

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 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)

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| <u>Number and Algebra</u> |
| 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 |
| <u>Geometry and Measurement</u> |
| 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 |

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 help 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 writing or playing a game, the neurons involved in that action start firing electrical signals, or action potentials, and form 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. For example, knowing the difference between terminating and recurring, the meaning of $-2 > -3$, order of operations like $-2 + [3 - (-16)] \times (-5)$, difference between decimal place and significant figures and more. Incorrect understanding means wrong practice. Wrong practice leads to remembering the inaccurate way 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 the 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 offer many advantages. Firstly, psychologically, students learn how to get used to the structure of the exam paper, the way the questions are set and know how everything is laid out in the exam paper. On the day of the exam, students will have the mental preparation that will help them to ease their anxiety level and able to focus well on doing the paper. Secondly, knowing the allocation of marks and the teachers' marking schemes give students ideas on what steps constitute to achieving full marks, presentation of workings, what mathematical formulae are given / not given during examinations and the common topics that are tested annually. In addition, working on these test papers within the stipulated time frame give students an understanding on their depth and breadth of their mastery in the O level Mathematical content as well as their level of proficiency in the context of a stipulated time frame.

Excellent use of resources matters!

Apart from student's strong topics, weaken ones should also receive attention for revision

Using the class weighted assessment as a form of reference, it is strongly advised that students seek to improve on topics that they have consistently not done well. As much as some students may excel at Coordinate Geometry or Matrices, this same of 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 themselves from their weak topics, but they cannot run away from them.

At AlphaOmega, teachers are the experts who will help students break down complicated mathematical concepts into pieces of easy to digest and understand concepts. This,

indeed, adds value to the students' learning process, motivate better learning attitudes and encourage students to put in more effort to revise their work.

Challenge one's weakness, boldly!

Ask for help

It is always good to ask for help when students start to feel that they are lost in many topics. Students always think that they can self-manage, form own study groups (which may not always work out well) or leave too many topics with a lot of clarifications to seek at the very last minute. Anxiety sets in easily. Such a reactive approach is, regrettably, a very common thing happening among students.

However, in case where students are starting to prepare for their revision last minute and would like to seek (desperate) help, the old advice still remains to be very useful: Better late than never. At AlphaOmega, there are a team of dedicated teachers who will always be available to provide readily help. They are always there to offer consultations, answer queries and help students to identify areas for improvement to as to address existing gaps on the students' learning and provide immediate help. Teachers would often think of multiple ways to help students. For instance, creating "cheat-sheets" that bring awareness to students on the commonly made mistakes. Apart from this, coming out a set of notes with direct and explicit instructions to guide students and preempt errors before students even make them are approaches AlphaOmega teachers adopt to render help to students in need.

Of course, it is not the intention of this article to encourage last minute study for students. Students should know that taking the O level "E" Math is a long marathon starting from secondary one. Good results come from consistent effort and good pacing. Students seeking short cuts lead to quick burn out.

Be proactive, not reactive, in one's revision process!

Final Heed

As the saying goes, "Nobody plans to fail, but many fail to plan," Having that plan serves as a road map that provides goal statements and the detail of the plan is the map of how to get there. Having a plan is not always something that has to be a huge endeavor. Always start small. Doing that bite-sized planning requires less energy and overwhelming. It increases confidence and when little by little are added to the plans, it builds one's momentum. One can then see his/her plans spiral slowly and more doable tasks will be accomplished.

Lao Tzu's famous words, "The journey of a thousand miles begins with a single step." Have you started? Time to speak with the teachers from AlphaOmega Math. They will be ready to guide and build students' confidence gradually to the exam hall!

Seek help now, Seek for AlphaOmega!

