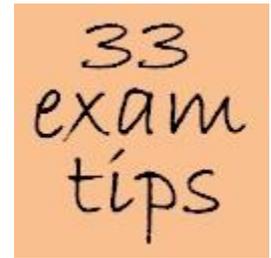# 33 exam tips / advice / information - Maths SL & HL

1. Do not give up too easily on a question. Sometimes it is a good idea to move on to another question and return later to one that you found difficult.

2. Time management is very important during the examination and too much time spent on a difficult question may mean that you do not have enough time to complete other questions.

3. If you make a mistake draw a single line through the work that you want to replace. Do not cross out the work until you have replaced it with something you consider better.

4. Include relevant explanations / notes with your algebraic work.

5. Do not try to save time by taking algebraic shortcuts. Be careful with algebraic manipulations.

6. It is best to make diagrams and graphs large – clearly drawn with all appropriate labels.

7. If an exact answer is not too difficult or tedious to obtain then it is best to give the exact answer. Otherwise give an approximate answer to an accuracy of three significant figures.

8. Check for key words/phrases – such as "hence", "show that", "write down", etc. Underlining key words/phrases when you first read a question can be helpful.

9. Questions with the phrase "show that" give you the answer and ask you to show how the answer is obtained from the given information – be clear and complete. Do NOT work backwards – that is, do not start with the answer and work back to the given information. Since the answer is given to you, your work will be marked only for 'method' and 'reasoning'. Hence, you should expect to include some words of explanation with your working.

10. Exam questions are often written in a way so that, even if you cannot get the answer to one part, you can still answer later parts. This is especially true for Section B (extended-response questions).

11. Be completely familiar with the course formula booklet. You are given a 'new' copy of it when you take the exams. You cannot take your own copy into the exam.

12. When answering a trigonometry question, be sure to check that your calculator is set to the correct angle mode – degrees or radians.

13. Be familiar with common error messages that your calculator may display.

14. Graphs displayed on a GDC may be misleading – so make sure that what you see makes sense. [GDC: graphical display calculator]

15. Be sure your GDC has new batteries for the exam.

16. Questions in each section (Section A and Section B) are *roughly* in order of difficulty. Therefore, questions #1 and #2 in Section A should be easier than the questions near the end of Section A. Likewise, the first question in Section B should be easier than the last question in Section B.

17. Questions in Section A (short-response questions) are generally testing you on only one or two syllabus items.

18. Questions in Section B (extended-response questions) are generally testing you on two or more syllabus items. The question will always have multiple parts and often results from one part may be needed in a later part.

19. Since you are not allowed a GDC on Paper 1 the questions on this exam will focus on analytic / algebraic / 'thinking' solutions. Be extra careful with arithmetic and algebraic computations because you're not able to do a check with your GDC.

20. On Paper 2, if you solve an equation by means of a graph on your GDC you must provide a clearly labelled sketch of the graph in your work – and indicate exactly what equation you solved on your GDC.

21. Even though a GDC is "required" on Paper 2, do NOT assume that you will need to use your GDC on every question on Paper 2; or every part of every question.

22. Do NOT use any calculator notation in your written solution. For example, if you are computing the value of the derivative of function f for $x = 2$ on your GDC, do NOT write nDeriv(Y_1,X,3)=6. You should write $f'(3) = 6$ or $\dfrac{dy}{dx} = 6$ when $x = 3$. Other examples include not writing down calculator commands for statistical computations, such as normalcdf and invNormal.

23. If you do use your GDC to obtain an answer for a question on Paper 2, be sure that you clearly write down the appropriate mathematical 'set-up' for the computation you will perform on your GDC.

24. There will definitely be some questions on Paper 2 where it will be more efficient and easier to find the answer by using your GDC rather than an analytic/algebraic method. After reading a question on Paper 2, you need to ask yourself is whether using a GDC is appropriate in helping to find the solution. Do not lose valuable time by choosing to answer a question using a tedious analytic method when you could get the answer quickly by using your GDC.

25. There are certain kinds of questions that will NOT appear on Paper 1. Examples include calculations of binomial coefficients in algebra and finding the standard deviation of a data set. Questions like this will only appear on Paper 2.

26. In trigonometry, you are expected to be familiar with the characteristics of the sin, cos and tan curves (include reciprocal trig functions for HL), including knowledge of the sin, cos & tan ratios of $0°, 30°\left(\dfrac{\pi}{6}\right), 45°\left(\dfrac{\pi}{4}\right), 90°\left(\dfrac{\pi}{2}\right)$ and multiples of these values.

27. Not all questions on Paper 2 will necessarily require the use of a GDC. There will be questions where a GDC is not needed and others where its use is optional. There will be some questions that cannot be answered without a GDC.

28. Do not skip doing easy simplifications. For example, do not leave an answer of $\frac{6}{2}$ or $\sin 90°$.

29. It is very important to clearly show your work for each question on both Paper 1 and Paper 2. Correct answers without sufficient working may not earn full marks. Trying to use a correct method, even if you do not get the correct answer, will often earn you some method marks.

30. Your exam paper is marked by a teacher (hired by the IB as an 'examiner'). The examiner is looking to give you marks, so make his/her job easier by writing your solutions clearly and completely. It's always worth making an attempt to show some reasonable work for a question. You cannot lose marks for incorrect work.

31. Your work for questions in Section A must be written on the same page as the question. You may continue your solution below the dashed lines.

32. Your work for questions in Section B must be written on separate answer sheets. You must start the solution for each question in Section B on a new answer sheet.

33. Eat breakfast !