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ONLINE SUPPORT SYSTEM FOR JC & LC MATHS

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# Maximise Your Maths Grade!



**Exam Technique for Success  
in the Junior Cert  
and Leaving Cert Exams**

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## Introduction

We've created this guide to help you to understand the structure of your maths exam, and to show you some very practical ways to maximise your maths grade!

As you can see in the Table of Contents, we cover a number of areas. There's a lot of information and advice to take on board, so please don't try to do it all in one go! We suggest that you focus on one idea at a time, and dip into this guide regularly throughout the year.



We also advise you to start right-away to apply these ideas to your homework, revision and tests. This will help you to get into good habits which will become second nature to you by the time you sit your exams.

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**Please note:** this guide focuses on exam technique for Irish second level maths students. It doesn't deal with the fundamentals of how to learn and practise maths, to improve your understanding and skills. Check out [www.themathstutor.ie](http://www.themathstutor.ie) to find out more about that!

If you know someone else who would benefit from this guide, please let them know about it. It's available to buy at selected bookshops, or online at [www.themathstutor.ie/booklet](http://www.themathstutor.ie/booklet).

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## Exam Structure, Mark Allocation & Time Management

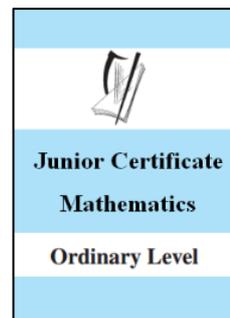
It's very important to understand how the exams are structured, and how the marks are allocated for each question. Your time management approach will be based on this.

Exam structure and mark allocation have changed with the roll-out of the Project Maths syllabus, and they differ, depending on which exam, and which level, you are sitting.

**It's a little bit complicated, but don't worry! We'll explain it as simply and as clearly as possible in the sections below.**

Make sure to read the correct exam/level section below that is relevant to you. Also, please bear in mind that some of the older past exam papers had a different structure than the current exam papers.

## JUNIOR CERT (ORDINARY LEVEL)



### Paper 1 and Paper 2 - (2 hours each)

The following are the timing instructions found on the exam paper:

*“There are [x] questions on this examination paper. Answer **all** questions.*

*Questions do not necessarily carry equal marks. To help you manage your time during this examination, a maximum time for each question is suggested.*

*If you remain within these times you should have about 10 minutes left to review your work.”*

**Time Allocation:** The number of questions on the exam paper will vary from year to year, from around 10 to 18 questions. The suggested timings will also vary, and will typically be 5, 10, 15 or 20 minutes.

It can be tricky to manage your time in this way, but given that the mark allocation per question is unknown, there is no real alternative to this approach.

So we recommend that you follow the timings as given on the exam paper.

We strongly advise you to practise past papers and sample papers of this type to get used to this kind of time management. Try doing a full paper under exam conditions and with a time limit of 2 hours, and see how that goes for you.

It is essential that you answer all questions, so make sure you do not run out of time.

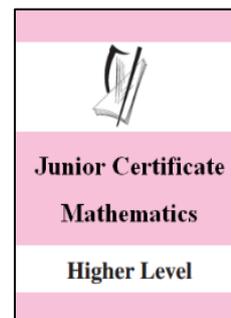
**Mark Allocation:** Part a) is usually easier than part b) which in turn is usually easier than part c) etc. However, there is no fixed allocation of marks across parts a), b), c) etc.

Don't assume that the later parts of the question will carry the highest marks. Marks may possibly be allocated more heavily towards the earlier parts of some questions. However, this is not decided until the final marking schemes are approved by the chief examiner, long after the exams are over.

You simply can't make any assumptions about where the marks will be allocated!

So the recommended approach is to take care to pick up all marks on the easy stuff, and if something seems difficult, at least have a go at it. “Attempt” marks can contribute a lot to your grade.

## JUNIOR CERT (HIGHER LEVEL)



### Paper 1 and Paper 2 - (2.5 hours each)

The following are the timing instructions found on the exam paper:

*“There are [x] questions on this examination paper. Answer **all** questions.*

*Questions do not necessarily carry equal marks. To help you manage your time during this examination, a maximum time for each question is suggested.*

*If you remain within these times you should have about 10 minutes left to review your work.”*

**Time Allocation:** The number of questions on the exam paper will vary from year to year, from around 10 to 18 questions. The suggested timings will also vary, and will typically be 5, 10, 15 or 20 minutes.

It can be tricky to manage your time in this way, but given that the mark allocation per question is unknown, there is no real alternative to this approach.

So we recommend that you follow the timings as given on the exam paper.

We strongly advise you to practise past papers and sample papers of this type to get used to this kind of time management. Try doing a full paper under exam conditions and with a time limit of 2.5 hours, and see how that goes for you.

It is essential that you answer all questions, so make sure you do not run out of time.

**Mark Allocation:** Part a) is usually easier than part b) which in turn is usually easier than part c) etc. However, there is no fixed allocation of marks across parts a), b), c) etc.

Don't assume that the later parts of the question will carry the highest marks. Marks may possibly be allocated more heavily towards the earlier parts of some questions. However, this is not decided until the final marking schemes are approved by the chief examiner, long after the exams are over.

You simply can't make any assumptions about where the marks will be allocated!

So the recommended approach is to take care to pick up all marks on the easy stuff, and if something seems difficult, at least have a go at it. “Attempt” marks can contribute a lot to your grade.

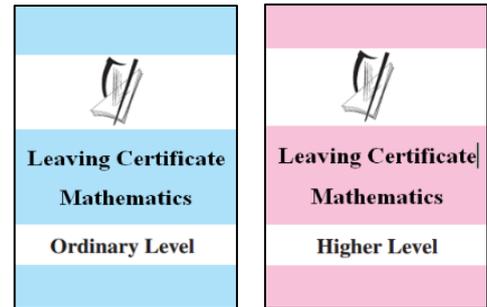
## LEAVING CERT (ORDINARY AND HIGHER LEVEL)

### Paper 1 - [Project Maths] - (2.5 hours each)

There are two sections on this paper:

<b>Section A</b> Concepts and Skills	150 marks	6 questions
<b>Section B</b> Contexts and Applications	150 marks	2, 3 or 4 questions

You must answer all questions.



### Paper 2 - [Project Maths] - (2.5 hours)

Again, there are two sections on this paper:

<b>Section A</b> Concepts and Skills	150 marks	6 questions
<b>Section B</b> Contexts and Applications	150 marks	2, 3 or 4 questions

You must answer all questions.

### Time Allocation – a Simplified Approach

The basic idea is to divide your time roughly in proportion to the marks allocated.

Section A questions usually have 25 marks allocated to each of them. In the past, section B questions usually had 50 marks or 75 marks allocated to them. However, it is now clear that they can also have 30, 35, 40, 45, 60, 70 or other amounts of marks allocated. This makes time management a bit trickier.

Our recommendation is to keep it simple - you really don't want to spend too much effort on time management during the exam.

Our suggested simplified approach would be to use the following rule of thumb:

**divide the marks allocated to the question by 2, and then subtract 2.**

This will give you the approximate number of minutes to spend on a given question, and will also give you about 15 to 20 minutes of a "cushion".

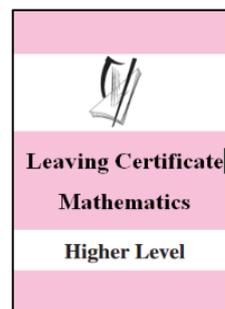
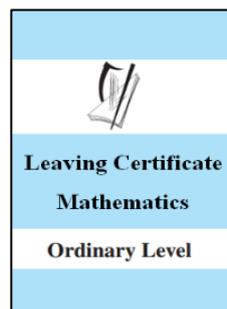
So, for a 40 mark question, you would allow around 18 minutes, and so on.

This approach will leave you with around 10 to 15 minutes at the end, to allow you to go back over your answers, to check, correct and complete them. It also gives you a 'cushion' in case you over-run.

Practise by doing a full past paper under exam conditions, with a time limit of 2.5 hours.

## LEAVING CERT (O AND H) - CONTINUED

**Note 1:** Part a) is usually easier than part b) which in turn is usually easier than part c) etc. However, there is no fixed allocation of marks across parts a), b), c) etc.



Don't assume that the later parts of the question will carry the highest marks. Marks may possibly be allocated more heavily towards the earlier parts of some questions. However, this is not decided until the final marking schemes are approved by the chief examiner, long after the exams are over.

You simply can't make any assumptions about where the marks will be allocated!

So the recommended approach is to take care to pick up all marks on the easy stuff, and if something seems difficult, at least have a go at it. "Attempt" marks can contribute a lot to your grade.

**Note 2:** Each question in section B can be allocated a different number of marks, and therefore can have greater or lesser importance in your exam.

You should always roughly allocate your time per question based on the mark allocation given, according to our rule of thumb as described above.

Remember: overall, section B carries the same total marks (150) as section A, and so it should be allocated around half of the total available time.

**Note 3:** You may notice in some past papers that there was a choice given in Paper 2, between answering question 6A or 6B. This was the case up to 2014 only, but no longer applies. There is now a single question 6 which, like all other questions, is mandatory.

## Official Marking Schemes (All Levels)



Practising past exam papers is a very important aspect of developing good exam technique, and should be commenced as soon as possible.

You can find all the available [past papers](#) and [marking schemes](#), conveniently arranged on the [mathstutor.ie](#).

The official marking schemes are a useful resource for checking solutions when you practise past papers. They often show more than one acceptable method.

The marking schemes also show you how marks were allocated by the examiners across all parts of all questions in previous exams. But there's no real need for you to analyse this, as this is something that changes from year to year.

The main point to note is that it is not possible to predict the allocation of marks within a question, and in fact the allocation can vary hugely, and in unexpected ways.

As well as this, the Project Maths marking scheme is quite different from the marking schemes used in the past. There are 5 marking scales, with up to 6 categories per marking scale. It's a lot more complicated than the previous system.

**It's complicated, but don't worry about it! We'll help you to deal with it.**

First of all, don't get hung up on the details of these marking schemes. There's no need.

The key thing is to answer all required questions, make your best attempt even if you are unsure, and avoid the common simple errors.

The following sections of this guide will help you to prepare for the day of the exam, and will show you how to maximise your grade on the day.

If you follow this advice, and develop good habits based on these ideas and tips, then you will score well in your maths exam and you simply do not need to worry about the exact details of the marking scheme. Let's have a look at what you need to do!

## Pre-Exam Checklist – What to Bring



Ensure you have the following items ready for your exam:

- Mathematical set – ruler, set-squares, protractor, compass, pencil, eraser.
- Pens (blue or black, but NOT red!) for writing your answers.
- Pencils for drawing graphs
- Valid scientific calculator – make sure that it's working, that it's in the right mode and that the battery is not low. Ensure you are familiar with it and know how to use it for all the calculations you have to do, how to reset the calculator, and how to change mode etc.
- Highlighter pen (optional).
- Bottle of chilled water (optional).
- Chocolate or other small snack (optional).

## On the Day of Your Exam



You may find some (or all) of these simple suggestions helpful:

- Get to bed at your normal time (or not much later) the night before.
- Get up in good time so that you do not have to rush.
- Have a good breakfast or lunch that will keep you going, without making you feel drowsy.
- Get to the exam centre a little bit early – but not too early.
- Pass any spare time reading over some brief notes e.g. formulae, rules.
- Avoid engaging with anyone who is stressed or who will stress you. Do this by reading over some simple notes, or if you're into breathing or relaxation exercises, even better. It makes sense to use any technique that helps you to be calm, positive and focused.
- Go into the exam with a positive frame of mind that you will give 100% effort in the exam for the full duration of the exam, and that you are going to pick up every single mark that you can.

## Maximise Your Grade During the Exam

When your exam starts, your job is to score as highly as possible based on your current maths ability. So the idea is for you to squeeze as many marks as you can from the exam paper, in order to get your best possible grade on the day.

The following are some ideas, tips and strategies to help you to do that. You may already be aware of some of these, or find some of them quite obvious. That's OK – whether it's a new idea, or one you already know, make sure to use it in your exam.

### GETTING STARTED

1. Start by briefly reading through the paper to get a feel for what questions have come up and to decide in what order you will do the paper. If you like, you can jot down some very brief notes as you go along.
2. If you wish, you can start with your favourite question; this will help to settle any nerves that you may be feeling.
3. You can then continue with your next favourite etc.
4. Alternatively, it can be simpler to just start with question 1, and continue sequentially – it's really up to you. You should decide on your preferred approach from practising past papers, from doing class tests and from your “mock” exams.
5. Either way, you need to track your time spent per question right from the start. It's essential not to get bogged down or lose track of time.
6. Read your first question carefully, making sure you pick up on all the relevant information given. Then get stuck in and get that first question answered.

## PUTTING IT DOWN ON PAPER

1. Write reasonably clearly, work down the page and use a reasonable amount of spacing. You can always ask for more paper if you need it.  
Remember that for maths you will write in the exam paper booklet itself, not in separate answer booklets.
2. Show all workings within your answer – do not do ‘rough-work’ on a separate page.
3. Don’t use Tippex – instead, cross out any errors with a single line. You might get marks for the work you have crossed out, but not if it’s Tippexed.
4. If you solve a problem using a calculator, write out some or all of the steps taken – don’t just give the answer. This is to ensure you get marks even if you make a slip.
5. Give reasons for your answers if required. Some questions may have more than one valid answer, but you may be asked to justify the answer you give. It’s best to be clear and precise in your justification, but don’t be afraid to use “plain English” (or “plain Irish”) in your answer. And make sure **never** to leave a blank answer!
6. Drawing a diagram or even a basic sketch can often be very helpful to get started in tackling a question, and may secure a few “attempt” marks for you in any case.
7. Use your formulae and tables booklet – they include lots of useful information. (You need to get familiar with what is in it, and where, as soon as possible).
8. Ask for the formulae and tables booklet immediately in the exam, rather than having to wait once you discover that you need it.
9. The exam booklet has squared paper in the answer sections. Use this to help in drawing graphs, and make sure to choose a sensible scale when doing so.
10. Draw guidelines when reading values off a graph.

## AVOIDING ERRORS

1. Be careful with minus signs – probably the most common source of basic errors.
2. Don't try to do too much in one step – break it down into smaller steps.
3. If your workings seem to have become overly-complicated, check back in case you've made a slip. Perhaps you've made the question harder than it really should be.
4. Always feel free to check any calculation using your calculator.
5. In many questions, especially algebra, you can do checks on your answer to make sure you've got it right before moving on.
6. Ask yourself, using estimates and common sense – does this answer look right?  
If not, then re-check your work.
7. Give answers to the correct degree of accuracy as requested e.g. to 2 decimal places.
8. Make sure you answer the question you've been asked – check this before moving on.
9. If you have enough time, recheck all steps and your final answer.

## TIME MANAGEMENT

1. Don't rush – there's enough time to work carefully and steadily, but remember to follow your time management plan.
2. Don't get bogged down in one question – there are lots of marks to be gained in all the other questions, including some easy marks, so make sure you get to them.
3. Never **ever** leave a blank answer – always try to get at least some marks for attempting the question, even if you feel you have no idea how to answer it.

The only really 'stupid' answer is a blank answer!

ANY relevant facts, diagrams, sketches, formulae (even if copied from the formulae and tables booklet) with some substitution, or calculations should be written on the page to get “attempt” marks.

Precise use of mathematical language and notation is certainly preferable, but not always essential. In any case “plain English” (or “plain Irish”) answers are always much better than leaving a blank answer.

If you look at the official marking schemes, you will probably be surprised at some of the things for which the examiner awards “attempt” marks. Make sure you pick up these marks.

Remember, the examiner cannot award marks for blank answers, so give them something to put marks against. “Attempt” marks can add up to better grades!

4. Never **ever** leave an exam early. Use all of the time available to you. Make sure you have attempted all required questions. Check and correct all your answers.
5. When the time is up, walk out of the exam knowing you have achieved your highest possible grade on the day.
6. Have a brief post-mortem if you like, then clear your head and take a break – you've earned it! This will help you to move on and shift your focus towards the next exam – one step closer to the summer holidays!

## Using This Guide

We hope you've found this guide useful, and that you'll start to put it into practice from now on. There's a lot of detail in it, especially regarding the nuances of exam structure, but with so much change happening over the last few years, it's best to be aware of how it all really works. This puts you at a big advantage compared with most other students.

The main idea is to develop good habits based on these ideas. There are lots of suggestions to take on board, so please don't try to do it all at once.

Pick something that you know you really need to work on, and when this improvement becomes part of your way of working, pick the next one and work on that.

It's good to dip into this guide regularly to ensure you are still on the right track.

We suggest you tuck it into your maths book so you always have it handy.

Once you put these ideas into practice, you'll start to see a steady improvement in your maths on-going. By the time the exams come around, you'll be ready to "Maximise Your Maths Grade!"

Remember, if you ever have any questions about exam structure, exam technique, or maths in general, you can get in touch with us anytime via [themathstutor.ie](http://themathstutor.ie).

Please remember to tell your friends, family and teachers about this guide too.

## About Us

At [themathstutor.ie](http://themathstutor.ie), we love maths, technology, teaching and learning!

That's why, back in 2011, we created a new way for Irish students to learn maths, at home, at school and on the move. We now have thousands of students, teachers and parents using our online learning system every day, all over Ireland. We also work with schools directly, providing school licences to the most progressive schools in Ireland.

Ours is the only learning system completely designed to focus on the new syllabus, and the only one covering Junior Cert and Leaving Cert, at both Ordinary and Higher level.

<h3>Video Lessons</h3> <p>Learn at your own pace, any time that suits you</p> 	<h3>Interactive Exercises</h3> <p>Check your understanding and build up your maths skills</p> 	<h3>Online Support</h3> <p>If you get stuck, we're here to help you, 7 days a week</p> 
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We've had lots of very positive feedback from Irish students, teachers and parents – check our [Testimonials](#) page online to see what people are saying about the system.

And now that you know all about exam technique, visit [themathstutor.ie](http://themathstutor.ie) and find out more about the easiest and most effective way to master maths!

Talk to you soon,

Eamonn and the**mathstutor**.ie team.



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ONLINE SUPPORT SYSTEM FOR JC & LC MATHS

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