



# Numeracy

## in Nursing and Healthcare

calculations and practice

SHIHAB HILLMAN STOLIC WEST

AUSTRALIAN EDITION

PEARSON

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Pearson Australia  
Unit 4, Level 3  
14 Aquatic Drive  
Frenchs Forest NSW 2086

[www.pearson.com.au](http://www.pearson.com.au)

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Authorised adaptation from the original UK edition: *Numeracy in nursing and healthcare calculations and practice* 1st edition (ISBN: 0-273-72074-0) by Shihab, published by Pearson Education Limited 2009.

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Cover design by Natalie Bowra  
Cover illustration: © shutterstock | javarman  
Typeset by Midland Typesetters, Australia

Printed in Malaysia (CTP-PJB)

1 2 3 4 5 16 15 14 13 12

National Library of Australia Cataloguing-in-Publication Data

Author:	Hillman, Elspeth.
Title:	Numeracy in nursing and healthcare : calculations and practice / Elspeth Hillman, Snezana Stolic, Caryn West.
Edition:	1st Australian ed.
ISBN:	9781442549982 (pbk.)
Subjects:	Pharmaceutical arithmetic. Nursing--Mathematics.
Other Authors/Contributors:	Stolic, Snezana. West, Caryn.
Dewey Number:	615.14

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## Introduction

The aim of this book is to not only help you develop your basic arithmetic skills, but to provide understanding about the importance of numeracy in the healthcare profession.

It is not enough to *only* know how to do medication calculations when providing holistic care. This edition of *Numeracy in Nursing and Healthcare* will help you understand and apply knowledge to the areas of your program where you will meet numbers. There is emphasis on safety in calculating medication doses, but the range is widened to cover clinical and physiological measurements within healthcare.

Arithmetic is a language using symbols and numbers instead of letters. We use numbers every day, whether to see the number of the bus we need to take us to the shops or the number of dollars and cents we have to pay for our purchases when we get there. This is the same in nursing; you use numbers when recording vital signs, reading and interpreting results and even in research and journal publications.

However, for some people, the mere thought of numbers and arithmetic is overwhelming and can lead to panic. We hope by using this book in a way that suits you that you will be as confident in using the language of arithmetic as you are in using letters to make words and sentences.

### Making the book work for you

Unlike the rules for spelling and grammar, in arithmetic the rules are tighter and do not change, so the easy thing to remember is: if you stick to the rules, you'll be fine.

There are a number of check points in the chapters so that you can make sure that you have really got to grips with the material. If you know it all already, just double check by doing the starting point questions at the beginning of each section.

You are encouraged to do the examples in the first chapter without a calculator. It is all too easy to input the wrong information and not realise. It is better that you know the approximate answer so that you can spot errors. In any case, mental arithmetic is gym for the brain, keeping it in good working order. Just look at the number of games there are for consoles and hand-held computers. It just proves that maths can be fun.

Most of the chapters are divided into sections that start with a self-assessment.

If you do not have all the questions right, you will have to decide whether you need to work through the whole section or the parts that you feel you



need to revise. Immediately after each topic, there are some examples for you to attempt to give you confidence that you have thoroughly understood the material. If you want more practice there are more questions at the end of the chapter.

Key websites and books are suggested so that you can look at topics in more detail. Books are a very personal choice, so look at different books of the same level.

Don't think that you are on your own. If you wish to form study groups and help each other, talk to lecturers and tutors or even your mentors, that's great; whatever approach helps you best reach your goal. Remember, nursing is teamwork and patient safety is crucial, so if you need help, you have to ask.

In developing this book for Australian nurses we have tried to use familiar language and symbols applicable to Australian settings.

### YOUR STARTING POINT



Not everyone using this book will be starting off at the same point. The early chapters start off gently so that you can surprise yourself with how much you really know and gain confidence.

If you are generally confident with your ability, you can identify any weak areas and then go to the appropriate part of the chapter to brush up on them.

You do not need to work through the whole chapter—just follow the directions at the end of the test.

### PRACTICE QUESTIONS



These tests are put in after each new topic so that you can find out how much you have learned (or already knew). There are more questions at the end of the chapter if you feel the need for more practice.

### APPLYING THE THEORY



These are snippets to help put the content of the chapter into context, either in the clinical setting or in everyday life. It is useful if you can find examples of your own when you are in the clinical areas.

### KEY POINTS



A short bullet-point list of the important issues that you need to remember.

**CAUTION**

Potential hazards that you may not be aware of as a student.



This symbol alerts you to how the current topic is related to or supported by material in other parts of the book.

**RUNNING WORDS**

This is a list of terms that were introduced in the chapter and with which you should be familiar. Write them in a notebook and define them in your own words, then go back through the chapter to check the accuracy.

**WHAT DID YOU LEARN?**

This is a quiz that covers the content of the chapter. You can then go back to a section of the chapter if you are unsure of your answer. Answers are provided at the end of each chapter.

**WEB RESOURCES**

Many of these sites have interactive material to give you a different perspective on the material. There are various levels of activity in many of the sites, so you can choose your own starting point. Some sites are just for fun, although they make some serious points.

# Get more out of your textbook with MyMathLab

## For students

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## Key features

**Diagnostic tests** use problems relevant to everyday nursing and healthcare practice to help determine your level of ability.

A personalised **Study plan**, based on the diagnostic tests, directs you to where you need the most practice.

The study plan provides access to further algorithmically-generated **practice questions** and **instant support** to ensure that you overcome your weakest points and constantly improve your numeracy.

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A powerful **gradebook** enables lecturers to review student progress individually and against specified areas of study, so that topics students are struggling with become instantly apparent.

Simple assessment tools enable lecturers to produce self-marking, multi-faceted question tests in minutes, not the weeks these would normally take to write, distribute and mark.



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