

How to Tackle O-Level Elementary Math

Let us face it! Studying for any examinations can be overwhelming. Students taking examinations can get anxious easily and to a certain extent, students may end up facing depression under considerable amount of stress. There is no secret in getting good grades. It is all about hard work! As much as taking examinations can be overwhelming, managing time and honing good study habits are some ways that can ease the stress. In this article, we will focus on giving advice to students on how to study for a Mathematics test so as to make the revision process easier and achievable. Although the focus of this paper is on O-Level Mathematics examination preparation, the skills process for preparing for Normal Academic / Normal Technical Math papers are about the same.

Let us start by looking into the O-Level 'E' Math contents itself.

Topics in the O-Level 'E' Math Syllabus (2021)

- Number and Algebra
- Numbers and their Operations
- Ratio and Proportion
- Percentage
- Rate and Speed
- Algebraic Expressions and Formulae
- Functions and Graphs
- Equations and Inequalities
- Set Language and Notation
- Matrices
- Problems in Real-World Contexts
- Geometry and Measurement
- Angles, Triangles and Polygons
- Congruence and Similarity
- Pythagoras' Theorem and Trigonometry
- Properties of Circles
- Mensuration
- Coordinate Geometry
- Vectors in Two Dimensions
- Problems in Real-World Contexts

- Data Analysis
- Probability

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Lots of Repeated Practice

We have heard of this countless times. Practice and practice and more practice. But what is exactly the reason behind repetition that helps us learn and improve our learning? From the neuroscience perspective, it is about the way the cells in our brain communicate, and the physical changes that they undergo when they communicate repeatedly as we practice the same action over and over. Whenever we perform an action, for example, either writing a piece of work or playing a game, the neurons involved in that action start firing electrical signals, forming an active network of cells. One effect of repeatedly practicing the action may increase the amount of myelin, leading to faster and more efficient processing of the cell signals — and better performance. Hence, this will translate into performing well. However, a word of caution. It is strongly suggested that students revise and practice their work in the right way; otherwise, they will be revising the wrong stuff. Incorrect understanding means wrong practice. Wrong practice leads to remembering inaccurate ways to give the right answers during exam time.

Proper Guidance is Vital!

The Importance of the Ten Years Series / Other School Test Papers

It used to be very common to use past O-Level examination papers as part of the students' revision process. These days revising test papers that have been set by other schools are also very common! Using the two sources of materials as part of students' revision package offers many advantages. Firstly, psychologically, students learn how to get used to the structure of the exam paper, the way the questions are set, and how everything is laid out. On the day of the exam, students will have the mental preparation that helps to ease anxiety and allow them to focus better. Secondly, knowing the allocation of marks and the teachers' marking schemes gives students ideas on what steps constitute achieving full marks, how to present workings, what mathematical formulae are given/not given, and the common topics that are tested annually. In addition, working on these test papers within the

stipulated time frame gives students an understanding of their mastery in O-Level Mathematical content and their proficiency in applying concepts under time constraints.

Excellent Use of Resources Matters!

Apart from a student's strong topics, weaker ones should also receive attention for revision. Using class-weighted assessments as a reference, students should seek to improve on topics that they have consistently not done well in. As much as some students may excel at Coordinate Geometry or Matrices, the same students should also give time to address their weaker topics. Do take note: as long as a topic is included in the syllabus, questions about it will definitely appear on the exam paper. Students can choose to hide from their weak topics, but they cannot run away from them.

At AlphaOmega, teachers are experts who help students break down complicated mathematical concepts into easy-to-digest ideas. This adds value to students' learning processes, motivates better learning attitudes, and encourages them to put in more effort to revise.

Challenge One's Weakness, Boldly!

Ask for Help

It is always good to ask for help when students feel lost. Many believe they can self-manage, form their own study groups (which may not always work out well), or leave too many topics to clarify at the last minute. Anxiety sets in easily. Such a reactive approach is, regrettably, common among students.

However, in cases where students are preparing last minute, the old advice still remains: better late than never. At AlphaOmega, there is a team of dedicated teachers ready to provide help, answer queries, and identify areas for improvement. Teachers also create "cheat sheets" highlighting common mistakes and provide explicit instructions to preempt errors before they occur.

Of course, it is not the intention of this article to encourage last-minute study. Taking the O-Level 'E' Math is a long marathon starting from Secondary One. Good results come from consistent effort and proper pacing. Seeking shortcuts often leads to burnout.

Be proactive, not reactive, in your revision process!

Final Heed

As the saying goes, “Nobody plans to fail, but many fail to plan.” Having a plan serves as a roadmap that outlines goals and steps to achieve them. Start small — bite-sized planning requires less energy and feels less overwhelming. It builds confidence and momentum, making the learning journey manageable. Lao Tzu’s famous words say, “The journey of a thousand miles begins with a single step.” Have you started?

Time to speak with the teachers from AlphaOmega Math. They are ready to guide and build students’ confidence gradually toward success.

Seek help now. Seek AlphaOmega!

AlphaOmegaMath
Your Mathematics Specialist



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