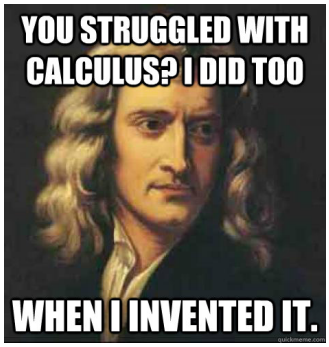
NCEA Level 3 Calculus
Exam Advice

Now is the time when I pass on my exam-taking wisdom in bullet-point list form.

- Don't cram the night before the exam. Get a good night's sleep and have a proper meal for breakfast.
- Prepare your exam bag the night before. Know the earthquake procedures and have an emergency pack.
- Stay calm and be confident.
- If you forget how numbers work, try counting your fingers and work upwards from there. (Quality advice from a former Scholarship candidate.)
- Draw a diagram if one isn't given.
- Don't study by reading examples, study by doing problems.
- Read through all the questions before attempting any of them.
- Have a problem-solving strategy.
- Begin by working out the part of the standard the question is asking about.
- Show all your work.
- Never leave a problem blank.
- If you're stuck, move on and do another question.
- Write sentences, not symbols. Use correct spelling, grammar. and punctuation??!
- **If the question gives you a hint, there's probably a reason for that!**

Scholarship exams especially are a competition between you and the examiner. They want to impress you with the difficulty of the questions that they throw at you, **but you can meet that challenge.** There is nothing that they can chuck your way that cannot be done with level three material (because they're not allowed to), and so the way to get through a scholarship question is usually to work methodically.

Remember that mathematics is difficult, and that it took hundreds of years for humanity to discover the concepts and techniques which you will apply in the three hours of an NZQA external examination.



Study Skills for Mathematics

(From the University of Cambridge)

[Examinations are] designed to test your knowledge of the courses you have attended rather than your ability to jump through mathematical hoops. Nevertheless, strategy matters. Extreme marks (either high or low) are available in mathematics examinations, which means that playing the cards you hold to best advantage is of vital importance.

Here are some thoughts; you've heard them all before, but that does not make them any less worth saying. The examinations may besome way off, but you will find that good examination technique can be acquired over the course of the year by making suitable preparations and developing good habits. (For example, the first two points assume that your year's work is in good order.)

- For revision, work through examples while reading the relevant section of your notes (just reading is not enough).
- For last minute preparation, look through your supervision work to remind yourself how to do questions.
- In the examination, above all, stay cool — if it is hard for you, it is probably hard for everyone.
- Don't rush into a question — read the whole paper carefully and start with the question you feel most confident about.
- Analyse exactly what you are being asked to do; try to under- stand the hints (explicit and implicit); remember to distinguish between terms such as explain/prove/define/etc.
- Remember that different parts of a question are often linked (it is usually obvious from the notation and choice of variables).*
- Set out your answer legibly and logically (don't scribble down the first thought that comes into your head) — this not only helps you to avoid silly mistakes but also signals to the examiner that you know what you are doing (which can be effective even if you haven't the foggiest idea what you are doing).
- If you get stuck, state in words what you are trying to do and move on (at E-level, you don't get credit for merely stating intentions, but university examiners are generally grateful for any sign of intelligent life).

* This is less relevant for modern NCEA examinations (even the last 2-3 Scholarship exams).