

# Introduction



If you have never taken an algebra course and now find that you need to know algebra, this is the book for you. If you have already taken an algebra course but felt like you never understood what the teacher was trying to tell you, this book can teach you what you need to know. If it has been awhile since you have taken an algebra course and you need to refresh your skills, this book will review the basics and reteach you the skills you may have forgotten. Whatever your reason for needing to know algebra, *Algebra Success* will teach you what you need to know. It gives you the basics of an Algebra I course in clear and straightforward lessons that you can do at your own pace.

Many math teachers often hear the comment, “I was never very good in math.” If you didn’t take algebra because you thought it was too hard, you will be surprised to find out how easy it is. If you took algebra but didn’t understand it, when you finish this book, you won’t believe how easy algebra can be.

Algebra is math with *variables*, numbers whose actual value is not yet known. The ability to calculate with the unknown makes algebra essential for science, business, and all the technologies of the future that are still being worked out. If all you can do is arithmetic, you are limited to the ever-dwindling pool of jobs that are slowly being replaced by those technologies.

## ► Overcoming Math Anxiety

Do you like math or do you find math an unpleasant experience? It is human nature for people to like what they are good at. Generally, people who dislike math have not had much success with math.

If you have struggled with math, ask yourself why. Was it because the class went too fast? Did you have a chance to fully understand a concept before you went on to a new one? One of the comments students frequently

make is, “I was just starting to understand, and then the teacher went on to something new.” That is why *Algebra Success* is self-paced. You work at your own pace. You go on to a new concept only when you are ready.

*Algebra Success* goes straight to the basics using common, everyday language. Great care was taken to explain concepts in clear language so that you would not get lost in mathematical jargon. Only the algebra terms that you need to function in a basic algebra course were included.

When you study the lessons in this book, the only person you have to answer to is “you.” You don’t have to pretend you know something when you don’t truly understand. You get to take the time you need to understand everything before you go on to the next lesson. You have truly learned something only if you thoroughly understand it. Merely completing a lesson does not mean you understand it. When you go through a lesson, work for understanding. Take as much time as you need to understand the examples. Check your work with the answers as you progress through the lesson. If you get the right answer, you are on the right track! If you finish a lesson and you don’t feel confident that you fully understand the lesson, do it again. Athletes and musicians practice a skill until they perfect it. Repetition works for mathematicians, too. Remember the adage, “Practice makes perfect.” You might think you don’t want to take the time to go back over something again. However, making sure you understand a lesson completely may save you time in future lessons. Rework problems you missed to make sure you don’t make the same mistakes again.

## ► How to Use This Book

*Algebra Success* teaches basic algebra concepts in 20 self-paced lessons. The book also includes a pretest, a posttest, a glossary of mathematical terms, and an appendix of additional resources for further study. Before you begin Lesson 1, take the pretest. The pretest will assess your current algebra abilities. You’ll find the answer key for the pretest at the end of the book. Each answer includes the lesson number that the problem is testing. This will be helpful in determining your strengths and weaknesses. After taking the pretest, move on to Lesson 1.

Each lesson offers detailed explanations of a new concept. There are numerous examples with step-by-step solutions. As you proceed through a lesson, you will find tips and shortcuts that will help you learn a concept. Each new concept is followed by a practice set of problems. The practice problems allow you to practice each new concept without tedious calculations. You will find that most calculations can be done without the use of a calculator. The emphasis is on algebra concepts—not calculations. The answers to the practice problems are in an answer key located at the end of the book. Some lessons include word problems that will illustrate real-life applications of the algebra concept that was studied in the lesson. Algebra is a tool that is used to solve many real-life problems. At the end of each lesson is an exercise called “Skill Building until Next Time.” This exercise applies the lesson’s topic to an activity you may encounter in your daily life.

As you work through the practice problems in this book, remember that it is extremely important to write out your steps as you work through a problem. When you write out your steps, you are developing your thinking in an organized manner. When you have steps written down on paper, you can see where you made a mistake when a problem was worked incorrectly. If you don’t write the steps down on paper, you can only guess where you made the mistake. Good organization develops good math skills!

When you have completed all 20 lessons, take the posttest at the end of the book. The posttest has the same format as the pretest, but the questions are different. Compare the results of the posttest with the results of the pretest you took before you began Lesson 1. What are your strengths? Do you have weak areas? Do you need to spend more time on some concepts, or are you ready to go to the next level?

### ► **Make a Commitment**

Success does not come without effort. Make the commitment to improve your math skills. Work for understanding. *Why* you do a math operation is as important as *how* you do it. If you truly want to be successful, make a commitment to spend the time you need to do a good job. You can do it! When you achieve algebra success, you have laid the foundation for future challenges and success.

So sharpen that pencil and get ready to begin the pretest!