

# MANAGING MATH And Math Anxiety

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Mayland Community College  
SOAR Program  
2004

## I. THE SECRET OF LEARNING MATH

Math is a skill subject. It requires regular practice to become good at it. Practice means doing your homework, attending every class, and putting in the time to understand the reasons for each step. Attendance in class is very important, because each class builds on skills learned in the previous class.

Many students have difficulty in mathematics. Some think they are too old to learn math. Some women think they are not as good in math as men. The truth is, women are equally good in math, and learning math requires specific study skills. Using the skills presented in this module will improve your math grades and will lessen any math anxiety you may have.

### Changing Your Math Attitude, Negative Self-Talk, and Your Math Self-Image

What is your attitude and self-talk regarding math? If you find yourself saying things like, "I hate math," "I've never been any good at math," "I have a mental block," "I can't do it," or "No one in my family is good at math," you are programming yourself for failure. Your subconscious mind accepts whatever you tell it and acts on that information, whether it be positive or negative. The more you program yourself for failure or bad experiences in math, the more you experience exactly that. Your thinking and attitude must change first, if you are to be successful in math.

What do you typically say to yourself about math? How do you approach a math test? What are your thoughts and feelings about yourself as a math student?

**Exercise: Complete the following exercise, changing the negative statements to positive ones:**

*Example:*

*I'm terrible in math!-----> I'm getting better in math every day.*

I hate math! \_\_\_\_\_

I'm going to bomb this test. \_\_\_\_\_

Math is my worst subject. \_\_\_\_\_

What good is math? \_\_\_\_\_

Nobody in my family is good in math. \_\_\_\_\_

Write some of the negative things you say to yourself before/during a math test:

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Change these to positive statements:

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The key to developing a better attitude about math is to **change your self talk**. Be aware of how others influence your thoughts and feelings about math. When you catch yourself thinking or saying something negative, change it to something positive.

By changing your attitude and self-talk, you will develop a better math self-image. This will enable your brain to accept that doing math is within the scope of your abilities—that you *can* learn and pass math tests successfully.

### **Suggestions for improving your math self-image:**

- Catch yourself thinking or saying something negative about yourself in relation to math (e.g. “I am terrible at math!”) and change it to a positive thought.
- Each time you get a math problem right, congratulate yourself and feel good about it.
- Avoid being with students who have a negative attitude or high anxiety about math, especially right before a test.
- Remind yourself daily that you are a good math student. Use positive affirmations to reprogram your thinking. Here are just a few:
  - “*I’m getting better at math everyday!*”
  - “*I have the ability to learn math.*”
  - “*I am really going to do well on this math test!*”

### **Improve Your Math Study Habits**

Take responsibility for your success in math. It is up to you how much time you spend on homework, your attendance in class and math lab, and your practice of asking for help when you need it.

### **Rate yourself on your math study habits by answering the following:**

1. My math study skills are: \_\_\_ excellent \_\_\_ good \_\_\_ fair \_\_\_ poor
2. I have adequate study time for math. \_\_\_ Yes \_\_\_ No
3. I pay \_\_\_ good \_\_\_ fair \_\_\_ poor attention when doing math homework.
4. I spend \_\_\_ enough time \_\_\_ very little time \_\_\_ no time at all in math lab.
5. As far as studying goes, I...
  - \_\_\_ study every day - at least two hours for every hour in class.
  - \_\_\_ study every day, at least one hour for every hour in class.
  - \_\_\_ study little, when I can find the time, but not every day.
  - \_\_\_ study only before a test.
  - \_\_\_ study rarely.

6. As far as reading the math text goes, I \_\_\_ rarely read it \_\_\_ read it before tests \_\_\_ read it as a regular part of my study time.
7. My notes from class \_\_\_ are very useful \_\_\_ somewhat useful \_\_\_ not useful at all.

Write down some ideas that would help you to make the most of your math study time:

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### Your Learning Style

We learn by using our five senses and we tend to have **preferences** or ways that we learn more easily. For example, a student who learns best by seeing things written down or visualizing things is called a **VISUAL LEARNER**. A student who learns best by listening to a teacher talk or lecture, hearing instructions, then applying them to a problem, is called an **AUDITORY LEARNER**. A student who likes to work problems out on paper and do things that require some physical action is called a **HANDS ON or KINESTHETIC LEARNER**.

What is your preferred learning style? \_\_\_ visual \_\_\_ auditory \_\_\_ hands on/kinesthetic

**Following are some useful tips to maximize learning in each learning style:**

#### Visual Learners:

You need to see something to know it. You may need to be shown how to work out a problem. Write notes and draw diagrams so you will see things on paper. Visualize things in your mind. Use colored markers. Write directions down. Pay close attention to the blackboard and any handouts the teacher gives. Refer to charts, graphs and diagrams in your text.

#### Auditory Learners:

You prefer to get information by listening; you need to hear it to know it. You may have difficulty following written directions and working out problems with reading and writing. Listen to tapes of recorded class lectures and tapes you make of your own notes. Be sure to ask questions and participate in class discussions. Talk over ideas from class with another person.

#### Kinesthetic Or Hands-On Learners:

You learn best when working with your hands, writing things down on paper, and using some physical activity. You are bored easily sitting still in class. Your best bet is to be an active learner - keep busy taking notes in class, working out

problems on paper, and getting up to stretch or take breaks. Study while standing up and walking around. Use the computer to reinforce the sense of touch.

## II. BOOSTING YOUR MATH SKILLS

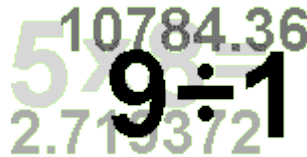
Becoming good at math requires that you acquire skills and strategies that make studying and learning easier. These strategies are listed below. They can be applied to most subjects.

### Taking Good Math Notes

1. Participate actively in class. Have your notebook open and pencil in hand at all times. Listen attentively. Write down the “title” of the lesson. Copy everything written on the board.
2. Review concepts in your mind. Try to visualize what the teacher is saying. Copy each and every step of a problem. Next to each step, write down in your own words exactly what you are doing. Put a ? by those steps you do not understand.
3. **Review your notes immediately after class and again within a 24-hour period.** Studies show that, with no review, students forget over 20 % of material learned in a class within a day’s time and up to 80% over a two week period. With after class and regular reviews, 90 - 100% can be recalled at test time.
4. If you have trouble following along, or the teacher talks too fast, try your best to take notes and tape record the class. Fill in the details you missed later.
5. When you get home, do your math homework first. Before you start, highlight in color the titles you have written in your notes. This will help give you the “big picture” of what you are doing.
6. Do all homework problems, not just some of them.

### Tutoring and Math Lab are Important

The college offers tutoring services and math labs where you can get one-on-one attention or group assistance. This is a great help in learning math, but it is not a substitute for doing your homework and attending every class. Talk to your teacher, your counselor or academic advisor about tutoring and lab time. Don't wait until the semester is half over to get help. *Early assistance is the best way to build your skills and confidence and lessen your anxiety about math.*



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## Math Study Skills Inventory

Rate your achievement of the following statements by placing a **3** for almost always, **2** for sometimes, and **1** for almost never. If you have never even thought about doing what the statement says, put a **0**.

### **Selecting a math class**

- \_\_\_ 1. I schedule my math class at a time when I am mentally sharp.
- \_\_\_ 2. When I register for a math class, I choose the best instructor for me.
- \_\_\_ 3. If I have a choice, I select a math class that meets three or four days a week instead of one or two.
- \_\_\_ 4. I schedule the next math class as soon as possible after I have completed the current course.
- \_\_\_ 5. I am sure that I have signed up for the correct level math course.
- \_\_\_ 6. I study math every day.
- \_\_\_ 7. I try to get my math homework immediately after math class.
- \_\_\_ 8. I have a specific time to study math.
- \_\_\_ 9. I have a specific place with few distractions to study math.
- \_\_\_ 10. I get my math homework in the lab where I can get help.
- \_\_\_ 11. I am careful to keep up to date with math homework.
- \_\_\_ 12. I study math at least 8 to 10 hours a week.
- \_\_\_ 13. I read my textbook before I come to class.
- \_\_\_ 14. If I have trouble understanding the text, I find an alternate text.
- \_\_\_ 15. I take notes in math class.
- \_\_\_ 16. I am careful to copy all the steps of math problems in my notes.
- \_\_\_ 17. I ask questions when I am confused.
- \_\_\_ 18. I go to the instructor or lab when I am confused.
- \_\_\_ 19. I try to determine exactly when I got confused and exactly what confused me.
- \_\_\_ 20. I review my notes and text before beginning homework.
- \_\_\_ 21. I work problems until I understand them, not just until I get the right answer for homework.
- \_\_\_ 22. I use flashcards for formulas and vocabulary.
- \_\_\_ 23. I develop memory techniques to remember math concepts.
- \_\_\_ 24. I preview the test before I begin.
- \_\_\_ 25. Before I begin the test, I make notes on things such as formulas that I might need.
- \_\_\_ 26. I begin with the easy questions first.

- \_\_\_ 27. I take the full amount of time allotted for the test.
- \_\_\_ 28. I carefully check or rework as many problems that I have time to before I turn in my test.
- \_\_\_ 29. When tests are returned, I keep a log of the types of mistakes I make on tests: concept errors, application errors, or careless errors.
- \_\_\_ 30. I keep up to date so that I don't have to cram the night before a test.
- \_\_\_ 31. I believe that I can succeed in math class.
- \_\_\_ 32. I have study partners in my math class.
- \_\_\_ 33. I take practice tests.
- \_\_\_ 34. I know several good relaxation techniques.
- \_\_\_ **TOTAL SCORE**

**Scoring:**

Total the scores from all 34 statements.

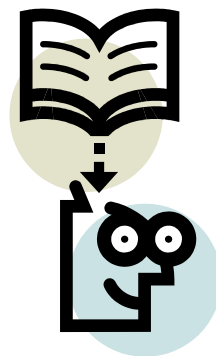
If your score is **90 - 103**, you are doing well and using the study skills you need in order to be successful in math.

If your score is **80-89**, you are doing okay and using good study skills. Choose a few new strategies to incorporate into your study plan. You are well on your way to an A.

If your score is **70 - 79**, you are average and, if you want an A, try using more of the strategies until you are using most of the ones described above.

If you score is **below 70**, you are probably having a difficult time in math class. Math may not be your trouble! More than likely, your main problem is the study strategies you are using (or not using). Make yourself do the things on the list above.

*(This information can be found on page 117 of The Study Skills Workbook, third edition, by Dr Carolyn H Hoppe: <http://mtsu32.mtsu.edu:11064/skill.html> 4/20/2004)*



**Reading Your Math Text**

Math textbooks sometimes require longer reading time. The following steps will enable you to get more out of your math text:

- ⇒ Skim the chapter first.
- ⇒ Read with concentration. Stop often to ask yourself if you understood what you just read.
- ⇒ Quiz yourself along the way. Do exercises in your notebook to be sure you understand.
- ⇒ Keep lists of all concepts and terms you need to know and review them regularly.
- ⇒ If you do not understand, write down your questions and bring them to class, lab, or tutoring sessions.
- ⇒ Review diagrams, rules, and examples that explain how to solve problems.
- ⇒ Highlight important rules and concepts and write them in your notes.
- ⇒ Read in a quiet place without distractions.

If you follow these basic steps of textbook reading, you will begin to see changes in your understanding and ability to grasp math concepts.

### **Using Your Memory**

As simple as this step sounds, many students fail to realize that memory is yet another skill that can be developed and practiced. For an in-depth lesson on memory development, refer to the module, *Memory, Mnemonics and More*.

#### **To learn anything, we must do the following:**

- ⇒ Observe = pay attention
- ⇒ Process and understand = move from short-term to long-term memory
- ⇒ Recall = retrieve information from long-term memory

### **Math Memory Aids:**

*Please Excuse My Dear Aunt Sally* -- the order of math operations: Parentheses, Exponents, Multiplication, Division, Addition, Subtraction

*Flashcards* – make flashcards of rules, formulas, etc. Quiz yourself with them regularly.

*Play math games* – get a book of math brain teasers. Test yourself to see how well you do.

*Soh-Cah-Toa* -- the trigonometric relationships: Sine (opposite/hypotenuse), Cosine (adjacent/hypotenuse), Tangent (opposite/adjacent)

*Review math video tapes* – ask your teachers for information on which ones to use.

*Verbalize math solution steps out loud* – this helps to understand and retain the process by which you solve a math problem. Also, silently verbalize the solution steps in class.

**Here are some ways to promote good memory skills:**

- \* Attend every class.
- \* Approach a class with enthusiasm and an eagerness to learn.
- \* Sit front and center for better attention and fewer distractions.
- \* Set a positive intention: “I will learn and remember what is covered today.”
- \* Apply your best listening and note-taking skills.
- \* Review notes immediately after class and again that evening.
- \* Complete all homework assignments the same day.
- \* Drill yourself on terms, concepts, and rules.

**Applying Active Learning Strategies**

98% of all individuals have the ability to understand and handle math concepts. Using the following math learning strategies makes the process easier. Put a **check mark** ( ✓ ) next to the items above that you plan to use starting now.

- ⇒ \_\_\_ Take detailed notes and use a tape recorder.
- ⇒ \_\_\_ Ask questions; try to form mental images of math problems.
- ⇒ \_\_\_ Read the math text and the examples. Learn the language of math. If your text is difficult to understand, find a simpler one.
- ⇒ \_\_\_ Make flash cards and study sheets containing important terms and concepts. Quiz yourself often.
- ⇒ \_\_\_ Ask for feedback and use it to find mistakes and correct them.
- ⇒ \_\_\_ Ask questions! Let the instructor know if you do not understand. Seek help outside of class in the lab or with a tutor.
- ⇒ \_\_\_ Study in a quiet, properly lit study environment with the tools you need.
- ⇒ \_\_\_ Talk out loud as you work math problems. Whenever possible, study in small groups.
- ⇒ \_\_\_ Study in short increments of time with breaks. Get up, move around and stretch during breaks. Study during "peak" times when you are most awake and alert.
- ⇒ \_\_\_ **Make up missed work.** Each step in math builds on the previous one. If one step is missing it is impossible to go on to the next one.
- ⇒ \_\_\_ **Attendance.** If you miss a math class or some part of a class, make up for it by getting notes, reviewing material with another student or the instructor, and completing the missing steps.

**III. TAKING MATH TESTS**

The skill of test taking can be developed and strengthened. Many errors on tests are due to a lack of test-taking skills, not a lack of knowledge.

**Tips for Studying for Math Tests:**

1. Start studying on Day 1.
2. Keep up; review notes after each class, within 24 hours.
3. Read the text; if you don't understand, ask for help.
4. Get a study partner.
5. Schedule your math study times and stick to your schedule. The math lab is a good place to do homework. The library is a good place to study.
6. Memorize formulas and use flashcards.
7. Rework problems you missed on math homework.

**Tips for Taking Math Tests:**

1. Scan the test first as a warm-up.
2. Read the test directions. Be aware of the time allowance.
3. Read the full question.
4. Given/find/need: Ask, "What's given?" "What do I need to find?" "What do I need to do?"
5. Draw pictures to simplify the problem.
6. Use a calculator and do calculations twice.
7. Check your results. Plug your answers back into the formula or equation. Do the problem another way. Check to be sure you changed signs where needed and simplified answers where needed.
8. Recheck to be sure you answered all the test questions.

List below the most common problems or errors you tend to make on math tests:

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How might you correct these errors?

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## Always Check Your Answers

Careless mistakes are the easiest things to avoid in a math test. The simple solution is: check your answers, check your answers, check your answers! With a calculator, you should be able to check up to 90% of your test before you hand it in. You should know your calculator inside and out. Most calculators come with manuals that are invaluable.

Here some examples of checking your answer.

1.  **$3X + 7 = 22$  Solve for X.**

Let's say you get an answer of  $X = 6$ . If  $X$  is 6, then you can replace the  $X$  with the 6 and the statement above should be true. When you put  $3 * 6 + 7$  in your calculator, you will get 25, not the expected 22. Try the problem again. After solving again, you get 5. Enter  $3 * 5 + 7$  into your calculator and get 22. 5 is the correct answer.

2.  **$3X(X+2) - (2X-5)$  Simplify.**

You get an answer of  $3X^2 + 4X + 5$ . Most people think you can't check this. However, if we work under the assumption that the  $X$  in the above problem and our solution is the same, then we can check. Without knowing what the value of  $X$  is, what if  $X$  was 2? Then, if we put the original problem into our calculator replacing  $X$  with 2, we get 25. Replacing  $X$  with 2 in our solution also gives us 25. Therefore we know that our solution is probably correct. You can check with values other than 2 as well.

3. **23 meter wire is cut into three pieces. The second piece is one and one-half the size of the first piece. The last piece is one-fourth the size of the second. What are the lengths of the three pieces?**

After much deliberation, you decide that the lengths of the pieces are 8, 12, and 3, respectively. Now check to make sure that your answer applies to the question. Is the second piece one and one-half times the size of the first? Is the last piece one-fourth the size of the second? Do the pieces add up to 23 meters? If so, then you have the correct answer.

4. **What is 20% of 50?**

The first solution you come up with is 1000. Use common sense in this problem. Can 20% of 50 be 1000? 20% is just a small part of something. 1000 is many times greater than 50. Therefore, the correct answer must be smaller than 50. After thinking about it, you should come up with an answer of 10.



#### IV. OVERCOMING MATH ANXIETY

Math anxiety is a feeling of tension, dread or fear that interferes in taking tests and solving mathematical problems. It can cause one to forget math rules, blank-out on tests, and be unable to focus or concentrate. It usually comes from negative experiences in working with teachers, tutors, classmates, parents or siblings. Some of the traditional methods of teaching math, such as timed tests, drills, math pop quizzes, etc. contribute to math anxiety.

Math anxiety can also arise from stress or personal problems going on at the same time you were learning a particular math concept. In this case, you may associate unpleasant experiences with learning math. When math anxiety sets in, it can paralyze you and prevent you from learning or proving what you know on tests.

##### Math Anxiety Survey

To find out the severity of your math anxiety, rate your answers from 1 to 5. Add them up and check your score below.

- 1 = Totally Disagree.....5 = Totally Agree**
- |  |           |
|--|-----------|
| ___ I fear math tests more than any other kind.                                      | 1 2 3 4 5 |
| ___ I feel I am in the wrong math class for my level of math ability.                | 1 2 3 4 5 |
| ___ I think all the other students learn math faster and do better on tests than I.  | 1 2 3 4 5 |
| ___ I tend to avoid math classes and homework assignments.                           | 1 2 3 4 5 |
| ___ I tend to blank out or feel sick during math tests.                              | 1 2 3 4 5 |
| ___ I tend to have trouble concentrating in math class.                              | 1 2 3 4 5 |
| ___ I cringe when I have to go to math class.  | 1 2 3 4 5 |
| ___ I am afraid to ask questions in math class.                                      | 1 2 3 4 5 |
| ___ I understand math now, but I worry that it's going to get really difficult soon. | 1 2 3 4 5 |

\_\_\_\_ I am always worried about being called on in math class. 1 2 3 4 5

\_\_\_\_ It's clear to me in math class, but when I go home, it's like I was never there.  
1 2 3 4 5

\_\_\_\_ I'm afraid I won't be able to keep up with the rest of the class. 1 2 3 4 5

**Add up your scores.** \_\_\_\_\_

40 – 50 Yes, you have math anxiety. Work with your counselor and ask for help.

30 – 39 You are pretty fearful about math. Talk to your counselor.

20 – 29 On the fence! You might benefit from some extra help with this.

10 – 19 Doing fine. You need not worry.

In this section you will learn practical ways to reduce the fear and anxiety you associate with math. You'll also learn how to develop a better "self-image" about math. Be sure to do the module, *Managing Test Anxiety*, for more ideas.

**Exercise: Complete the following:**

What happens to you (physically and emotionally) when you have to take a math test?

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Describe your first negative experience with math (or a math test).

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Describe a positive experience with math (or a math test).

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You should now have a better picture of how severe a math anxiety problem you have. Let's look at ways you can lessen, even eliminate, this problem. **It is important to keep in mind that your level of ability has little to do with your level of anxiety.**

**Tips for Overcoming Math Anxiety**

1. Realize that you are not alone. Many people feel anxious about math.
2. Admit it! Once you recognize that you have math anxiety, you can correct it.
3. Try to recall where your first difficulty with math started.
4. Recognize your self-defeating talk and change it to more positive talk.
5. Avoid teachers, students, peers, and family members who are not helpful or supportive.

6. Trust your instincts and don't put down your approaches to a math problem. Do math in a way that is comfortable for you. There are different ways to solve math problems.
7. Ask questions. This is the way toward better understanding. Other students will be glad you asked.
8. Know the basics. In most cases you need to know math from previous courses. If you don't remember, go back and review.
9. Don't put math off until the last minute. It is better to do a little math everyday.
10. Attend every math class. You can't afford to miss the skills that will be taught in every class.
11. Choose your study area carefully. Be sure it is conducive to good studying.
12. Get help. Ask for a tutor, talk to your instructor, seek out a study partner.
13. Take the pressure off. Learn to relax, take breaks, take good care of your body and your physical needs for rest and recreation.

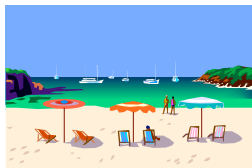
## **Learn To Relax**

Relaxation techniques are easy to learn. Over time, if techniques such as deep breathing, progressive muscle relaxation, visualization and affirmations are practiced daily, a relaxation response will replace any anxiety you may experience. Work with your counselor on learning these techniques. Very soon you will soon find yourself relieved of test anxiety.

### **Deep Breathing**

When we are tense or anxious, we tend to take quick, shallow breaths from the chest. This type of breathing only leads to more tension and greater anxiety. The proper way to breathe is to take deep, slow breaths. Practice the following technique:

1. *Sit up straight. Exhale all the air in your lungs. Inhale slowly through your nose, feeling your stomach expand to allow more air into your lungs.*
2. *Continue inhaling until your entire lungs are full. Raise your shoulders and expand your chest to reach your full lung capacity.*
3. *When you can take in no more air, slowly exhale through your mouth, emptying the air from your lungs in one long, steady exhalation. Try for a count of 5 seconds at first, then work your way up to longer and longer periods of inhalation and exhalation. With practice you will be able to extend the time.*
4. *Do deep breathing for at least 5 minutes before a test and continue breathing slowly and deeply throughout the test.*



## Progressive Muscle Relaxation

This technique involves relaxing your body muscles by tensing and relaxing each of your major muscle groups. It can be practiced anywhere and should always be accompanied by deep breathing. The technique is simple to follow.

1. *Start at your feet. Tense both feet by squeezing them into a tight ball. Hold the tension for five seconds, then release it. Let your feet relax. You should feel a tingling sensation as blood flows back into your feet.*
2. *Next, move up to your calves. Tense the calves tightly, hold for five seconds, and release the tension. Move on up your body to your thighs, buttocks, abdomen, stomach, forearms, upper arms, shoulders, neck, and face. Practice the same method of tensing, holding for five seconds, then releasing the tension for each group of muscles.*
3. *Monitor your breathing and resist the urge to hold your breath as you tense your muscles. When you have completed tensing and relaxing all the muscle groups in your body, continue to breath slowly and deeply to further relax your body.*
4. *Practice this technique at least 5 minutes every day until you become aware of the difference between the states of tension and relaxation. Realize that you have complete control over these states.*



## Visualizations And Affirmations

Affirmations are simply positive statements about your abilities and qualities. Visualizations are positive mental images. Before any challenging activity it is a good idea to practice visualizations and affirmations. You may even practice several days in advance to fully prepare yourself for the day of the test. It is even more beneficial to use your deep breathing and progressive muscle relaxation exercises along with visualization and affirmations.

*Positive affirmations for math:*

- *I am capable of learning math.*
- *I can easily learn math when I apply myself.*
- *I am capable of getting good grades in math.*
- *I'm doing better in math all the time.*

**Here's a simple guide, combining visualization and affirmations to prepare you for a math test:**

1. Practice deep breathing for 5 minutes only.
2. Affirm to yourself: ***"I am releasing all my tension and preparing my body for complete relaxation."***

3. Continue breathing slowly and deeply as you do progressive muscle relaxation starting from the feet and ending at the top of the head.
4. Visualize yourself walking into math class with confidence, feeling relaxed and ready for the test. Imagine taking the test with ease, feeling calm and comfortable throughout. See yourself working out the problems, checking your answers and getting them right. Finally, see the test coming back to you with a good passing grade on it.
5. Now affirm: *"I am doing my best and am pleased with the results. Math is easy for me. I enjoy math. I am good at math."*

The more you practice these steps, the easier and more natural they will become. In time, you will achieve greater confidence in your ability to succeed in math.

### **Find a Reason to Appreciate Math**

You already know that you need math as a prerequisite for other courses you need to take. But, have you ever wondered what grade you were going to get in a class? Do you know you can calculate your grade using math? How about planning a party – how much food and drink will you need for the number of people coming? If you didn't know anything about math, how would you ever make any money and then know how to spend it wisely? When you go shopping, there are sales and advertising techniques that sometimes trick you into thinking that you actually are saving money. Sales sometimes need to be analyzed with some handy math skills to let you know what you are actually saving. What about planning a road trip? It's useful to know what gas mileage your car gets, how much is left in your debit account, what money you have left to spend.

Being at ease with numbers helps you in everyday life, such as when you calculate tips, make change, use recipes, do any type of technical work, or balance your checkbook. Understanding percentages helps you compare the financial benefits of different loan programs, or the benefits of mortgage refinancing if you own a house. Such knowledge can save you a great deal of money.

Art requires math. Any artist will tell you that there is some kind of mathematical or symmetrical pattern involved in creating pictures. Art doesn't necessarily require addition, subtraction, division, or multiplication. There is, however, a great need for geometric shapes and figures.

For many careers, the thought process involved in math calculations and problem solving enables you to be a better, more logical thinker. In the medical field, knowledge of math is essential for calculating drug dosages and converting amounts to and from the metric system. Jobs today are becoming more and more technical, requiring increasingly more advanced math skills.

### **Module Summary**

You have learned the skills and strategies needed to become a better math student. You have learned methods that will reduce your anxiety levels in class and especially during tests, if practiced and applied. Using these methods and strategies will bring noticeable results in helping you learn and enjoy math.

Remember to seek help if you need it. Talk to your instructor, get a tutor, and use the math lab. Make use of the resources offered on the Internet and those listed in your syllabus. Make it your goal to be successful in math!

Some useful websites for Math resources and practice are:

<http://illuminations.nctm.org/imath/index.html>

<http://www.k111.k12.il.us/king/math.htm>

<http://www.math.com/>