

# Effective Test Writing. Strategies for Mathematics



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Making sure you know the material is just as important as having good test writing strategies. Even when you know the material, you may not be as prepared as you would like to think. While preparation is important, training yourself to become an adept test taker is also beneficial. That one or two hour test period is the equivalent of 7-8% of your mark – you need to make sure you do well within that time frame!

The following techniques are very useful, but are not to be considered as a substitute for hard work and preparation. These are tools, not shortcuts. There is no substitution for hard work and practice.

The 4 key strategies to success in test writing are as follows:

- 1) Managing Time
- 2) Prioritizing
- 3) Persistence
- 4) Confidence

Let's discuss these items one by one.

## Managing Time

This is probably the single most important part of test writing. Many students waste time focusing on one single problem and forget the rest of the test. That one question ends up costing much more than they bargained for. You need to be able to complete the majority of the test, not just one problem. I have seen students spend as much as 20 minutes (1/3 of the total test time) on a question only 8% of the test!

Put a watch right in front of you, and track your time constantly.

When you start the test, the first thing you should do is to develop a rough game plan. You should quickly (spend less than 30 seconds) browse through the test and get a sense of its difficulty. Look at what questions you can do, and the ones you can't. In addition to the allocation of marks per question, you will begin to develop a broader sense of the test.

Now that the ministry is required to divide your tests into four parts (knowledge, thinking, communication, application), it serves to help you in developing your game plan. Try to set a certain amount of time to each section (i.e. 20 min for knowledge, 15 min for application, and 15 min for thinking, leaving 10 min for checking).

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## Managing Time

This breakdown is all dependent on your preparation. Questions in the Knowledge section of the test are based off of pure understanding of material, so if you prepared for that, cut down some time from Knowledge and put it into checking, or wherever else you might need extra support. Checking your work is important – do not assume everything is right on the first try. So you will need to allocate the last 5 to 10 minutes for checking.

Keep in mind that your teacher dictates your timing. The amount the question is worth will tell you how much time to spend on it. For example, a question that is worth 5% of the test deserves 5% of the time given. If a question is worth 20% of the test, it deserves 20% of the time allowed. You should have a rough estimate in your mind, as to how much time should be allotted on the question you are working on. For example, a question worth 5 marks shouldn't deserve 15 minutes of your time.

But what if you can't finish that question on your allotted time? At this point you need to make a judgment call. Are you almost at the answer? Do you know what you have left to do? In this case you should complete it. If you are still circling the question, and have only a vague idea of how to complete it, leave it for later.

## Prioritize

When you quickly browse through the test, you will find (hopefully!) questions that are extremely easy and take no time at all. Do these first. Go through them quickly, but still accurately. Completing the quickly and accurately will increase your confidence for the rest of the test.

You will notice that the more prepared you are, the more of these “easy” questions you will see. This is an indication that you are more knowledgeable on the topic. A typical student aiming for 80%+ should see over half of the test being “very easy”. If you don't see many easy questions, this means that your preparation is still not good enough.

You will need to put in more time practicing and studying for the next test.

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## Persistence

There will always be questions that will reveal nothing to you when you quickly browse through the test. Did you think everything would be easy? Not likely! But fear not, there is always a way to ace the test.

There are two approaches to cracking these questions. First, if you think you're going through the question in the right order, following the correct steps, and getting somewhere, keep going! This is good for part marks at the very least. Hopefully you will have a generous teacher if you don't know the question in its entirety. Be warned though - in the higher grades, teachers don't give a lot of part marks.

The second approach is to use problem solving strategies, which I explored in the last Academic Advice Article. This essentially all comes down to whether or not you have adequately prepared for this test. First, write down the things you know: the equations, the givens. Then write down your goal: what are you trying to solve at the end? Do you know the intermediate steps to attain your goal? If you have a clue about what is going on, then things are looking up for you.

Keep in mind that each given in the question will be used. Ask yourself: "How can I use this, and why is this information given to me this way?" Think of the solution to the tough problem as a chain.

The end of the chain is the answer, the beginnings are the givens, and the links are the intermediate steps. What you don't know are the missing links.

Ask yourself further: "What information do I need to attain the goal, and how do I get that information, using the equations I have? What information am I missing?" The information you are looking for could well be the intermediate steps to attain the final answer.

Success in math comes with regular and consistent practice. If you want to sharpen your problemsolving skills and be able to crack the tough questions on tests, you need to work on challenging questions on a regular basis. Try some of those math contests outlined in the previous article. You will find that they do wonders in prepping you for your math tests.

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## Confidence

Maintaining your confidence is key to doing well on tests. If you've prepared sufficiently, you know you can. It is possible that students get "shocked" from unfamiliar questions somewhere on the test, and then ruin easy questions that they should have known. You cannot let one question sidetrack you from the rest of your test. This section hopes to address this problem.

If you run into questions that make you worry or shake your confidence, you should first figure out exactly what the damage would be if you get a "zero" on it. Math is hurting you, but math is also your friend: if the question only worth 5-8 marks, the impact is less than 10%. So even if you get no part marks on it, chances are, if you perform well on the rest of the test, you can still get the 70's or 80's you are aiming for. So move on!

Try to see the test as a whole and not its specific parts. You will realize that not being able to do one or two tough question wouldn't stop you from getting an A.

Lastly, let's look at the student favourite: "blanking out". The way to deal with this is to instruct yourself on what you DO know about the question, and the rest will come. Write down everything you know about solving the question – the givens, the equations, possible methods...slowly you will begin to remember what it is the question asks. The key to overcome "blanking out" is to tackle the question straight on. Don't worry whether you can do the question or not, just focus on how you will be tackling it.