# Last Minute IB Maths Exam Advice

**Dr. William J. Larson - http://MathsTutorGeneva.ch/**

- Get at least 8 hours of sleep the night before. If after 13 years of math, you don't know it now, another 2 hours of cramming won't help.
- Be hydrated and have eaten something.
- Show up early for the exam (plan on bad traffic).
- Make sure your calculator is charged, especially for the TI-Nspire.
- You may have a backup calculator, even a scientific calculator, if you like.
- Focus. For the duration of the exam nothing matters except the exam.
- Don't get stuck on a hard question. Move on. Get to the end of the test. Then go back and try the questions you skipped.
- Mark questions with their status, e.g. **D** means completely done; **I** means incomplete; **X** means no idea.
- Ask yourself if your answer could be correct, e.g. probabilities must be $0 \le p \le 1$, compare the length you found with the other lengths in the problem, lengths & areas must be positive.
- After you think you are "done", reread the question. Maybe it says:
  - "Find the solution**S**" and you found only one.
  - "$x < 0$" and you are reporting a solution with $x > 0$.
  - "$n \in \mathbb{Z}$" and you are reporting a solution with $n \notin \mathbb{Z}$.
  - "to the nearest degree" and you are reporting to 3 sf.
  - "Report in the form $a + b\sqrt{3}$" and you are not doing so.
- Bring a "crib sheet" of formulas not in the formula booklet, but that you need to know, to look at *one last time* just before the exam.
- If $x^2 = k$, $x = \pm\sqrt{k}$ . Don't forget the plus/minus!
- There is no need to simplify unless the question requires it. However any values that lead to integers should be simplified; for example, $\sqrt{\frac{25}{4}}$ should be written as $\frac{5}{2}$. $\frac{10}{4}$ may be left in this form. However, $\frac{10}{5}$ should be written as 2, as it simplifies to an integer.
- Check degree vs. radian mode before every trig question. If the problem does not involve trig, degree vs. radian does not matter.
- The answer to one part of a question might be needed to answer a later part.
- If it says "show" in part a) and you cannot do so, don't quit. Move on to part b) to use what you were supposed to show.
- Remember the integrating constant, *c*.
- If your calculator does not show the "*r*" value, in MODE set STAT DIAGNOSTICS: ON.
- Nothing should be crossed out unless another version has been added.
- Before the exam you get a 5-minute reading time to look at the questions. Use it. For section B questions, decide which one you will answer first. Plan to start with the ones that seem easier.
- In AA paper 2 if you can't find an answer using algebra in two steps, graph it and find the intersection.
- Unless it says otherwise, report your answer rounded correctly to 3 significant figures.
- You are penalized once per paper for not including the units like area, distance, or speed in your answer.
- Draw a sketch to help understand what is going on.
- After Paper 1, think about topics that were not covered. They are likely to be on Paper 2.
- The Answer to the Ultimate Question of Life, the Universe, and Everything is 42.

Actually this advice is useful for most math tests.
Good luck! Don't Panic!

# Command Terms

**Hence** Use the preceding work to obtain the required result.

**Hence or otherwise** It is suggested that the preceding work is used, but other methods could also receive credit.

**Justify** Give valid reasons or evidence to support an answer or conclusion.

**Prove** Use a sequence of logical steps to obtain the required result in a formal way.

**Show that** Obtain the required result (possibly using information given) without the formality of proof. You may **not** begin with the fact to be shown. "Show that" questions do not generally require the use of a calculator.

**Verify** Provide evidence that validates the result. This can involve just substituting something in.

**Sketch** Represent by means of a diagram or graph (labelled as appropriate). The sketch should give a general idea of the required shape or relationship and should include relevant features. Do not draw outside the given domain.

**Draw** Represent by means of a labelled, accurate diagram or graph, using a pencil. A ruler (straight edge) should be used for straight lines. Diagrams should be drawn to scale. Graphs should have points correctly plotted (if appropriate) and joined in a straight line or smooth curve.

**State** Give a specific name, value or other brief answer without explanation or calculation. Working does not need to be shown.

**Write down** Obtain the answer(s), usually by extracting information from the question or a previous part. Little or no calculation is required. Working does not need to be shown.

# Instructions

**Rounding**: first write down the answer to 5sf and then give the rounded answer. For HL if you need the value in a later part of the question, use the 5sf version or the exact version. Unless otherwise stated in the question, all numerical answers should be given exactly or correct to three significant figures, except money should be given to 2dp, e.g. to the nearest cent.

Units are required, but rarely worth a mark.

Full marks are not necessarily awarded for a correct answer with no working. Where an answer is incorrect, some marks may be given for a correct method, provided this is shown by written working. Answers must be supported by working and/or explanations. If a question is worth only one mark, it's just for the correct answer. If a question is worth more than one mark, show your method.

Solutions found from a graphic display calculator should be supported by suitable working, for example, if graphs are used to find a solution, you should quickly sketch these as part of your answer.