EXAMINER TIPS For AS and A Level Mathematics 9709

How to use these tips
These tips highlight some common mistakes made by students. They are collected under various subheadings to help you when you revise a particular topic.

General Advice
- Three figure accuracy (3.s.f.) is required in questions where no accuracy is specified unless angles are involved when one decimal place accuracy is required.
- To achieve three figure accuracy in your **answer** you will have to work with at least four figures in your working throughout the question.
- 'Over accuracy' is not usually penalised. However, if the question *does* specify an accuracy level then you must keep to it for your final answer, over accuracy here will be penalised.
- There are some questions which ask for answers in EXACT form. On these questions you must *not* use your calculator to evaluate answers. For example, any square roots must be left, but simplified, in your final answer.
- You are expected to have the use of a scientific calculator on all examination papers.
- Make sure you check that your calculator is in degree mode when you are working in degrees, and in radian mode when you require or are given angles in radians.
- You are advised to show as much working as possible as marks are awarded for the working.
- It is particularly important to show all your working on a question where you are working towards a given answer. Marks will not be gained if the examiner is not convinced of the steps in your working out.
- Read questions carefully. Misreading a question can cost you marks.
- Write clearly. Make sure all numbers are clear, for example make sure your '1's don't look like '7's.
- If you need to change a word or a number, or even a sign (+ to – for example) it is best to cross out and re-write it. Don't try to write over the top of your previous work. If your alteration is not clear you will not get the marks.
- If an answer is given (i.e. the question says 'show that…'), it is often because the answer is needed in the next part of the question. So *use it*, if you haven't got an answer you might still be able to carry on with the question and if you have an answer but it is incorrect don't continue the question with it, change to the answer given.
- Make sure you are familiar with all the standard mathematical notation that is expected for this syllabus. Your teacher will be able to advise you on what is expected.

General Tips

- Although there is no 'choice' of questions offered on any of the AS/A level papers, you do not have to answer the questions in the order on the question paper. You don't want to spend time struggling on one question at the expense of leaving out a question that you could have done and gained marks for.
- Check the number of marks for each question/part question. This gives an indication of how long you should be spending on each question. You don't want to run out of time by spending too long on some questions and running out of time at the end. A good rule of thumb is to aim for gaining 'a mark a minute'.
- As long as you are not running out of time, don't 'give up' on a question just because your answers are starting to look horribly wrong. There are always marks available for the method used. So even if you have made a numerical mistake you could still gain method marks.
- Don't cross out anything until you have replaced it – even if it is wrong numerically, again, there may still be method marks to gain.
- There are no marks available for stating a method or a formula. The method has to be executed, or the formula used by substituting values in.
- Always look to see if your answer is 'reasonable'. For example if you had a probability answer of 1.2, you would know that you had made a mistake and you would need to go back and check your solution.
- Check the formula book before the examination. You must be aware which formulas are given and which ones you will need to learn.
- Make sure you practice lots of past examination papers so that you know the format and the type of questions. You could also time yourself when doing them to give you a guide line of how quickly you will need to work in the actual examination.
- Presentation of your work is important – don't present your solutions in the examination in double column format.
- Make sure you know the difference between three significant figures and 3 decimal places, and make sure you round answers rather than truncate.

Tips for P1 and P3

- Make sure you know all the formulas that you need (even ones from IGCSE). If your formula is incorrect you will score no marks.
- Check to see if your answer is required in exact form. If this is the case on a trigonometry question exact values of sin 60 etc will need to be used.
- Make sure you know the exact form for sin 60 etc. They are not in the formula booklet.

Tips for M1 and M2

- You must use $g=10m/s^2$ (unless the question states otherwise).
- Always draw clear force diagrams when appropriate, whether the question asks for one or not.
- Make sure you are familiar with common words and phrases such as 'initial', 'resultant', and know the difference between 'mass' and 'weight'. (Go through some past examination papers and highlight common words and phrases. Make sure you know what they mean.)

Tips for S1 and S2

- There will be many answers that are probabilities. So, as mentioned above, make sure your answers for these are between 0 and 1.
- Many answers will be probabilities and therefore decimal, it is important that you know the difference between 3.s.f. and 3 d.p. For example 0.03456 to 3.s.f. is 0.0346 but to 3.d.p. is 0.035. A final answer of 0.035 would not score the accuracy mark as it is not correct to the level of accuracy required.
- There may be a question that asks for the answer 'in the context of the question'. This means that you cannot just give a text book definition, your answer must relate to the situation given in the question.
- When answering a question about a Normal Distribution, it is useful to draw a diagram. If you are finding a probability, a diagram will indicate whether your answer should be greater than or less than 0.5. Your diagram could prevent you making an error.