**Why Studying Math is Different**

**·**Reading a math text is not like reading a novel. You may have to stop and think about some lines before proceeding.

**·**Math is a cumulative subject. If you miss a concept one day, it may come back to haunt you and could even prevent you from understanding concepts you study later. Always get help as soon as you recognize that you have a problem.

**·**Build up a network of math partners you can consult if you run into a roadblock. These are the days of easy communication. Telephone, email, and instant messaging are all available. Use them.

**Take Charge and Take Action**

**·**Take responsibility for your own success. If you find that you don't know or understand something, take whatever steps are necessary to fix the problem. Do not let others distract you from your purpose.

**·**Be an active participant in the classroom. Volunteer answers to questions and offer to place solutions on the blackboard. Ask questions immediately when you think you have lost the thread of the lesson.

**·**Math is learned by doing problems. Although you need to know some facts and procedures, you get really good at math by working through problems. It's wise to work on a problem yourself as much as possible. You may need to ask for help at some point, but don't give up too easily. The more you can do on your own, the more your brain will develop and the easier future problems will seem.

**·**Problem-solving is one of the key skills in the study of math. There are tips for problem-solving starting on page xiv in the front of *MathLinks 7*. Your teacher will show you additional strategies that you can use. In short, the steps are:
      – Understand the problem.
      – Plan how to solve it.
      – Do It! Carry out your plan.
      – Look Back. Review how you solved the problem and the answer you received. Does it make sense? If the answer seems unreasonable, it may be necessary to look for errors or select another strategy.

**·**Before beginning an assignment, review your class notes. Ensure that you understand the worked examples and the meaning of any new terms. Consider highlighting important concepts, equations, or definitions.

**·**As you work on each chapter, use the Foldables™ idea at the beginning of that chapter to keep track of information from the chapter, including key words, examples, key ideas, and what you need to work on.

**·**If you have completed the assigned problems, but still don't feel comfortable with the concepts, do a few more. Most teachers will assign about half of the problems in a given exercise. If you run out of practice questions before you feel comfortable with the concepts, ask the teacher for more. The *MathLinks 7*student site has many things to help you. Visit [www.mathlinks7.ca](http://www.mathlinks7.ca/) and navigate to the student site to find additional resources.

**·**If you find that you need some help or a hint to proceed with the solution to a problem, be careful not to get too much help. You want a coach, not a handout. Once you see where to go, thank your coach. Don't ask for the entire solution. That robs you of an important learning opportunity.

**·**You have not failed at solving a question until you quit. Sometimes it is useful to skip a tricky question after thinking about it for a few minutes and then come back to it later.

**·**If there is any reason why you cannot finish your entire math assignment, it is better to do a few problems from each part than to do just the first problems in the assignment.

**·**If the homework load is light on a given day, use the extra time to review and practise concepts covered earlier in the course.

**·**Allow a few minutes at the end of your math work session to have a look at the next lesson so that you know what is coming up. It isn't necessary to work through the lesson, just to get a feeling for what is going to happen in the next math class.

**Preparing for Tests**

**·**If you do your homework conscientiously and work at fixing problems as they occur, then preparing for tests becomes much less difficult. All you need to do is remind yourself of the concepts that you are going to be tested on and do some sample problems to sharpen up your skills.

**·**When you receive your test, take a minute or two to look it over. You don't have to do question #1 first. If you see that you know how to attack question #3, then do that one first.

**·**Don't get bogged down on a question. If your strategy doesn't seem to be working and you are stuck for an alternative, go on to another question.

**·**Sometimes you will not finish a test in the time allotted. If this seems to be happening, do not panic. Accept that you are not going to finish. Make it your goal to do as many questions as you can before the time runs out.

**·**Read each question carefully. Be sure that you answer what was asked.

**·**Be sure to show your work. If you make an error and arrive at the wrong answer, you will at least get partial marks.

**·**If you have time left, use it to verify your answers. You can sometimes work backwards to do this. Alternatively, you can solve the same question a different way. Be sure to check calculations. A slip of the finger on a calculator can easily lead to a wrong answer.

**·**Watch out for panic attacks or "freezeups". This occasionally happens to a lot of students on a test. Time may be short, solutions are not going well, and you have an overwhelming sense of panic. The best thing to do is STOP. Turn the test over on your desk. Take several deep breaths, exhaling slowly. Remind yourself that you prepared for this test and that you can do most, probably all, of the questions on it. Then, return to the test, select a question that you can do, and work through it.

**·**If panic becomes a serious problem, consider learning one or more relaxation techniques or consulting a counsellor for other strategies. Keep in mind that these will not help if the real source of the panic is inadequate preparation for the test!