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Specialist

How to get a 45+ study score in Specialist



by **Umut K.**

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Specialist maths has a notorious reputation for being awfully difficult. Even though it can be hard at times, it is just maths at the end of the day – you need not to be a specialist. This study guide aims to give you some tips and tricks to navigate VCE Specialist this year.

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How to prepare for SACs

Your SACs for Specialist make up 34% of your final grade. You will have around 3 SACs throughout the year, which should cover much of the content you need to know. I suggest you use your SAC preparation wisely as this will put less pressure on you during the exam period.

- ▶ **Class time is precious:** Even though this is true in all other subjects, I think it applies most to maths. The majority of the time in class is spent doing questions and going through examples. Being surrounded by 30 or so other students also doing the same set of questions, this is the best opportunity to ask for help when you hit a roadblock. I believe garnering a strong support network in class is one of the keys to success in maths subjects, and only makes it all the more enjoyable.
- ▶ **Ask your teacher questions:** Whether it is in class, afterschool or during lunch times, ask your teacher for help if you are having trouble with anything. Teachers appreciate you taking the initiative and chasing them up. Having another pair of eyes look at your work can prove invaluable.
- ▶ **Questions, questions, questions and more questions:** Specialist is a subject where the more questions you do, the better you'll grasp the subject as a whole. I would first go through the Cambridge textbook questions which eases you into applying the new concepts you have learnt. You don't have to do every single question, but do it until you get the hang of a particular type of question. I would then prioritise the topics based on questions I had difficulty with and read my notes, watch a video (Eddie Woo is amazing) or go through the textbook until I felt comfortable with it.
- ▶ **Practice SACs:** Even though the textbook questions are great, I would always do practice SACs provided by the school before each SAC. These questions offer a level of difficulty which is



much more akin to the actual SAC, hence you'll be better prepared after you do them. I did around 2 practice SACs under timed conditions which should be plenty of preparation for the assessment.

- ▶ **Make a killer bound reference:** A lot of you may view making summaries as a slow and tedious process which can be skipped to save time. I however found that note taking was the single best way to consolidate your learning onto a few pages. A huge plus is that you'll be able to take this into the exam, so work on it consistently throughout the year or you'll run out of time! While creating your summary I suggest you:
 - **Make it easy to find everything:** I saw someone in my class using tabs once and thought it was a great idea. And it sure was, it made everything so much easier to find especially during SACs and exams when time is of the essence.
 - **Make your explanations brief:** Your notes should be as brief as possible and only contain what you need or you'll be bogged down during assessments.
 - **Include lots of examples:** I believe that examples in maths serve as a much better explanation than long sentence description. I would make all my examples in blue so they would stand out from the other notes and you can put little explanations in the margin. I also suggest you leave a few pages after each major topic – I'd use this space to write more challenging questions that I had difficulty with in case I encountered a similar question.
 - **Have tips on how to use your graphic calculator:** You can use CAS calculator in a plethora of ways. I would write out the syntax for common question types. Your textbook should have sections on how to use your calculator, which you can copy.
 - **Have fun making it:** This summary should be uniquely tailored to you and your style. Choose the colours you want to use and set it out in a way that appeals to you.



How to revise for exams

- ▶ **Be familiar with your graphic calculator:** As mentioned above, you should have guides in your summary book in case you get dazzled in the exam. You should be using the same graphic calculator throughout the year so that when exam time rolls around you know how to tackle questions.

- ▶ **Practice, practice, practice exams:** You've probably heard about practice exams a million times by now, but let me tell you, they are a godsend when you're studying for the exam. At the end of the day, 66% of your specialist mark is going to be your exam result. So, what better way to study for this exam than by doing exams yourself.
 - I started doing practice exams a month out from the actual one which gave me plenty of time to revise. You can do this really easily on Studyclix.
 - Try and do them under timed conditions, so you are really simulating the exam environment. Of course, it will be hard when you get started so give yourself some leeway until you get settled into it.
 - I recommend you do at least 10 practice exams starting with the recent VCAA papers, followed by company ones and finally older VCAA papers.
 - If you do an exam 1, do the corresponding exam 2. Get equal exposure to both exam types.



- ▶ **REVIEW exams with sample answers and assessor’s report:** Now, even though I suggested doing 10 or so exams before, I have to repeat the age-old mantra “Quality OVER Quantity”.
 - Completing your exams is only part of the job! After each exam, I made sure to open up the corresponding examination report, which shows you exactly what the assessors are looking for. So, if there is a definition or explanation provided it is a good idea to make note of it.
 - There are also some awesome YouTube videos out there of people going through the exam with full working out which I found super helpful.
 - I would also mark my exams harshly (as examiners will surely do) so please don’t say “I would’ve said that” as you’re marking, because you actually didn’t.
- ▶ **Record everything:** I recorded every exam I did in a logbook. You can just create a spreadsheet or a table to fill out like the one I’ve made below. This really helped to see my progression as the exam day loomed closer and closer.

Date	Exam	Mark	Notes
DD/MM/YYYY	2015 VCAA Examination	87/93 94%	1. <u>Mark scheme:</u> This is an indication of how many significant points you need to make! 2. <u>Misreading the question:</u> underline key words when reading the question and don’t move on without reading the question again 3. <u>Silly mistake:</u> Proof-read your exam to pick up on these slip ups 4. <u>Forgetting correct notation:</u> Include the correct notation in your notes so you don’t forget again.



Exam Day

▶ **You will have 2 exams for specialist. One with a calculator and one without.**

- 1) Use the reading time to get a feel for what topics are covered and how you will approach the questions.
- 2) Plan your time before going into the exam. I suggest you play to your strengths first and come back to topics you have trouble with.
- 3) Put aside 10 minutes at the end to check through your exam. I was notorious for making silly mistakes throughout the exam so this part is crucial.
- 4) Do NOT get caught up too long in a question. Rather move on and try and get as many marks as you can in the time available.

▶ **Exam 1:** The first exam seemingly has the same structure every year. The questions start off easy and get more difficult as you progress. You should be able to smash out the first 3 or 4 questions quite quickly and spend most of the time on the remaining questions which are more involved. Just remember that the questions may look strange, but they are the same basic mathematical principles you have been learning throughout the year. It's ok to sometimes start again and try a different approach (keeping time in mind of course).

▶ **Exam 2 Multiple choice questions:** The specialist exam comes with 20 multiple choice questions with some being quite tough. Your best friend when it comes to them is your graphics calculator. If you are familiar with how to use it, you should whiz through most of these questions! Just remember while you're staring at the question, scratching your head, the answer is staring right back at you so if worse comes to worst, make an educated guess.



► Short answer questions tips

- How to graph: If the question asks you to label key features, label as much as you can to get full marks. With restricted domains, if the value is included use a closed dot, if not you use an open dot. Asymptotes should be labeled with the equations ($y=?$ or $x=?$). Your graph should approach the asymptote very closely but never touch.
- Hence questions: use the answer you obtained from the previous question.
- Show that question: You must show all of your working out. It's tempting to just plug everything into a calculator and get the answer but you'll only result in you getting one mark.
- Some extra tips: Your answers should always be in exact form unless otherwise stated. Write dx after the expression when differentiating and integrating. Don't forget the $+c$ when integrating. Remember $+$ or $-$ when square rooting.



Some Final Tips

- ▶ Use your teachers: Teachers are walking fountains of knowledge – having marked hundreds of SACs and exams, they know what they’re talking about. I’d recommend you build a strong working relationship with your teacher and ask questions when you need to – even if the questions seem a bit silly, your teachers are there to help.
- ▶ Help and be helped by your friends: Having study buddies is equally important, whether it is making a group chat or meeting up once a week to go through concepts you are having difficulty with. I always found trying to teach a concept to someone else to be the single best revision technique because you really need to understand to make someone else understand too!
- ▶ Enjoy Specialist: Even though the words maths and enjoy are hardly ever used together by students, I’m here to tell you that maths can be enjoyed. Working methodically and getting to the right answer with grit and determination gives you a feeling of elation like no other. Having fun with this fascinating subject will result in you appreciating what you’re learning, and this positive attitude will allow you to excel.





Finally, I would like to wish you the best of luck in the exam! You will be great.

