39 DOB 4-22-xx J. XXX M.D. RM 10-1					

The nurse is reviewing the paper copy of a patient's MAR. The nurse is correct to:

- ☐ Interpret that the 1400 dose of the drug has not been administered.
- ☐ Question the tall man lettering of the drug name with the pharmacist.
- ☐ Question the frequency of administration with the pharmacist.
- ☐ Interpret that the medication order is written correctly.

Answers

Chapter 1:

1. False: The nurse must use two patient identifiers before administering a medication.
2. True
3. True
4. False: A culture of safety promotes collaboration to find solutions to minimize medication errors. Errors are examined not to punish an individual but to change the system or process that led to the error.
5. ☐ The medication order does not have a trailing zero; it has a leading zero which is required for a decimal fraction.
☒ The medication order contains all of the necessary components including the drug name, dose, route, and frequency of administration.
☒ There should not be a period (.) after the mg unit of measurement. This is one of the standards of practice for medication orders published by the Institute for Safe Medication Practices (ISMP).
6. ☐ The medication order is not written correctly; there should be a space between the drug name and dosage.
☐ The dose should not be written “8000 units.” A comma needs to be used for dose numbers expressed in thousands.
☒ Prior to administering heparin (or any drug), the nurse needs to understand why the patient is receiving this medication.
7. ☐ The dose of the medication should not be written 1,000,000 units. Use the word “million” for doses expressed in millions.
☒ The nurse is correct to question the ordered medication since the electronic medical record states that the patient is allergic to penicillin.
☒ The medication order contains all of the necessary components including the drug name, dose, route, and frequency of administration.
8. ☒ Administer lovastatin to the patient at 1700.
☒ Administer ibuprofen with lovastatin at 1700 if the patient has a headache.
9. ☒ Check to see if the patient has taken the morning dose of Synthroid at home.
☒ Question the patient’s allergies to medication since there is no information listed on the MAR.
10. ☒ Interpret that the 1400 dose of the drug has not been administered.
☒ Interpret that the medication order is written correctly.

The Drug Label

LEARNING OUTCOMES

- Describe the information found on the drug label.
- State how each component on the drug label is used in clinical practice.

■ ■ ■ Available Resources:

Student Practice Worksheet: The Drug Label

Safe Dosage Resources: ISMP Standards, Joint Commission DNU List, BEERS criteria

Podcasts: Promoting Patient Safety & Medication Errors

Chapter 2 PowerPoint

Instructor test bank

CHAPTER 2: THE DRUG LABEL

Name: _____

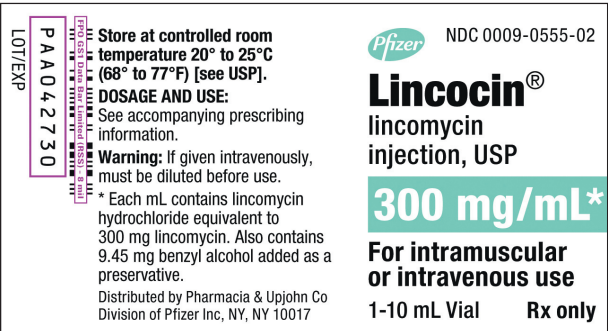
Date: _____

Instructions: Read the drug labels and answer the corresponding questions. For all incorrect information, write the correct answer.

1. 

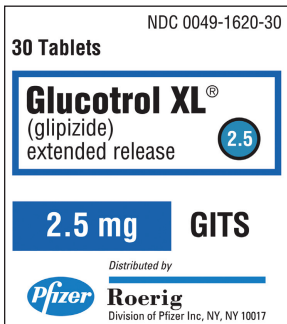
Each mL contains 2 mg lorazepam, 0.18 mL polyethylene glycol 400 in propylene glycol with 2.0% benzyl alcohol as preservative.
Usual Dosage: See enclosed information.
Do not use if solution is discolored or contains a precipitate.
PROTECT FROM LIGHT
Use this carton to protect contents from light.
STORE IN A REFRIGERATOR

 - a. The trade name is Lorazepam. YES/NO
 - b. The dosage strength is 2 mg / mL. YES/NO
 - c. The drug is a controlled substance. YES/NO
 - d. Storage instructions are given. YES/NO
 - e. The total amount of drug in each vial is 2 mL. YES/NO

2. 

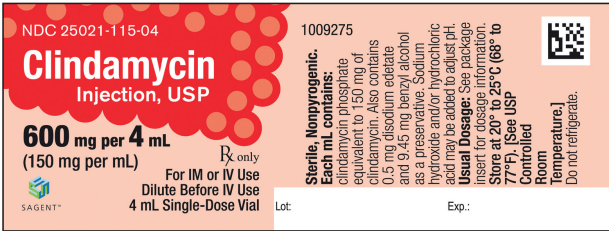
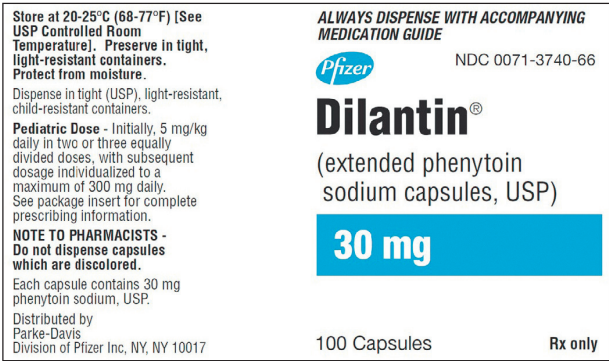
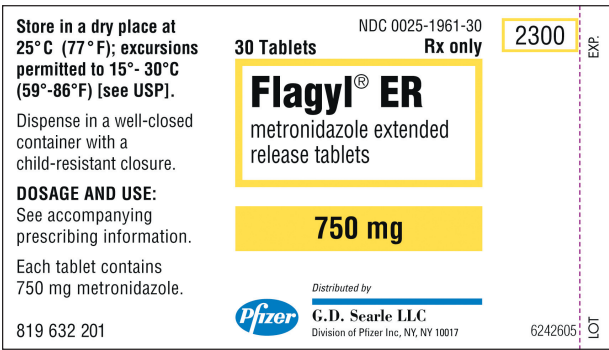
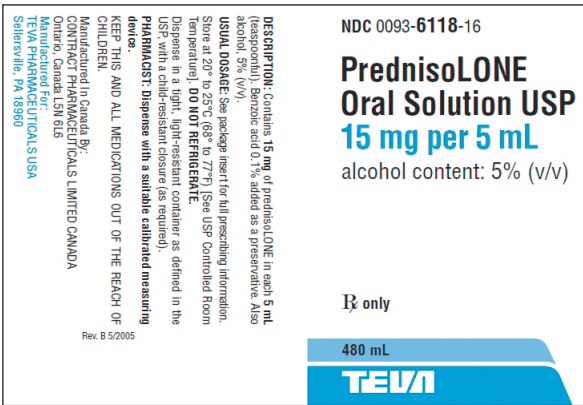
Store at controlled room temperature 20° to 25°C (68° to 77°F) [see USP].
DOSAGE AND USE: See accompanying prescribing information.
Warning: If given intravenously, must be diluted before use.
 * Each mL contains lincomycin hydrochloride equivalent to 300 mg lincomycin. Also contains 9.45 mg benzyl alcohol added as a preservative.
 Distributed by Pharmacia & Upjohn Co
 Division of Pfizer Inc, NY, NY 10017

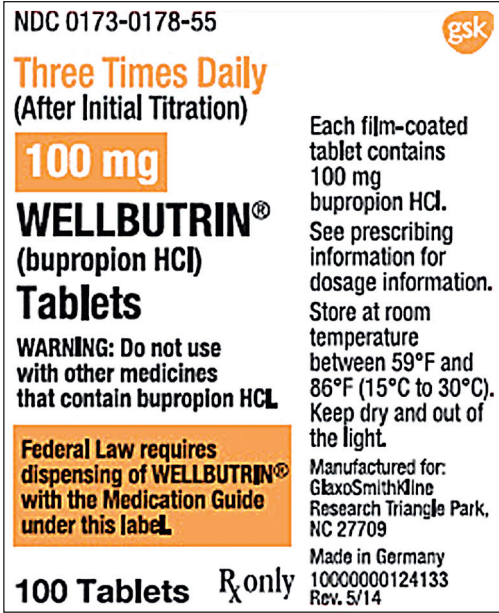
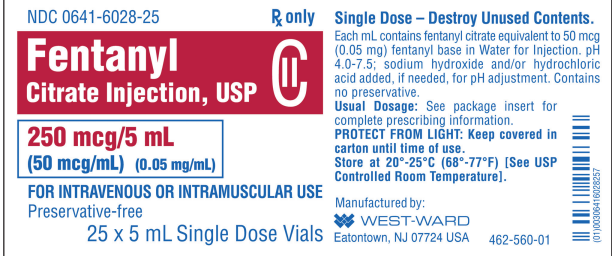
 - a. The trade name is lincomycin. YES/NO
 - b. The dosage strength is 300 mg / mL. YES/NO
 - c. The total amount of drug is 1 mL. YES/NO
 - d. Storage instructions are given. YES/NO
 - e. This drug is administered subcut. YES/NO

3. 

30 Tablets
Glucotrol XL®
 (glipizide)
 extended release
2.5 mg
GITS
 Distributed by
Pfizer Roerig
 Division of Pfizer Inc, NY, NY 10017

 - a. The generic name is glipizide. YES/NO
 - b. The total quantity is 30 tablets. YES/NO
 - c. The nurse needs to check the expiration date before administering. YES/NO
 - d. The dosage strength is 2.5 mg. YES/NO
 - e. The route of administration is p.o. YES/NO

4.  The label for Clindamycin Injection, USP (NDC 25021-115-04) shows a dosage strength of 600 mg per 4 mL (150 mg per mL). It is a sterile, nonpyrogenic, single-dose vial. Storage instructions indicate it should be stored at 20-25°C (68-77°F) and is a controlled substance. The label also includes a QR code and a lot number.
- Total amount in vial is 4 mL. YES/NO
 - The dosage strength is 150 mg / mL. YES/NO
 - The drug is in a multidose vial. YES/NO
 - The drug is a controlled substance. YES/NO
 - The route of administration is IM or IV. YES/NO
5.  The label for Dilantin (extended phenytoin sodium capsules, USP) (NDC 0071-3740-66) shows a dosage strength of 30 mg. It is a controlled substance. Storage instructions indicate it should be stored at 20-25°C (68-77°F) and is a controlled substance. The label also includes a lot number and a QR code.
- The dosage strength of Dilantin is 30 mg / 100 capsules. YES/NO
6.  The label for Flagyl ER (metronidazole extended release tablets) (NDC 0025-1961-30) shows a dosage strength of 750 mg. It is a controlled substance. Storage instructions indicate it should be stored at 25°C (77°F) and is a controlled substance. The label also includes a lot number and a QR code.
- The generic name is Flagyl ER. YES/NO
 - The total quantity is 30 tablets. YES/NO
 - Storage information is provided. YES/NO
 - The tablets can be divided in half evenly. YES/NO
 - The route of administration is p.o. YES/NO
7.  The label for Prednisolone Oral Solution USP (NDC 0093-6118-16) shows a dosage strength of 15 mg per 5 mL. It is a controlled substance. Storage instructions indicate it should be stored at 20-25°C (68-77°F) and is a controlled substance. The label also includes a lot number and a QR code.
- The drug name contains tall man lettering. YES/NO
 - The dosage strength is 15 mg / mL. YES/NO
 - This is a fixed dose combination drug. YES/NO

8.  NDC 25021-401-02 **HEPARIN** Sodium Injection, USP Preservative-free 2,000 USP units per 2 mL 1,000 USP units per mL 2 mL Single-Dose Vial Discard unused portion For Intravenous or Subcutaneous Use From Porcine Intestines Mfd. for: SAGENT Pharmaceuticals ©2013 Sagent Pharmaceuticals, Inc. PSJLAB-018353-02 Code No.: AP/DIUS/103/97
- a. The heparin drug label lists two dosage strengths. YES/NO
- b. This drug label identifies a black box warning. YES/NO
9.  NDC 0173-0178-55 **Three Times Daily (After Initial Titration)** 100 mg **WELLBUTRIN®** (bupropion HCl) Tablets **WARNING: Do not use with other medicines that contain bupropion HCL** Federal Law requires dispensing of WELLBUTRIN® with the Medication Guide under this label. Each film-coated tablet contains 100 mg bupropion HCl. See prescribing information for dosage information. Store at room temperature between 59°F and 86°F (15°C to 30°C). Keep dry and out of the light. Manufactured for: GlaxoSmithKline Research Triangle Park, NC 27709 Made in Germany 10000000124133 Rev. 5/14
- a. The dosage strength is 100 mg per tablet. YES/NO
- b. This drug label identifies a black box warning. YES/NO
10.  NDC 0641-6028-25 **Fentanyl Citrate Injection, USP** 250 mcg/5 mL (50 mcg/mL) (0.05 mg/mL) FOR INTRAVENOUS OR INTRAMUSCULAR USE Preservative-free 25 x 5 mL Single Dose Vials **Single Dose – Destroy Unused Contents.** Each mL contains fentanyl citrate equivalent to 50 mcg (0.05 mg) fentanyl base in Water for Injection, pH 4.0-7.5; sodium hydroxide and/or hydrochloric acid added, if needed, for pH adjustment. Contains no preservative. Usual Dosage: See package insert for complete prescribing information. PROTECT FROM LIGHT: Keep covered in carton until time of use. Store at 20°-25°C (68°-77°F) (See USP Controlled Room Temperature). Manufactured by: WEST-WARD Eatontown, NJ 07724 USA 462-560-01
- a. The nurse can use any of the dosage strengths listed to solve drug dosage problems. YES/NO
- b. This drug label identifies a controlled substance. YES/NO

Answers

Chapter 2:

1. a. No Lorazepam is the generic name.
b. Yes
c. Yes
d. Yes
e. No 1 mL is the total amount in each vial.
2. a. No The trade name is Lincocin.
b. Yes
c. No 10 mL
d. Yes
e. No IM or IV
3. a. Yes
b. Yes
c. Yes
d. No 2.5 mg / tablet
e. Yes
4. a. Yes
b. Yes
c. No Single-dose vial
d. No Not a controlled substance
e. Yes
5. a. No 30 mg / 1 capsule
6. a. No Metronidazole is the generic name.
b. Yes
c. Yes
d. No Not scored / extended-release tablets—do not break
e. Yes
7. a. Yes
b. No 15 mg / 5 mL
c. No Oral solution contains prednisolone only
8. a. Yes
b. No No indication of black box warning on label
9. a. Yes
b. Yes
10. a. Yes
b. Yes

Systems of Measurement



The Metric System

LEARNING OUTCOMES

- List the base units of metric measurement commonly used in clinical practice.
- Identify the metric prefixes and symbols, and the numeric equivalents.
- Write metric numbers using the standard rules for writing metric notations.
- Convert between the metric units of measurement.

■ ■ ■ Available Resources:

Student Practice Worksheet: The Metric System

Chapter 3 PowerPoint

Instructor test bank

CHAPTER 3: THE METRIC SYSTEM

Name: _____

Date: _____

Instructions: *Read the Physician's Orders and write your answer on the answer line.*

1. **Electronic Medical Record** **Provider Orders** 

Name	L. Patient	Age	60	Gender	M	DOB	8-21-xx
MR #	34712	Allergies	NKDA	Room	510		
Provider	M. Physician, MD	Date	4-8-xx	 			

Order

Give 0.25 g of Drug A PO.

How many mg of Drug A will the nurse give? _____

2. **Electronic Medical Record** **Provider Orders** 

Name	B. Patient	Age	23	Gender	M	DOB	3-14-xx
MR #	36617	Allergies	NKDA	Room	122		
Provider	T. Physician, MD	Date	7-25-xx	 			

Order

Give 5 mg of Drug B IM.

How many mcg of Drug B will the nurse give? _____

3. **Electronic Medical Record** **Provider Orders** 

Name	V. Patient	Age	45	Gender	F	DOB	8-09-xx
MR #	12647	Allergies	Sulfa	Room	24		
Provider	I. Physician, MD	Date	4-28-xx	 			

Order

Administer 2000 mg of Drug C PO.

How many g of Drug C will the nurse give? _____

4. **Electronic Medical Record** **Provider Orders** ✕

Name M. Patient **Age** 31 **Gender** F **DOB** 10-01-xx
MR # 13357 **Allergies** Sulfa **Room** 128
Provider N. Physician, MD **Date** 3-25-xx ← →

▼ **Order**

Administer 1 g of Drug D IV.

How many mcg of Drug D will the nurse give? _____

5. **Electronic Medical Record** **Provider Orders** ✕

Name O. Patient **Age** 75 **Gender** F **DOB** 2-14-xx
MR # 57041 **Allergies** NKDA **Room** 205
Provider Y. Physician, MD **Date** 3-10-xx ← →

▼ **Order**

Apply 20 mm of Drug E topically to the rash on the right hand.

How many cm of Drug E will the nurse apply? _____

Instructions: Use the metric notation rules to correct the following metric notations.

	Metric Notation Error	Corrected Metric Notation
6. .25 mL =	_____	_____
7. $\frac{3}{4}$ mg =	_____	_____
8. 30 kgs =	_____	_____
9. 14mcg =	_____	_____
10. 5.0 cm =	_____	_____

Answers

Chapter 3:

1. 250 mg
2. 5,000 mcg
3. 2 g
4. 1,000,000 mcg
5. 2 cm
6. Always place a zero before a decimal when there is no number: 0.25 mL
7. Use decimal fractions, not fractional units: 0.75 mg
8. Write the symbols in the singular form: 30 kg
9. Always put a space between the Arabic number and the metric symbol: 14 mcg
10. Omit trailing zeros: 5 cm

The Household System

LEARNING OUTCOMES

- Identify the common household units of measurement used in clinical practice.
- Write the household units of measurement using the correct abbreviations.
- Identify the equivalent measurements for the household and metric units.
- Use metric equivalent measurements to convert common household measurements.
- Solve drug dosage problems using household units.

■ ■ ■ Available Resources:

Student Practice Worksheet: The Household System

Chapter 4 PowerPoint

Instructor test bank

CHAPTER 4: THE HOUSEHOLD SYSTEM

Name: _____

Date: _____

Instructions: *Read the Physician's Orders and complete the answers.*

1. **Electronic Medical Record** **Provider Orders** ✕

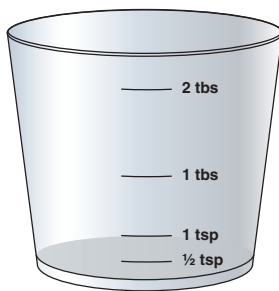
Name	H. Patient	Age	31	Gender	F	DOB	9-27-xx
MR #	54201	Allergies	NKDA	Room	316		
Provider	S. Physician, MD	Date	4-11-xx	← →			

▼ **Order**

Give 2 Tbs of Drug V.

How many tsp will the nurse give? _____

Fill in the medicine cup with the ordered dose.



2. **Electronic Medical Record** **Provider Orders** ✕

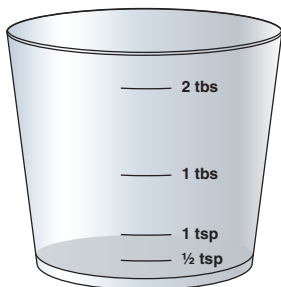
Name	L. Patient	Age	53	Gender	M	DOB	12-5-xx
MR #	11238	Allergies	NKDA	Room	245		
Provider	L. Physician, MD	Date	8-17-xx	← →			

▼ **Order**

Give 3 tsp of Drug W.

How many Tbs will the nurse give? _____

Fill in the medicine cup with the ordered dose.



3. **Electronic Medical Record** **Provider Orders** ✕

Name K. Patient **Age** 68 **Gender** M **DOB** 1-15-xx
MR # 0034 **Allergies** NKDA **Room** 333
Provider J. Physician, MD **Date** 9-22-xx ← →

▼ **Order**

Give 1 oz of Drug X.

The nurse will give _____ Tbs of Drug X.

4. **Electronic Medical Record** **Provider Orders** ✕

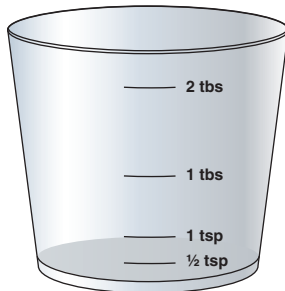
Name F. Patient **Age** 73 **Gender** F **DOB** 2-25-xx
MR # 65112 **Allergies** NKDA **Room** 214
Provider R. Physician, MD **Date** 1-23-xx ← →

▼ **Order**

Give ½ oz of Drug Y.

How many tsp will the nurse give? _____

Fill in the medicine cup with the ordered dose.



5. **Electronic Medical Record** **Provider Orders** ✕

Name G. Patient **Age** 68 **Gender** F **DOB** 11-15-xx
MR # 3078 **Allergies** NKDA **Room** 225
Provider C. Physician, MD **Date** 3-10-xx ← →

▼ **Order**

Give a 6 oz glass of juice.

How many Tbs are contained in 6 oz? _____

Instructions: Fill in the information for the following problems.

		Standard Abbreviation(s)	Household Equivalent Measurement	Metric Equivalent Measurement
6. ounce	=	_____	_____	_____
7. teaspoon	=	_____	_____	_____
8. tablespoon	=	_____	_____	_____
9. The doctor orders 15 mL of a liquid antibiotic for the patient every 12 hours. The nurse informs the patient to take 2 tsp of the medication at 9 a.m. and another 2 tsp at 9 p.m. Has the nurse provided the patient with the correct instructions?				
☐ Yes ☐ No				
10. The patient is to take 1 oz of a liquid cough medicine every 8 hours. The nurse informs the patient to take 2 Tbs of the medication at 6 a.m., 2 p.m., and 10 p.m. The cough medicine bottle contains 9 oz of medication. The nurse tells the patient that she has cough medicine for 3 days. Has the nurse provided the correct information?				
☐ Yes ☐ No				