# TECHNICAL MATHEMATICS

*Morgan Chase* Clackamas Community College



## **Technical Mathematics**

Morgan Chase

Clackamas Community College

This text is disseminated via the Open Education Resource (OER) LibreTexts Project (https://LibreTexts.org) and like the hundreds of other texts available within this powerful platform, it is freely available for reading, printing and "consuming." Most, but not all, pages in the library have licenses that may allow individuals to make changes, save, and print this book. Carefully consult the applicable license(s) before pursuing such effects.

Instructors can adopt existing LibreTexts texts or Remix them to quickly build course-specific resources to meet the needs of their students. Unlike traditional textbooks, LibreTexts' web based origins allow powerful integration of advanced features and new technologies to support learning.



The LibreTexts mission is to unite students, faculty and scholars in a cooperative effort to develop an easy-to-use online platform for the construction, customization, and dissemination of OER content to reduce the burdens of unreasonable textbook costs to our students and society. The LibreTexts project is a multi-institutional collaborative venture to develop the next generation of open-access texts to improve postsecondary education at all levels of higher learning by developing an Open Access Resource environment. The project currently consists of 14 independently operating and interconnected libraries that are constantly being optimized by students, faculty, and outside experts to supplant conventional paper-based books. These free textbook alternatives are organized within a central environment that is both vertically (from advance to basic level) and horizontally (across different fields) integrated.

The LibreTexts libraries are Powered by MindTouch<sup>®</sup> and are supported by the Department of Education Open Textbook Pilot Project, the UC Davis Office of the Provost, the UC Davis Library, the California State University Affordable Learning Solutions Program, and Merlot. This material is based upon work supported by the National Science Foundation under Grant No. 1246120, 1525057, and 1413739. Unless otherwise noted, LibreTexts content is licensed by CC BY-NC-SA 3.0.

Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation nor the US Department of Education.

Have questions or comments? For information about adoptions or adaptions contact info@LibreTexts.org. More information on our activities can be found via Facebook (https://facebook.com/Libretexts), Twitter (https://twitter.com/libretexts), or our blog (http://Blog.Libretexts.org).



UNIVERSITY OF CALIFORNIA



AFFORDABLE LEARNING SOLUTIONS (AL\$)

This text was compiled on 11/10/2021



### TABLE OF CONTENTS

This developmental-level mathematics textbook is intended for career-technical students.

#### INTRODUCTION

#### 1: MODULES

**1.1: ORDER OF OPERATIONS 1.2: NEGATIVE NUMBERS** 1.3: DECIMALS 1.4: FRACTIONS 1.5: ACCURACY AND SIGNIFICANT FIGURES 1.6: PRECISION AND GPE 1.7: FORMULAS **1.8: PERIMETER AND CIRCUMFERENCE** 1.9: PERCENTS PART 1 1.10: RATIOS, RATES, PROPORTIONS 1.11: SCIENTIFIC NOTATION 1.12: PERCENTS PART 2 AND ERROR ANALYSIS **1.13: THE US MEASUREMENT SYSTEM** 1.14: THE METRIC SYSTEM **1.15: CONVERTING BETWEEN SYSTEMS 1.16: OTHER CONVERSIONS** 1.17: ANGLES 1.18: TRIANGLES 1.19: AREA OF POLYGONS AND CIRCLES **1.20: COMPOSITE FIGURES** 1.21: CONVERTING UNITS OF AREA 1.22: SURFACE AREA OF COMMON SOLIDS **1.23: AREA OF REGULAR POLYGONS** 1.24: VOLUME OF COMMON SOLIDS 1.25: CONVERTING UNITS OF VOLUME **1.26: PYRAMIDS AND CONES** 1.27: PERCENTS PART 3 1.28: MEAN, MEDIAN, MODE 1.29: PROBABILITY 1.30: STANDARD DEVIATION

#### **BACK MATTER**

INDEX GLOSSARY



#### Introduction

This developmental-level mathematics textbook is intended for career-technical students. It was made possible by a grant from Open Oregon Educational Resources, which supports the development and implementation of high-quality materials at low or no cost to community college and university students.

I hope that this qualifies as a "high quality" textbook, and I hope that it brings a bit of fun to what can often be a boring or intimidating subject. Whether you are a student or instructor, I would love to hear your thoughts on the book and whether it works well for you. Feel free to let me know about any errors you find or suggestions for improvements.

The formatting was optimized for the web version of the textbook, and I know that the pdf versions look rough: strange indenting I can't seem to fix, images that aren't aligned properly, inconvenient page breaks, numbers appearing larger than the surrounding text, etc. I will try to clean up the formatting problems at some point, but it's time for me to make the leap and get this thing out into the world.

Morgan Chase Clackamas Community College Oregon City, OR

morganc@clackamas.edu

January 24, 2021

### Click here to download full PDF material