

2021-2022

DOSAGE CALCULATIONS

- Practice essential skills
- Build competence and confidence
- Prevent medication errors
- Ensure patient safety



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4-Year Online Access

\$89.95 (US)
ISBN-13: 978-0-8036-7714-2

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directly at FADavis.com



Instructor Resources

- Implementation Guide
- PowerPoint Presentations
- Test Bank

Learn. Practice. Assess.

Dosage Calc 360°

Sandra Luz Martinez de Castillo, RN, MA, EdD
Maryanne Werner-McCullough, RN, MS, MNP

Alleviate student fears. Build competence. Ensure patient safety.

Dosage Calc 360° is the complete online program that guides students through learning, practicing, and assessing the knowledge they need to calculate drug dosages safely and accurately. It works with students every step of the way to conquer their fears, build their confidence, and provide the experience they need to be successful.

The key to mastering dosage calc is to practice, practice, practice.

Designed to do what the best instructors do in class, Dosage Calc 360° organizes this often-intimidating content into easy-to-master modules. Videos and interactive graphics enhance understanding. Students practice their new skills and continuously assess their strengths and weaknesses to identify the areas where they should focus their study time. Both instructors and students can easily track student performance.

Instructor Experience DATA-DRIVEN PATH TO SUCCESS

- Class management tools make it easy to set up your classes.
- Easy-to-use dashboards display participation and average time spent in the program as well as scores on module reviews and tests, by student and by class.
- Real-time analytics identify areas in which students are struggling and enable you to intervene when needed.

Real-time monitoring and assessment

Track your students' progress, as individuals and as a class, as they complete their module assessment quizzes. You'll be able to easily identify who is struggling and intervene in class and through assignments.

Class Set-up

Let's make sure the content works for your course.

On this page, you can customize your content by turning content "on" or "off" and reordering the content to match the scope and progression of your class. The directions on the right side of the page explain how to make changes. Once you are satisfied with the content, click on "Next Step" to move to scheduling.

Status	Module	Topics Active	Details	Reorder
ON	Module Name	2 / 2	Details	+
OFF	Module Name	4 / 4	Details	+
ON	Module Name	3 / 3	Details	+
ON	Module Name	2 / 4	Details	+
ON	Module Name	3 / 3	Details	+
ON	Module Name	2 / 3	Details	+
ON	Module Name	2 / 3	Details	+
ON	Linear Ratio and Proportion		Details	+
ON	Introduction to Linear Ratio and Proportion		Preview Content	
OFF	Calculating Using Linear Ratio and Proportion		Preview Content	
ON	Module Assessment		Preview Content	

Next Step

Not teaching certain content?
All modules default to "on." To remove entire modules, turn off the module by clicking on the green button next to the module name.

Want to view or customize the topics in a module?
Click on the "Details" button to expand the module view. You can turn on or off specific topics within the module.

Preview Content

Want to preview the content?
Click on the preview button next to any topic or module assessment. The preview content will pop up in another window. After previewing the content, close the window to return to this screen.

Teaching the modules in a different order?
Click on the arrows and drag the modules into your preferred sequence.

Online content subject to change.

Assignment Name	Participation Rate	Average Time	Average Rating
Topic	12 / 20	0:05:11	85% - 100%
Topic	15 / 20	0:05:11	70% - 84%
Topic	12 / 20	0:05:11	< 69%
Module Assessment	15 / 20	0:05:11	

Customize your class.

Select the modules that best meet the needs of your program and organize them to fit your syllabus. Students will only see the content you have chosen.

Student Experience

LEARN

delivers must-know content in student-friendly modules

- Illustrated, in-depth readings and interactive graphics meet the needs of multiple learning styles.
- Narrated, full-color videos walk students through each of the methods step by step and enhance understanding of complex concepts.

Ratio
Before administering any medication, the nurse must validate dosage. Often, this method of calculating is *Linear Ratio and Proportion*.

Proportion?
Comparison of two related numbers.
Proportion? is take the name one word at a time.

A ratio is a comparison of two related numbers. The relationship varies according to the situation. Some examples of relationships include:

- A patient weighs 185 lb on admission and 182 lb after taking a diuretic
- 10 milligrams of medication is contained in each capsule
- At 7:00 am, the patient's pulse is 86 beats per minute. At noon, the patient's pulse is 78 beats per minute.

Numbers that are related can be written in a **linear** mathematical format. A colon (:) is used to show the relationship. Using the above examples, the linear ratio would be:

185 lb : 182 lb
10 mg : 1 capsule
86 beats per minute : 78 beats per minute

Tip: The colon is read as "is to". 185 lb is to 182 lb.

Student-friendly, interactive learning

Content is divided into easy-to-master sections, while audio pronunciations, learning tips, and interactive graphics meet the needs of different learning styles.

Question 6 of 6

Read the medication label and identify the correct dosage strength. Complete the following proportion: ____ mg : 1 tablet. Write the numeral only.

Captopril Tablets, USP
12.5 mg
R Only
1000 TABLETS

Manufactured by:
West-Ward Pharmaceutical Corp.
Eatontown, NJ 07724

Each tablet contains: Captopril, USP 12.5 mg

USUAL ADULT DOSAGE: See accompanying product literature for complete information.

Store at 20° to 25°C (68° to 77°F) [See USP Controlled Room Temperature]. Protect from moisture. Dispense in a tight, light-resistant container as defined in the USP using a child-resistant closure.

Question 4 of 6

The nurse is to administer 1.2 mL of medications. Pull the syringe to the correct amount.

[Check Answer](#)

PRACTICE

gives students the experience they need to master the content

- Exercises and NCLEX®-style practice questions build calculation skills and reinforce learning, including fill-in-the-blank, multiple-choice, hot spot, ordered response, and select-all-that-apply (SATA) questions as well as syringe pull exercises.
- Color coding of the four dosage calculation methods lets students quickly identify the method that works best for them.
- Detailed rationales and examples for all practice problems make concepts clear.

From practice to mastery

From a wealth of fill-in-the-blank questions to syringe pull exercises, a variety of practice problems tests students' understanding of the content they've just read.

ASSESS

lets students track their performance

- An assessment at the end of each module tests students' comprehension and synthesis of the content across the topics.
- Students' strengths and weaknesses are continuously monitored and identified.
- Students can return to review any module for additional practice and exam prep.

Learning personalized

From their personal dashboards, students can see their completed and upcoming assignments; review their personal and class metrics; and read and respond to Discussion Board posts.

What's Next?

ASSIGNMENTS	Due Date	Percent Complete	
Linear Ratio and Proportion	3/15/18	90%	75% of the class has completed this assignment. Continue
Fractional Ratio and Proportion	4/1/18	0%	Let's dive in! Start

[View Assignments](#)

How Do I Stack Up?

Participation Rate on Assignments	Average Assessment Score	Average Time Spent on Assignments
80%	78%	>7 min
95%	87%	

[View Metrics](#) My Metrics Class Average

Discussion Board

- General Discussion Updated: 4/17/18
- Assignment One Discussion Updated: 4/17/18

[View Discussions](#)

My Performance by Module and Topic

The following metrics provide an overview of your performance in completed modules. Click on "Details" to view performance at the topic level.

ASSIGNMENTS	Time Spent on the Assignment	Date Completed	Rating	Module Assessment Attempts	Score
Linear Ratio and Proportion	30 min	3/1/18	👍		
Introduction to Linear Ratio and Proportion	7 min		👍		
Calculating Using Linear Ratio and Proportion	6 min		👍		
Module Assessment	17 min		👍	1	90%
Fractional Ratio and Proportion	35 min	3/5/18	👎		

👍 85% - 100% 👍 70% - 84% 👎 ≤ 69%

Progress reports at a glance

After completing each module, a module assessment evaluates students' knowledge of each topic in that module. A snapshot of their progress through each assignment makes it easy for them to identify areas for additional study with a thumbs-up/thumbs-down approach.

Dosage Calc 360° | CONTENTS • MODULES/TOPICS

Basic Math

- Introduction to Fractions
- Calculation with Fractions
- Introduction to Decimals
- Calculations with Decimals

Safety in Medication Administration

- Preventing Medication Errors
- Medication Administration Process
- Drug Labels

Systems of Measurement

- The Metric System
- The Household System

Linear Ratio and Proportion

- Introduction to Linear Ratio and Proportion
- Calculating Using Linear Ratio and Proportion

Fractional Ratio and Proportion

- Introduction to Fractional Ratio and Proportion
- Calculating Using Fractional Ratio and Proportion

Dimensional Analysis

- Introduction to Dimensional Analysis
- Calculating Using Dimensional Analysis

Formula Method

- Introduction to Formula Method
- Calculating Using Formula Method

Calculating Oral Medication Doses

- Understanding Types of Medications and Measuring Devices

Syringes and Needles

- Introduction to Syringes
- Types of Syringes and Needle Lengths and Gauges

Calculating Parenteral Medication Dosages

- Understanding Parenteral Medications
- Parenteral Dose Calculations

Preparing Powdered Parenteral Medications

- Introduction to Powdered Parenteral Medications
- Reconstitution Problems

Administering Insulin

- Introduction to Insulin
- Insulin Syringes

Calculating for IV Medications and Infusions

- Understanding IV Infusion
- Calculating Flow Rate
- Calculating Infusion and Completion Time
- Monitoring IV Therapy

Administering Direct IV Medications

- Introduction to Direct IV Therapy
- Diluting Direct IV Medications
- Calculating Rate of Administration for Direct IV Medications

Verifying Safe Dose

- Introduction to Safe Dose
- Weight-Based Dosing
- Verifying Safe Dose by BSA

Titration of Intravenous Medications

- Introduction to Titration
- Solving for Infusion Rate of Titrated Medications

Calculating Intake and Output

- Calculating Oral Intake
- Calculating and Recording Output
- Calculating Parenteral Intake

Calculating for Special Populations

- General Considerations for the Older Adult Population
- Enteral Nutrition
- Considerations for Pediatric Patients
- IV Fluid Replacement Therapy

Davis Cares

Support for Educators

FADavis.com/Davis-Cares

Tips for Distance Learning and Resources to Engage your Students

- Using Instructor Resources
- Using Online Programs
- Webinars for Educators

Ask your Educational Consultant how we can help you address new challenges and drive student success.



Distance Learning Hub

for Undergraduate Nursing

Free access to tools for clinical success.

- Clinical Simulations for Nursing
- Nursing Skills Videos
- Interactive Clinical Scenarios
- Case Studies

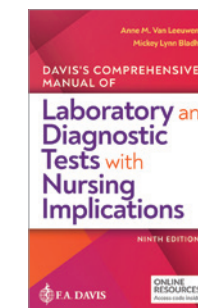
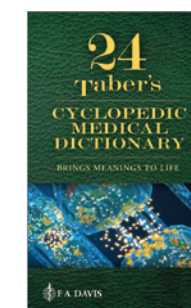
Visit [FADavis.com](https://www.fadavis.com) | Keywords: [Distance Learning Hub](#)



Interested in learning more about **Dosage Calc 360°**?

Contact us with questions, request access or schedule a personal walkthrough by visiting [www.FADavis.com/DosageCalc](https://www.fadavis.com/DosageCalc).

The Perfect Package for highly effective nursing students



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- + Laboratory and Diagnostic Tests 9
- + Drug Guide® 17

\$140.95 (US) | ISBN-13: 978-1-7196-4443-3

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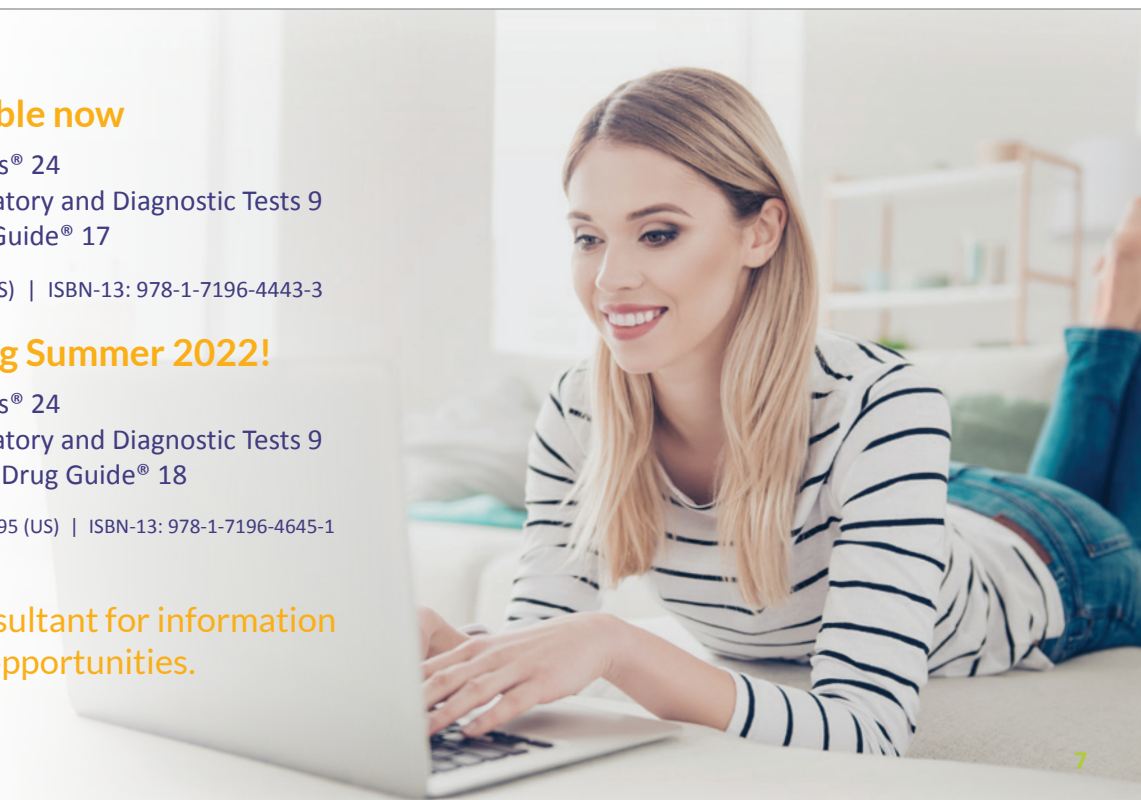
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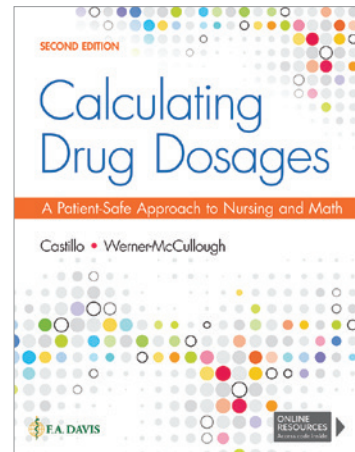
These titles are available on VitalSource.

Ask your Educational Consultant for information on pricing and packaging opportunities.

Hello@FADavis.com



ALL 4 METHODS IN A COLOR-CODED APPROACH



Calculating Drug Dosages

A Patient-Safe Approach to Nursing and Math, 2nd Edition

Sandra Luz Martinez de Castillo, RN, MA, EdD
Maryanne Werner-McCullough, RN, MS, MNP

MATH MADE EASY

Help your students conquer their fears and understand the most common math concepts used in nursing practice today.

Color-coded, step-by-step guidance shows students how to accurately calculate drug dosages using all four methods.

They begin with a basic math assessment and then explore in-depth coverage of complex topics, including intake and output, parenteral intake, NG tube feeding strength, and labeling IVs.

- **New!** Up-to-date drug labels for reference and skills testing.
- **New!** Content on weight-based dosing in IV heparin administration and a new formula for calculating pediatric fluid replacement.
- **Expanded!** More scenarios added to enhance critical-thinking and clinical judgment skills, including multidisciplinary communication and common errors with each type of calculation.

600 pages | 1235 illustrations | Soft cover | 2021
\$89.95 (US)
ISBN-13: 978-1-7196-4122-7

MD order:
Cortef tabs 10 mg PO Daily

Pharmacy sends:
Cortef 5 mg/tablet

Units of measurement the same?
 Yes
 No

Set-up and solve using any of the four methods.

Linear Ratio & Proportion

Known :: Unknown
5 mg : 1 tablet :: 10 mg : x tablet

$$5x = 1 \times 10$$

$$\frac{5x}{5} = \frac{10}{5}$$

$$x = 2 \text{ tablets}$$

Dimensional Analysis

Ordered Amount × Dosage Strength = Desired Amount

$$\frac{10 \text{ mg}}{1} \times \frac{1 \text{ tablet}}{5 \text{ mg}} = x \text{ tablets}$$

$$\frac{10 \times 1}{1 \times 5} = \frac{10}{5} = 2 \text{ tablets}$$

Fractional Ratio & Proportion

Known = Unknown
 $\frac{5 \text{ mg}}{1 \text{ tablet}} = \frac{10 \text{ mg}}{x \text{ tablet}}$

$$5x = 1 \times 10$$

$$\frac{5x}{5} = \frac{10}{5}$$

$$x = 2 \text{ tablets}$$

Formula Method

$$\frac{D}{H} \times Q = x$$

$$\frac{10 \text{ mg}}{5 \text{ mg}} \times 1 \text{ tablet} = x \text{ tablets}$$

$$\frac{10}{5} \times 1 = x \text{ tablets}$$

$$2 \times 1 = 2 \text{ tablets}$$

Consistent color coding helps your students identify the method that works best for them.

PREVENT MEDICATION ERRORS

- ✓ The most recent National Patient Safety Goals and The Joint Commission (TJC) standards
- ✓ Drug information from *Davis's Drug Guide for Nurses*®
- ✓ Thousands of practice questions with rationales and step-by-step equation setups



"The text Calculating Drug Dosages is very helpful in teaching dimensional analysis. I was able to help 4th semester students with their clinical drug test achieve 100% with the examples in the book! I would recommend this text for beginning and advanced RN students."

—Pamela Vogel, RN, MSN, WHNP, Fresno City College



Instructor

- eBook
- Instructor's Guide
- Test Bank
- PowerPoint Presentations

Students

- Basic Math Tutorial
- Calculation Tools
- Interactive Syringe Exercises
- Podcasts
- Safe Dosage Resources
- Enhanced Answer Key

Detailed photographs and illustrations with precise descriptions show your students how to analyze equipment and understand medication labels.

APPLY LEARNED KNOWLEDGE 9-1
Use the drug labels (a–f) to answer the following questions.

A

B

C

D

E

F

- Which drug labels indicate the administration of the drug through the enteral route? _____
- Which drug labels indicate a time-released drug? _____
- Which drug label indicates that the drug is a controlled substance? _____
- Which drug label will need to have the nurse's initials, date, and time written on the drug label? _____
- Which drug label(s) are not administered via the enteral route? _____

MIXING DIRECTIONS
Tap bottle lightly to loosen powder. Add 47.6 mL of water to the bottle to make a total volume of 60 mL. Shake well.

FOR ORAL USE ONLY.
Store dry powder below 86°F (30°C).
SHAKE WELL BEFORE EACH USE.

MIXING DIRECTIONS
Tap bottle lightly to loosen powder. Add 47.6 mL of water to the bottle to make a total volume of 60 mL. Shake well.

This prescription, when in suspension, will maintain its potency for two weeks when kept at room temperature.

DISCARD UNUSED PORTION AFTER TWO WEEKS.

DISCARD UNUSED PORTION AFTER TWO WEEKS.

DOSAGE AND USE
See accompanying prescribing information.

* When reconstituted as directed, each teaspoonful (5 mL) contains doxycycline monohydrate equivalent to 25 mg of doxycycline.

Each bottle contains doxycycline monohydrate equivalent to 300 mg of doxycycline.

60 mL when reconstituted

Vibramycin®
(doxycycline monohydrate)

FOR ORAL SUSPENSION

25 mg/5 mL*

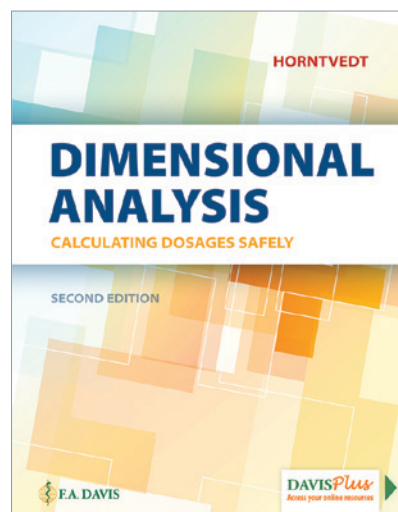
RASPBERRY FLAVORED

Pfizer Pfizer Labs
Division of Pfizer Inc, NY, NY 10017

Date, time of reconstitution, nurse's initials

Figure 9-6. Mixing directions, storage information, and labeling information.

A DIMENSIONAL ANALYSIS APPROACH



480 pages | Soft cover | 2019
\$89.95 (US)
ISBN-13: 978-0-8036-6189-9

Dimensional Analysis Calculating Dosages Safely, 2nd Edition

Tracy Horntvedt, RN, MSN, BA

Teach your students a method of problem solving that organizes data in a manner that is easy to understand and apply. They'll learn how to calculate both simple and complex dosage problems with consistency and accuracy and reduce medication errors with simple safety mechanisms.

- The "4 Cs" learning model (compute, convert, conceptualize, and critically evaluate) to emphasize patient safety and reinforce safe practices
- Over 1,000 practice problems throughout the book including...
 - Basic skills pre-test
 - End-of-section practice tests in each chapter
 - End-of-unit assessment tests
 - End-of-book post-test
- Real-life scenarios illustrating how to apply concepts to practice
- "Note" and "Alert" boxes that highlight potential safety issues to keep in mind when calculating math problems
- A glossary of key terms at the beginning of each chapter
- 18 "Speed Challenge" chapter quizzes online to increase speed and accuracy



Instructor

- eBook
- Instructor's Guide
- Test Bank
- PowerPoint Presentations
- Speed Challenge Answer Key

Student

- Speed Challenge Quizzes
- Interactive Exercises
- Calculation Tools



"Great Book! Very clear and easy to understand. Made pharmacology a cake walk!"

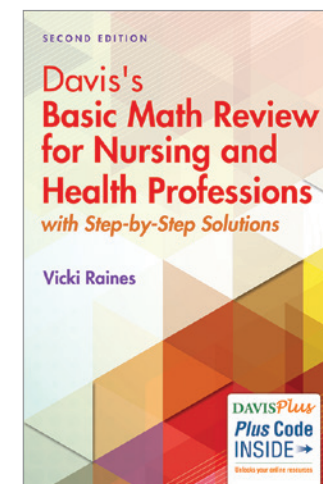
—Zoe S., Online Reviewer



"Best dimensional analysis book I've ever read. You just get it on the first try."

—Massey R., Online Reviewer

A REVIEW OF BASIC MATH SKILLS



360 pages | Soft cover | 2017
\$37.95 (US)
ISBN-13: 978-0-8036-5659-8

Davis's Basic Math Review for Nursing and Health Professions with Step-by-Step Solutions, 2nd Edition

Vicki Raines, BS, PTCB

Put your students on the path to conquering the math skills essential for nursing success and reducing the anxieties math often induces! Step by step, skill by skill students progress from simple to complex calculations, building their proficiencies and testing them along the way. It's perfect for course review and quick reference.

- "Basic Math Interactive Exercises" online offer additional practice.
- Pretests in each chapter help students determine where to focus their review time.
- Step-by-step solutions show students where their mistakes occurred and how to correct them.
- A chapter test concludes each section.
- Test-taking tips help students learn how to apply their knowledge and reduce test-taking anxiety.



Instructor

- eBook
- Test Bank
- PowerPoint Presentations

Student

- Basic Math Interactive Exercises



"Worried about HESI A2 Math? Get this book!!!! I took the HESI A2 yesterday and passed with a total score of 91.2%. My math score was a 96%!!! I owe it all to this book."

—Online Reviewer



"Five Stars. Great book, got 26/27 on my math section of my Kaplan with a 96%."

—Timothy P., Online Reviewer

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