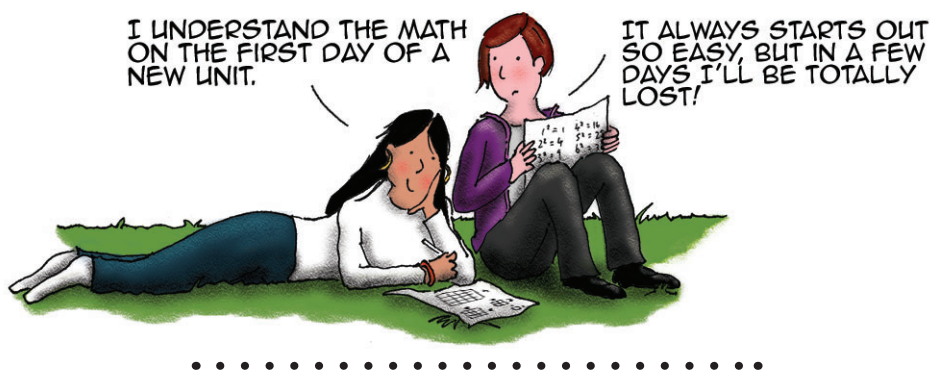


# 1

## Your Tools



### Let's begin at the beginning.

**"W**ell, duh!" you might be thinking. "Where else would you start?" But it's amazing how many students forget that simple phrase when we start talking about studying for math—or even become confused about just where the "beginning" is. They forget that buried among all the notes and worksheets, test papers, and assignments are the very tools that will help you get—and stay—organized for your math class.

We're talking about the basics here: your syllabus, your instructional materials, your teacher—and even your friends. These are the sources of your math study system. Knowing how to use them is the beginning of mastering math and making the grade.

### Your course outline or syllabus

Think about it. At the beginning of a new class, new semester, and new unit the same things happen.

Your teacher stands up in front the classroom and says, "We're starting something new. Now we're going to learn ..."

Chances are good that your teacher also passes out a sheet or two of paper. Those words—and those papers—are your launching points. They are also the foundations for setting up a successful study system, so whatever you do, don't crumple them up and stuff them deep into the bottom of your backpack!

IT'S TOO MUCH INFORMATION IF THE TEACHER TELLS US WHAT WE WILL COVER NEXT WEEK. IT'S NOT LIKE I'M GOING TO DO ALL THE HOMEWORK OVER THE WEEKEND.



SURE, BUT ISN'T IT BETTER TO KNOW WHAT'S COMING NEXT, RATHER THAN HAVING IT BE A SURPRISE?



At the beginning of a new year (and sometimes more often, like at the start of a new unit) your teacher hands out a summary of everything you will be learning. That handout is your first step toward staying organized and on top of what's happening in your math class. Even if your teacher never mentions the course outline, or *syllabus*, again, that piece of paper belongs at the front of your notebook or folder. You can refer to it again and again to make sure you're on track, to identify what will be on tests, and to outline what concepts you need to study and when you should be studying them.

One idea to help you stay on track is checking off material on the course outline after it's been covered in class.

Another idea is highlighting the concepts on your course guide that will be covered before the next quiz—then you'll know exactly how far back in your notes to go, and you won't review the wrong things when it's time to sit down and study.

Instead of “just a piece of paper,” think of your syllabus as your friend. It's like a math buddy. Keep it, use it, and refer to it often. It won't text you or answer your messages, but it's your partner in making the grade. If you're going to do well in math, your course outline is an important tool for keeping track of the concepts being studied, the order in which they are covered, and how they relate to each other. That's what a course outline is for. Use it!

## Your instructional materials

Whether or not your instructional materials include a physical textbook, a virtual textbook, or a combination of the two, or don't include a textbook at all, you will still have something from your class that helps you organize your studying and provides additional resources for you.

Although most teachers will give you a formal syllabus or some kind of course outline for the class, if you don't get a specific list of assignments from your teacher at the start of the year or at the beginning of a unit, you have another way to keep track of what will be covered and what you should know: your instructional materials. And even if your teacher *did* give you a syllabus or a list of assignments, your instructional materials are still important resources.

Some teachers will refer to the instructional materials a lot in their classes and others won't. If your teacher doesn't mention the instructional materials very often, it's important to take the time to review them daily—especially if there's a concept that's been particularly difficult for you. In addition to your homework problem sets, you'll find your instructional materials have lots of helpful sections that you can use to better understand concepts that confuse you and to help you make the grade.

For example, you can use the table of contents in your physical or virtual textbook to see how concepts relate to each other and to get explanations that illustrate what your teacher has explained. When you're having trouble, many instructional materials have detailed examples that relate directly to the problems you did in class. If you look at the text around the examples, chances are good you'll find information that explains a problem similar to the one you're struggling with, offers suggestions about how to solve it, and gives you an idea of the common mistakes students make when approaching such problems.

Some instructional materials even offer additional support online. For example, you may find PowerPoint presentations, video lessons, or homework hints on the publisher's website that can give you additional information if you get stuck.

If your instructional materials consist of a lot of handouts, take time daily to organize them in a binder. You might consider making a table of contents before each unit and then summarizing your learning at the end of the unit to help you get the big picture. If your teacher hands out objectives for a unit, put them with your table of contents and refer to them often so you can review what you're supposed to be learning.

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### things to keep in mind when reading instructional materials for math

1. **Read the material slowly, thoughtfully, and more than once.** Read it before class if you have the time, read it again later in the day, and read it again in the evening, if necessary. Each time you read it, you will learn more or find questions to ask.
2. **Write down any questions.** You can get more help from your teacher or friends if you ask them specific questions.
3. **Carefully read examples of a new procedure.** Try to do the examples without looking at the book.
4. **Be sure to file any handouts in your binder** as soon as you get them so you don't lose them.

## Your teacher

We called this chapter “Your Tools” because your course outline and book are really the basic materials you need to learn and study math. Your teacher belongs in that category, too.

Your teacher wasn't born knowing math—any more than you were. He or she has spent time thinking about and learning how to teach math to you, and may use all kinds of different ways and methods to do so. Most teachers know several ways to teach the material you've got to learn. They choose the method that they believe most students will understand. We'll talk a little more about teaching methods and how they might be used in your class in the following chapter, but the point is *if you don't understand the way your teacher presented something in class, your teacher knows other ways of explaining it.*

Of course, if you never *tell* your teacher you don't understand, she can't help you! If you don't say anything until you're in such deep trouble you're headed for a disappointing grade in the class, you may have to put in extra time to get back on track, even with your teacher's help.

Sometimes you may feel shy about asking for help. To that we say, "Get over it!" You may think your teacher doesn't like you or won't have time to help. We say, "Get over it!" to those objections, too. Teachers became teachers because they enjoy helping people learn. Most teachers set aside time before school, during lunch, after school, and even online to give extra help. Your teacher is one of the most important resources you have to make the grade.

## Your friends

Friends can be a tremendously useful resource in math class. They can share notes and handouts when you need them. You can work together to get homework done and to study for tests and quizzes. Sometimes your friends will understand what you are learning in math better than you do. When that happens, *use* them! Ask them questions, set up a study group, and work together when you can (provided it's okay with your teacher and the work you turn in is your individual stuff).

HEY! COULD I HAVE  
YOUR NUMBER OR E-MAIL  
IN CASE I HAVE TROUBLE  
WITH MY HOMEWORK?



SURE, I'LL HELP  
YOU AND MAYBE  
YOU CAN HELP ME  
IF I HAVE  
QUESTIONS WITH  
THE HISTORY  
PROJECT.



Whether you're the best student in the class or you're struggling, a study group of your peers can be a fun and useful tool. One of the best ways to make sure you understand a concept or an idea is to try to explain it to someone else. By working with friends you'll be getting—and giving—they a chance to test out their understanding. Sometimes you'll be the one who needs some extra

help, but other times, you might be the one doing the teaching! It's a win-win situation.

You can even work together online or via other types of messaging. When your parents tell you to stop goofing around on the computer and do your homework, you can honestly say, "I *am* doing my homework!"

## Your attitude

*Your attitude is one of the most important tools you have when it comes to making the grade in math.*

Approach math like an exciting new video game. When you first play, you may not have a lot of confidence. You don't know the rules, but you persevere until you know them. You may make mistakes, and do some things wrong. In some games, you might lose your "life points" and have to start over. You might feel frustrated if you're not winning as quickly or as often as you'd like, but you don't just call the game stupid and refuse to try. Instead, you might feel challenged by learning the rules and skills of the new game. You don't give up: You play the new game constantly until you eventually learn how to win at it.

Bring that same "game on" attitude to math and you'll be surprised how much easier it will be to tackle the subject. It might not ever be your favorite "game," but if you don't quit, you'll be able to rack up points and make the grade!