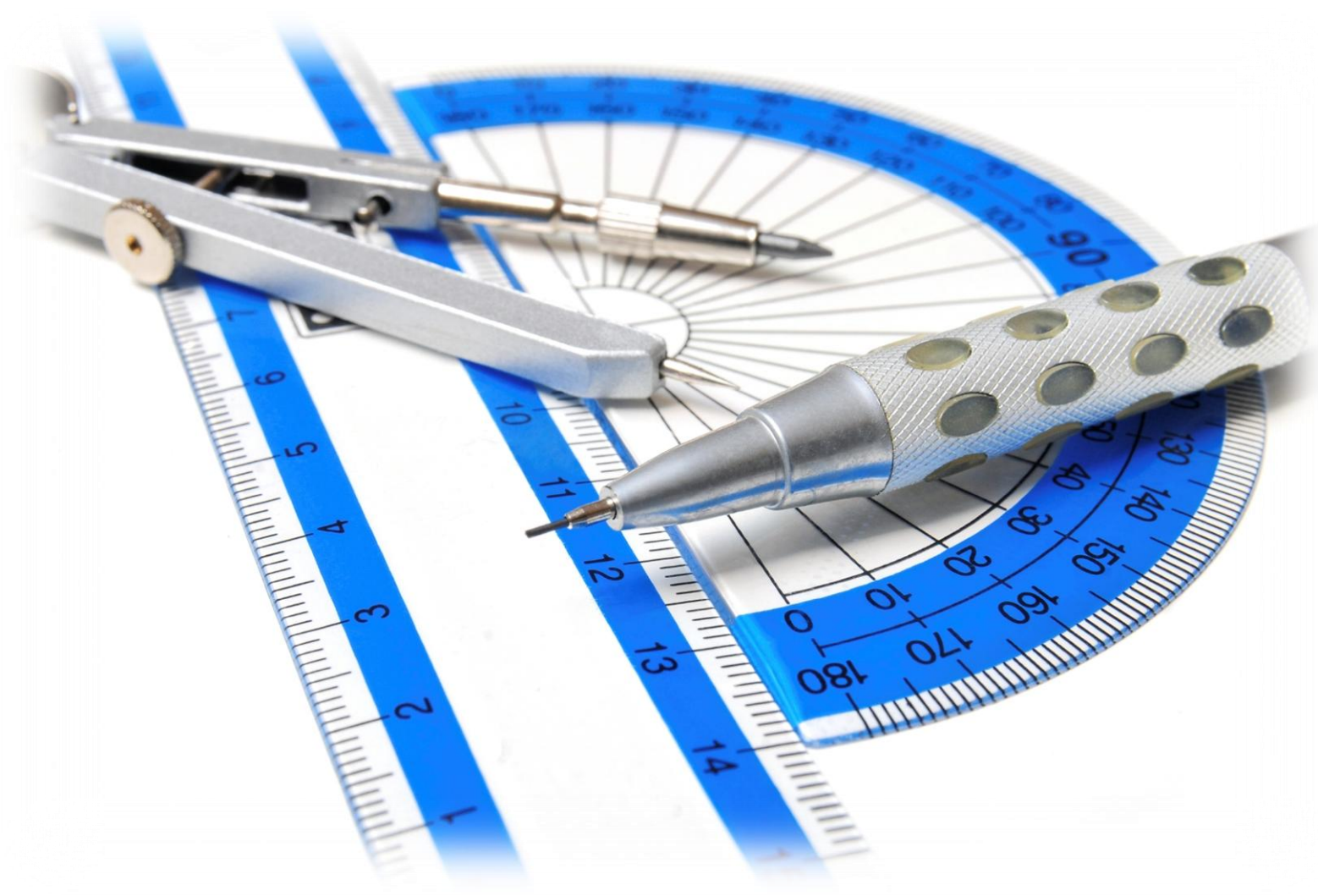


Achieve Your Target Grade In

# GCSE Maths

## In Four Weeks

Jeevan Singh



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This report does not guarantee nor imply guaranteed results in examinations. Results are dependent on your own efforts and experience. There is no guarantee that you will achieve your target grade using the techniques and ideas presented in this document. Results in examinations are entirely dependent on the person employing these techniques and ideas. Your level of success in attaining results similar to those in this presentation depends on the time you devote to the ideas and techniques mentioned. Since these factors differ according to individuals we cannot guarantee your success nor are we responsible for any of your own actions.

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## **Introduction**

### **Message from the Author**

I am Jeevan Singh; an author and maths specialist. I've studied mathematics for the best part of my life; from KS1 (age 5) right up to degree level (age 21). In June 2013, I graduated with a mathematics degree from a top university – Kings College London. Now one of my goals is to help younger students fulfil their maximum potential in this subject. For some people that might mean achieving a 'C' grade in the foundation paper. For others, anything other than an A or A\* would be considered a failure!

In this book, I'll be showing you the revision techniques that have worked for me. Using them I have managed to achieve top grades in my maths exams. When I was young, I formulated a unique approach to revision. This 'system' evolved almost by accident as I moved through my school studies. I know what works and what doesn't. I've learnt the hard way and I've got the results to prove it. The great thing about my approach is that it allowed me to ace my exams whilst doing the things I enjoyed such as playing Playstation, watching TV or hanging out with friends.

As mentioned, I've put my unique study/revision system to good use several times; from KS2 right up to degree level. Here are the results of some of those qualifications:

Qualification	Grade
KS3 (year 9)	8
KS4 (GCSE)	A*
KS5 (A-Level)	A*

As you can see I've got a pretty good track record – all thanks to the methods I've adopted to help me revise effectively. These are the exact same methods I'm going to share with you very shortly. It is really great knowing that you can pass your maths exam and achieve your target grade whilst still having the time to enjoy the things you love.

*"People say that you shouldn't cut corners in life. You should operate in the 'right' way. But who said cutting corners is a bad thing. If it gets you to where you want, with the results you expect, then why not? Whenever I approach an exam, I think to myself: 'how can I achieve my target grade in the most efficient way possible?' This is the first question that should cross your mind before you even begin revision. Once you've done that, then you should think about your strategy – how you're going to achieve whatever it is you want to achieve. If you approach it in this way, you can be sure to free up time to do things you love the most. Not only that, but you'll begin to enjoy revision too."*

*Jeevan Singh*

At the end of the day, it's all about finding out what works and then using that strategy to achieve your target grade in the quickest and easiest way possible. In that respect, I've done all the hard work for you and documented the best approach to adopt when studying for your maths exam – all you have to do is apply it.

## **Why Maths is the most Important Subject**

Maths is ubiquitous which means it's all around us. The book you are reading from now was made with certain dimensions and a particular shape. The length of this guide is 195 pages long – a number. Your maths exam will most likely last 1 ½ hours (time). Every object/activity in the world contains a certain degree of mathematics in it. This means almost every career you adopt in the future will involve maths at some point. Some career paths will involve harder maths concepts than others. For example, careers in actuary or engineering will involve more difficult maths concepts than a cashier at a bank per se.

As a matter of fact, 97% of jobs now require a pass (grade 5) in GCSE maths. Without a pass in GCSE maths, it will be very difficult to establish a future career path. Moreover, research by NIACE (National Institute of Adult Continuing Education) in 2010 found that adults with poor numeracy skills are more than twice as likely to be unemployed in the future. This goes to show how damaging it can be to your working life if you do not possess good maths skills. The government have picked up on this and in 2014, they raised the education leaving age to 17. This means students who fail to gain a pass in GCSE maths will continue to study the subject for another year. In 2015, this will be raised again to 18.

**As of September 2015, the GCSE grading system will change. The easiest way to understand the new grading system is by reading my report: The Best Way To Prepare For A Maths Exam.**

However, you shouldn't view a pass in GCSE maths as the end goal. Instead, you should aim for a better grade such as an 8/9. This is because the better you do at maths, the higher paid job you'll get in the future. As Elizabeth Truss, the former education minister, recently said: 'Studying maths brings higher economic returns than any other subject' and this was proven by Deloitte, a financial advisory firm; their study found that maths/science jobs have a salary of £76,000 on average compared to the national average of £36,000. You more than double your salary with a maths type job!

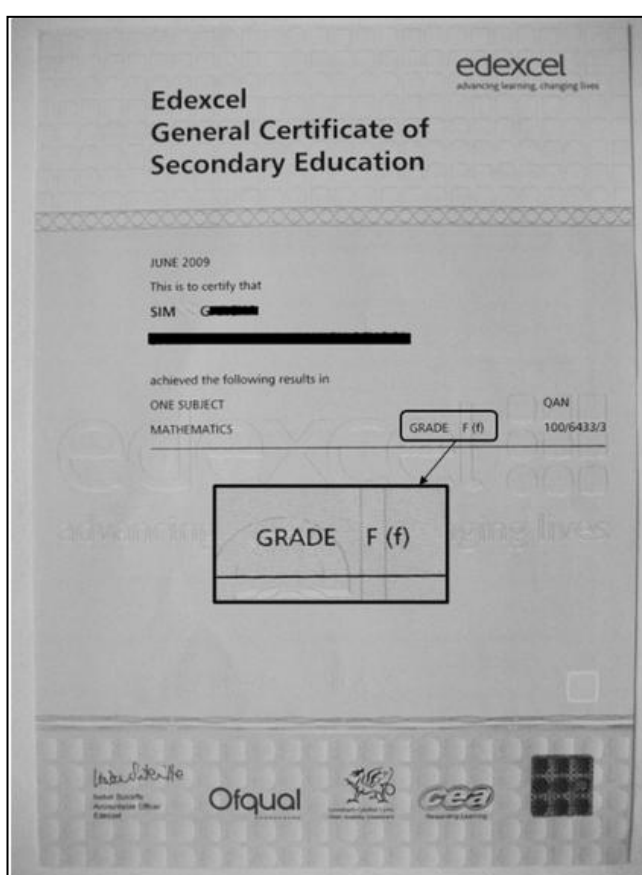
If your school has given you a target grade of '5', you shouldn't think this is the highest grade you can achieve. If you have this way of thinking, you immediately lower your expectations. That's why I advise all of my students to drop their target grade altogether. Pretend that it doesn't exist. Your aim should be to achieve 100% in the exam and why shouldn't it be? If you follow everything that is set out in this guide, especially the section labelled '*Tips for scoring 100% in the exam*', there is no reason why you can't score full marks. In the next section, you'll find case studies of students who have made a massive improvement in their maths after following my advice...

## Who this book is intended for?

This book is aimed at students who want to achieve their target grade in GCSE maths in a relatively short time period. This strategy will work providing that you follow what I say and put in the work when needed. As you already know, this revision system has enabled me to ace every maths exam I've taken. I've also shared this approach with dozens of other pupils and they've gone on to achieve phenomenal results. Here is what some students had to say about my unique revision system:

*"I achieved an 'F' grade the first time I took my GCSE maths. After following Jeevan's approach, I achieved 90% and then 100% in my next two sittings..."*

*S.G (West London)*



12/02/2013 Candidate History/Subject Results

**CONFIDENTIAL**

Candidate results history

Candidate search results  
Subjects for your selected candidate are shown below

Cand No	Name	Gender	DOB	UCI	ULN
[redacted]	[redacted] SIM	Female	[redacted] 1993	[redacted]	[redacted]

Units/modules for GCSE MATHEMATICS

Series Date	Entry Code	Title	Result	UMS/Points	Max
MAR 12	43601F	Mathematics Unit 1 Tier F	C(c)	49	55
JUNE 12	43602F	Mathematics Unit 2 Tier F	C(c)	69	69

Centre number [redacted]

Series Date	Entry Code	Title	Result	UMS/Points	Max
MAR 12	43601F	Mathematics Unit 1 Tier F	C(c)	49	55
JUNE 12	43602F	Mathematics Unit 2 Tier F	C(c)	69	69

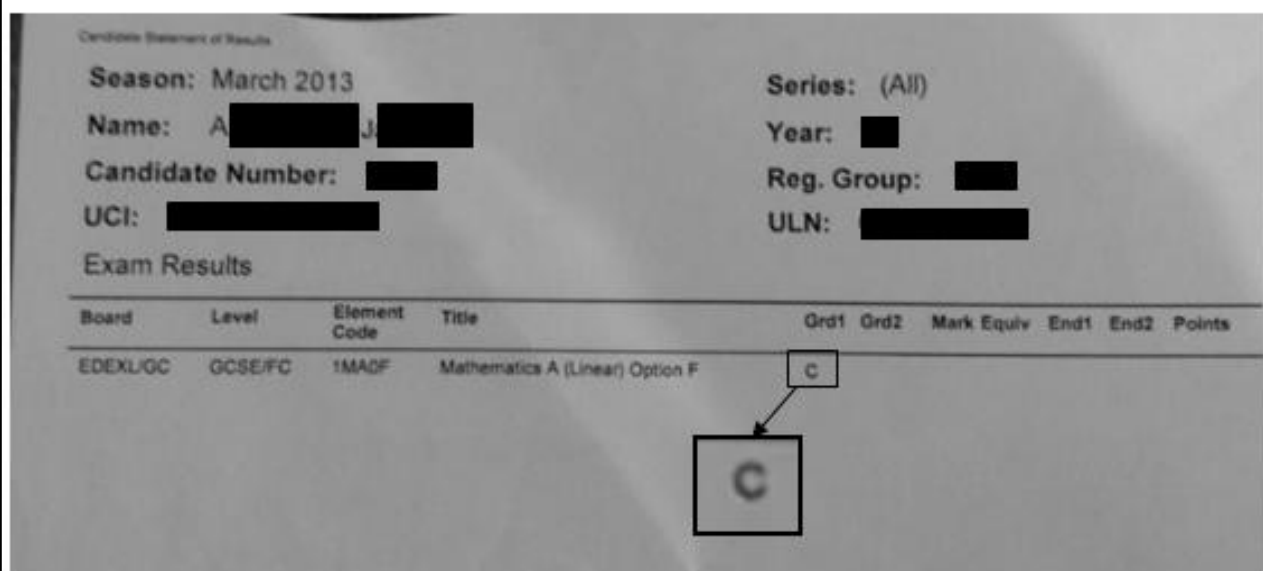
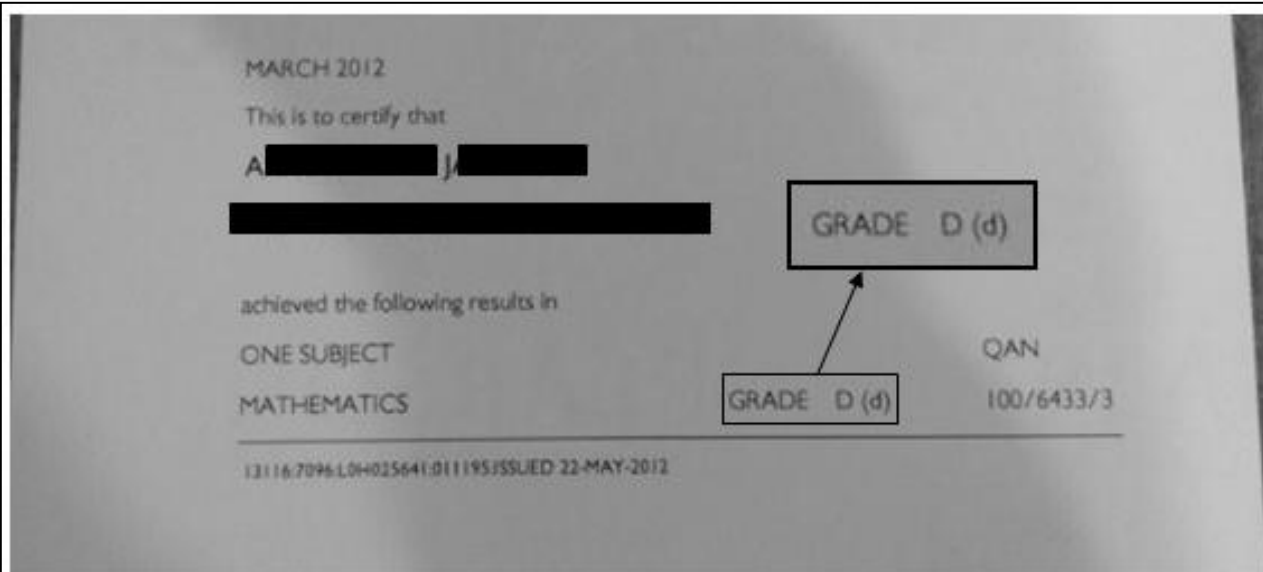
*"Even though I'm a KS3 student, I decided to give Jeevan's guide a try. It was one of the best decisions I made. He explains the key principles for exam success. When I applied his strategy, I went from a level 6A in maths to a level 8C and I'm only in year 8. I'm now regarded as a gifted individual..."*

*Zain Akif (Cheshire)*



*"I was one of those students who was making this 'silly mistake' repeatedly and not knowing I was making it. No wonder I failed my GCSE maths first time around. Once I'd addressed this mistake, I scored 90% in my next sitting..."*

*A.J (West London)*



*"This is not only far better than a private tutor but amazing value for money. I would have only got a few hours of a tutor's time for the same money. I am very grateful as this has turned my daughter's attitude to maths around – she now loves it and finds it easy..."*

*My other daughter, who is currently 14-years-old, has already begun your program. After going through your book and DVDs, she has moved up to the top set in maths. I have no doubt when she takes her GCSE maths in 2 years, she will achieve an A/A\* grade! Many many thanks for your help Jeevan!"*

*Alison Smith (Wiltshire)*

*"This guide really works... I followed Jeevan's advice and went from a 'D' grade to a 'B' grade in GCSE Maths in a matter of weeks..."*

*Mohammad Zafar (South East, UK)*

*"After a month of using Jeevan's program, I achieved a strong 'B' grade (a couple of marks off an A) in my next GCSE mock exam. I achieved the highest grade in my entire year group and I am now being considered to take my GCSE maths exam in November this year, where I would have just begun year 11. My teacher was surprised; how did I make such a big improvement in maths in such a short space of time?!"*

*Noah Daniel (West London)*

*"I am very grateful for Jeevan's program because it taught me many techniques on how to overcome common mistakes made in maths. Also, his revision strategy is unique because the same principles can be used in other subjects too and not only maths. Thank you Jeevan, your techniques are very useful!"*

*Sharon Tsungi (International Student, Mozambique)*

*"It is nothing like your usual revision guide because Jeevan's is a well-defined strategy; he shows you exactly what to do to achieve a top grade in GCSE maths, in a step-by-step format. He addresses issues such as how much time should be spent on revision, exam technique, tips for scoring 100%, motivation, freeing up 50% of your time etc. unlike a normal revision guide which is just packed with theory. The Video tutorials are great too because he teaches concepts both verbally and visually which is always helpful!"*

*Kimran Mann (West London)*

*"We didn't have maths lessons for around 6 months in year 10, so I fell behind quite rapidly, and I was getting below average in my GCSE mock exams... but this package has really boosted my knowledge in a matter of only two weeks! I am vastly improving in maths and I am confident, given that I follow Jeevan's principles, I will achieve an A\* in GCSE maths..."*

*In the end I achieved an 'A' grade in GCSE maths (summer 2014). I was a little disappointed in myself. However, considering the circumstances, I think I did pretty well. I am now taking A-Level maths at a grammar school and wanted to thank you for helping me along the way. You have inspired me to do well in this subject and I'm sure my 'A' grade will definitely help me to study Veterinary Medicine at a top University. Once again, thank you so much!"*

*A.O (London)*

*"Your strategy is spot on Jeevan. Your revision system helped me achieve a 'B' grade in maths last year. I used the same strategy again and together with your fantastic resources, I achieved an 'A' in my GCSE maths exam this year (2014). You have instilled the belief in me that I can do well in this subject. That's why I am planning to study it for A-level and make a career out of it! Thank you for all your support Jeevan!"*

*Temitope Ohiani (Kent)*

**The Business Academy Bexley**

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Candidate Statement of Results

**Season:** Summer 2014  
**Name:** Temitope Ohiani  
**Candidate Number:** [REDACTED]  
**UCI:** [REDACTED]

**Series:** [REDACTED]  
**Year:** 11  
**Reg. Group:** 11Y1  
**ULN:** [REDACTED]

**Exam Results**

Board	Level	Element Code	Title	Grd1	Grd2	Mark Equiv	End1	End2	Points
EDEXL/GC	GCSE/FC	1MA0H	Mathematics A (Linear) Option H						52

A → A

*"Your maths revision guide/strategies are fantastic! You have really opened my eyes as to where I've been going wrong all this time and what I should focus on going forward. I've also applied your methods to other subjects too such as Science and seen a vast improvement in terms of revision and progress. I cannot thank you enough for sharing your strategy! I am very confident that, providing I follow your plan, I will excel in my final GCSE exams next year and most importantly make my family proud! :)"*

*James Sadler (Nottingham)*

*"After failing my GCSE maths twice, my confidence was very low and I didn't think I could qualify for the PGCE. After running a Google search on passing GCSE maths, I came across Jeevan's revision system. The feedback it received looked very good so I decided to give it a try...*

*And it was one of the best decisions I've ever made. After going through Jeevan's guide, I managed to grasp the entire subject and I passed my next GCSE maths exam with ease. He (Jeevan) provided me with all the tools I needed to prepare for the exam. Together with his guidance, it was a foregone conclusion. Thank you so much Jeevan! You have potentially changed my life!*

*Deborah Farrington (Southport, North West)*

Dear Deborah

**Re: Edge Hill Maths GCSE Equivalency Test**

Congratulations! We are pleased to advise you that you have passed the above Edge Hill Test and achieved a grade C in this GCSE Equivalency Exam.

As we do not issue certificates it is important that you keep this letter safe as proof of your achievement.

If you have any questions please call me on 01695 657148.

Yours sincerely,

*J. Williams*

**Access Programmes Team**  
edgehilltests@edgehill.ac.uk

*"Not having 'Jeevan's routine' in place would have been a big mistake. I would have lost time; maybe another way of putting it would be, I would've wasted time unnecessarily or not getting the best use of the time available. That is why, Jeevan's revision strategy is a must have, if want to succeed. Jeevan also provides a small rule of thumb which allows you to free up 50% of your time. It's so simple yet so effective. When I put it into practise, it allowed me to free up half of my time! At the end of the day, revision is not all about work, work, work!"*

*Lastly, the most important thing I can take out of this program is my results. Before I begun this program, I was sitting on a 'B' grade, but after following Jeevan's advice and strategy, I am now working on a solid 'A' grade. After I go through Jeevan's tips on securing 100% in the exam, I should bump this grade up to an 'A\*', by the time of my exam in a couple of weeks. With the improved grade, I also find that I am completing the Past Papers in less time. This course has worked for me. It will also work for you!"*

*Ivan Morrow (Larne, Co. Antrim)*

*"It was just over 2 months to go until my final GCSE maths exam, and I'd just achieved a 'C' grade in a mock exam I took at school. I knew I had the potential do well in maths but I guess I needed that extra push. With up to 30 students in my class, it was difficult for the teacher to address all of my problems. I had to find an alternative. This is when I came across Jeevan's stuff..."*

*His manual is great because his notes are presented as 'cheat' sheets - summary sheets of all the main concepts/formulas you need to know for your exam. He wants revision to be a comfortable process for you. He explains that a student does not have to work around-the-clock to achieve top grades. As long as they follow his revision strategy, they could still have fun. And he is totally correct; my first maths paper was on the 9th June 2014 and 2 days before, I decided to take a trip to Thorpe Park! :D*

*The difference between him and my maths teacher was obviously the approach. Jeevan advised me to identify and focus on my weaknesses more over time. This is something I couldn't achieve at school. My maths teacher would only work on the areas in which the majority of students struggled on; these were usually the more difficult topics. Also, my maths teacher made a small, yet devastating error during her teaching. In his manual, Jeevan strongly advises to do the opposite. Looking back now, I guess this is what ultimately got me my 'A' grade!"*

*Diya Sharma (West London)*

The top part of the image shows a screenshot of a Twitter profile for Mrs Felton (@Diya\_Potterzz). The profile bio mentions Thomas Andrew Felton, Harry Potter, F.R.I.E.N.D.S, Criminal Minds, and Ask for a Follow Back! It also mentions Hogwarts and a join date of August 2011. A tweet from 2 hours ago says "Got back from @THORPEPARK :D tidal wave 🌊". Another tweet mentions being tagged in a #handwritingtag. A video of handwriting is shown. The bottom part of the image shows a Candidate Statement of Results for Diya Sharma, Summer 2014, with exam results for Mathematics A and Geography A, both achieving a grade of A.

**Candidate Statement of Results**

Season: Summer 2014 2014      Series: (All)

Name: Diya Sharma      Year: 11

Candidate Number: [REDACTED]      Reg. Group: [REDACTED]

UCI: [REDACTED]      ULN: [REDACTED]

**Exam Results**

Board	Level	Element Code	Title	Grd1	Grd2	Mark Equiv	End1	End2	Points
EDEXL/GC	GCSE/FC	1MA0H	Mathematics A (Linear) Option H	A					52
EDEXL/GC	GCSE/FC	2GA01	Geography A	A		330			52

"I seemed to underperform in my mock exams - achieving D's/E's but after following your strategy and advice, I achieved a 'B' grade in my final GCSE maths exam. I was chuffed because this result enabled me to study A-Level Chemistry. I've used your revision principles again and this has helped me immensely in this subject. Thank you so much Jeevan... my 'B' grade will definitely help me in applying for a 'Pharmacy' course at University..."

Z.B (Northampton)



*"The program designed by Jeevan summarises what you need to know for your exam by focusing on the key concepts. The resources are well written and take the complexity out of the topics covered. The shortcuts and tips are especially useful and I'm already reaping the benefits; I can answer exam questions far quicker than I previously did. I'm achieved a 'C' grade in the foundation-tier paper this summer (2015)..."*

**Candidate Statement of Provisional Results**  
**General Certificate of Secondary Education**  
**JUNE 2015**



Centre												
Candidate					Unique Candidate Identifier		Unique Learner Number		Sex	Date of Birth		
PURDIP									M			
Series					Code		Unit (max UMS)		UMS	Subject Award	UMS	Unit grade
Full Course												
4365F MATHEMATICS												
C(c)												
*	*	*	*	*	*	*	*	*	*	*	*	*

*"My son was struggling with GCSE revision and being a typical boy his desire to stay inside and study was not too high on the agenda! His maths has always been pretty average, and he has always had very little confidence in his mathematical abilities. Jeevan's programme is excellent. The break down of all mathematical problems has completely changed the way my son approaches his work and he is no longer doubting his ability. I have no doubt that this programme is the best there is and would have complete confidence in recommending it to anyone studying GCSE maths..."*

*On a side note, Jeevan is a perfect gentleman. He is very approachable, kind and generous with his advice. An efficient young man who truly cares about what he is offering. If you've purchased this programme you will certainly not be disappointed..."*

*Jill Wilson (Trillick, County Tyrone)*

*"I've been struggling with maths for the past 2 years now. In the first mock paper I took, I got a 'U' grade. At this point, I felt hopeless. How was I ever going to pass my maths?! I did a Google search and came across Jeevan's stuff on Youtube. I was in a desperate situation so I had no choice but to purchase your material..."*

*Jeevan's resources are amazing. They have really helped me out. I am much more confident with my maths and I am able to answer past papers within the time limit. I recently had a mock exam at school and I achieved a 'D' grade! A massive improvement since my last score.*

KS4 MOCK 2 RESULTS SUMMARY		
Forename: Ambereen		
Surname: HUSSAIN		
DOB:	Gender: Female	
UPN:	Form: SHEAF ASH	
Qualification	MOCK GRADE 2	GCSE TARGET GRADE
ENGLISH	D	C
MATHS	<b>D</b>	C

*If I continue to make this progress, there is no doubt that I will achieve a pass grade in my final exam. Thanks for your amazing resources Jeevan. They are so much better than the other revision guides I wasted money on!"*

*Ambereen (Sheffield)*



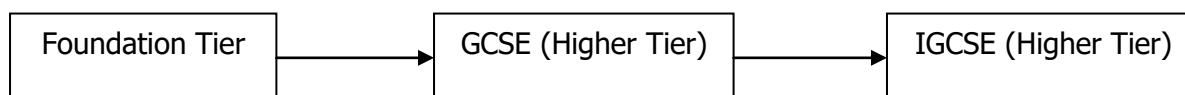
As you can see, my revision system has worked wonders. If you follow my advice and put in the work when needed, there is no doubt you will achieve the grade you're looking for. In the past, ex-students had to pay hundreds of pounds for this valuable information (as a result of my one-to-one tutoring), but you've managed to obtain it for only a fraction of that amount.

This book doesn't assume that you've never studied maths before. If that was the case, then I would be quite concerned and I wouldn't recommend this four week program to you. You would need a lot more time to achieve your target grade. However, as long as you can do basic maths principles such as addition, subtraction, multiplication, division, and understand what each of these things mean and when to use them, then you are ready to undergo this four week program.

### **How to use this book**

If you are a KS4 student and have other exams to revise for as well, then you should read the section entitled: '*Revising For Every GCSE Exam*' first. This guide assumes you're only studying for a GCSE maths exam and are looking for a 4-week-fast-track program. If you are a year 11 student and revising for multiple exams, you will need more time to revise for each one (see *Revising For Every GCSE Exam*). Don't feel disheartened, there are plenty of revision principles in this guide that you can (and should) use that will boost your grade regardless.

This book has 3 main sections:



You should view this diagram as stages; Stage 1 is Foundation Tier, stage 2 is GCSE (Higher Tier) and stage 3 is IGCSE (Higher Tier). Each stage gets progressively harder. You should not begin a higher stage without completing the previous one(s).

**As of September 2015, the GCSE maths specification will change. Most of the GCSE higher tier concepts will feature in the foundation tier paper so foundation tier students should read through the higher tier section as well. You don't have to learn everything from the higher tier section; only the material which is examinable. I've labelled all the higher tier bits so if it doesn't say (higher tier) next to it, then you should learn it. The same goes for IGCSE foundation tier students.** I have analyzed both the GCSE and IGCSE foundation specifications and they are more-or-less the same. The only difference is IGCSE foundation tier students have to learn 'Set Notations' too (see lesson 33).

If you're a GCSE Higher Tier student (stage 2), do not immediately ignore the foundation tier section. Research has shown that over the past few years, thousands of students are being entered for the Higher Tier exam when they haven't mastered the foundation-tier syllabus first. What you need to understand is that the foundation-tier plays a big role in the Higher Tier. In fact, the foundation-tier accounts for 60% of the Higher Tier. This means if your foundation skills are weak (chances are that they are) then it is impossible to excel in the Higher Tier exam. You must master the foundation-tier section before considering the Higher Tier paper.

Now you may ask: 'Ok Jeevan, so how will I know when I'm ready to tackle the Higher Tier?' well the simple answer is this: when you can achieve 90% or more comfortably in the foundation-tier papers. If you can do this, then you are ready to begin the Higher Tier section. Your school maths teacher should provide you with foundation-tier papers so don't hesitate to ask him/her. If you've studied the foundation-tier section and still find it difficult to achieve 90% in the foundation-tier papers consistently, then maybe Higher Tier is not for you. You do not want to risk failing your GCSE maths altogether because you've been entered for the Higher Tier. I've seen this happen to numerous students before! You're better off focusing on the foundation-tier and securing a pass grade.

**From September 2015, GCSE higher tier students are required to learn 'inverse and composite functions' (see lesson 33) and 'quadratic inequalities' (lesson 35).**

Lastly, for IGCSE Higher Tier students (stage 3), you'll have to read both Higher Tier sections. The IGCSE syllabus is the same as the GCSE syllabus with a few extra harder concepts. It was designed for the more able students who are on course to achieve an A/A\* at normal GCSE level. Thus, a good indication of whether you're capable of achieving an A/A\* at IGCSE level is if you can achieve a similar grade at normal GCSE level. If so, then you are well on your way to achieving a top grade in IGCSE maths.

The best place to start is the schedule at the beginning of each section. This will give you a better insight into how you will structure your revision over the next four weeks. This guide assumes that your exam is on the 29<sup>th</sup> day but for some of you this may not be the case. If your exam is more than 29 days away, then you should extend the schedule right up to the day of the exam; create new tasks that will benefit you such as rewriting your notes or taking more practice papers.

Remember these schedules are just a template. You can adjust the schedule according to your needs. If you feel you can do a bit more on a particular day, then go for it! But you shouldn't look to cut anything down. You should view this schedule as the bare minimum of what you should do. I designed this

schedule to make it easier on your part. As I said before, test it. If this particular schedule is not working for you in the first few days, feel free to make small adjustments.

Before compiling this book, I studied each exam board and their syllabuses. I trawled through loads of exam papers and identified the most important parts of the syllabus; looking for patterns and key concepts. I rewrote them in simple terms and documented it all in this book. It was a mammoth task but I wanted to make sure that I covered the key topics that you **MUST** learn. Learning the theory section is very important. If you are able to understand the theory in depth, you will be able to answer any exam question they throw at you.

Read through the relevant theory sections and make brief notes on each topic. I've written the theory as briefly as possible to make it easier on your part. I would advise you not to copy out the theory section word for word. I used to do this myself and it's highly inefficient. Instead condense my notes further by jotting down key formulas and methods. I've provided you theory on 90% – 95% of the syllabus. This will suffice to secure your target grade in your GCSE maths.

Pay particular attention to the exam-style questions at the end of each lesson. These will be good preparation when you enter the '*Exams & Review*' phase. Exam-style questions are slightly trickier than your usual maths problems. **Answer them on your own first before looking at the solutions. This is critical or else you'll disrupt the whole learning process.** I've only given you model answers because I want you to think deeply about each solution. Try to figure out what I've done. In doing so, you'll develop your problem-solving skills. For specific questions, I've provided full solutions on the video tutorials. These are marked with a double asterisk (\*\*).

As time goes on, you should aim to reduce your notes to no more than a couple of pages. These notes will contain the most important methods/formulas; the things you find difficult to remember. They will act as 'triggers'. When you are stuck on a particular question in an exam, you will visualise your notes page in your mind and use your 'triggers' to kick-start your thought processes.

Once you've covered the theory sections, read through the '*Exams & Review*' chapter. I will provide some key memorisation techniques, explain why the '*Review & The Mark Scheme*' phase is the most crucial part of your revision, how to free up 50% of your time and tips for scoring 100% in the exam.

### **Entering an Exam if You're a Private Candidate**

If you're a private candidate, what you'll need to do first is choose an exam board. AQA, Edexcel and OCR are the main examining bodies. It does not matter which one you choose. They are all more-or-less the same. Personally, I would choose the exam board, AQA and specification, 4360. The reason

being is that the syllabus is divided into 3 units. Each unit gets progressively harder but the great thing about it is you can be almost certain on what is going to feature within each unit. Hence, there is a greater chance of you getting a better result.

In comparison, if you happened to choose the exam board and specification: Edexcel 1MA0 which has a paper 1 and paper 2, you are less likely to know what could appear on both papers as there is a wider coverage. Therefore, there is a slightly better advantage in going with AQA. Don't get me wrong, you can still attain your target grade if you choose Edexcel. If you follow everything in this guide, there is no doubt you will get a top mark. I just think AQA is a slightly better option. One of the OCR specifications (J562) has 3 modules so you could consider taking this option, whereas the rest of the OCR specs consist of 2 papers.

**Note, GCSE maths courses starting in September 2015 will have 3 papers; one of which is non-calculator and the other two, calculator allowed.**

Once you have chosen the exam board, you need to find the nearest centre that offers the exam you want to sit. I've given you links to follow for each exam board in the table below:

Exam Board	Link
AQA	<a href="http://www.aqa.org.uk/student-support/private-candidates/finding-a-school-or-college">http://www.aqa.org.uk/student-support/private-candidates/finding-a-school-or-college</a>
Edexcel	<a href="http://www.edexcel.com/i-am-a/student/find-a-centre/Pages/Where-can-I-take-edexcel-exams.aspx">http://www.edexcel.com/i-am-a/student/find-a-centre/Pages/Where-can-I-take-edexcel-exams.aspx</a>
OCR	<a href="http://www.ocr.org.uk/Images/15946-guidance-for-private-candidates-2011-12.pdf">http://www.ocr.org.uk/Images/15946-guidance-for-private-candidates-2011-12.pdf</a> (page 6)

Each exam board charges a flat-fee and then each exam centre charge an admin fee on top of that so what you need to do is carry out a bit of research; Identify a few local exam centres and compare their prices. Obviously, I cannot do this for you as it depends on what part of the UK you're from. Lastly, make a note of the deadline for your exam entry.

For students living in the Middlesex (West London) area, you may want to take your exam at Cranford Community College. I found this centre to be the cheapest for private exam entries. Contact the exam's officer, Robin Walton, on: [RWA-CC@cranford.hounslow.sch.uk](mailto:RWA-CC@cranford.hounslow.sch.uk)

## **Foundation Tier**

### **The Schedule**

Day	Task(s)	Estimated time	Completed (✓)
1	Lessons 1, 2, 3	2 Hours	
2	Lessons 4, 5, 6	2 Hours	
3	Lessons 7, 8, 9	2 Hours	
4	Lessons 10, 11, 12	2 Hours	
5	Lessons 13, 14, 15	2 Hours	
6	Lesson 16, 17, 18	2 Hours	
7	Lessons 19, 21, 23	2 Hours	
8	Lessons 25, 26, 28	2 Hours	
9	Lessons 29, 30	2 Hours	
10	Lesson 31, 32 and 'Exams & Review'	2 Hours	
11	June 2007 Exam Series	4 Hours	
12	November 2007 Exam Series	4 Hours	
13	June 2008 Exam Series	4 Hours	
14	November 2008 Exam Series	4 Hours	
15	June 2009 Exam Series	4 Hours	
16	November 2009 Exam Series	4 Hours	
17	June 2010 Exam Series	4 Hours	
18	November 2010 Exam Series	4 Hours	
19	June 2011 Exam Series	4 Hours	
20	November 2011 Exam Series	4 Hours	
21	June 2012 Exam Series	4 Hours	
22	November 2012 Exam Series	4 Hours	
23	June 2013 Exam Series	4 Hours	
24	November 2013 Exam Series	4 Hours	
25	June 2014 Exam Series	4 Hours	
26	November 2014 Exam Series & Recap	4 Hours	
27	June 2015 Exam Series	4 Hours	
28	Mock Paper 2015 (new spec) Exam Series & Recap	5 Hours	

You will notice that I use the term 'exam series' in the schedule. By series, I mean all the papers from that particular year and month. If you're taking the Edexcel board, this is just 2 papers: a non-calculator paper and a calculator paper. If you're taking the AQA board, this can be up to 3 papers. When you've completed each paper, make sure you mark it on your own too (more on the mark scheme later).

It's probably best that you collect all the past papers before finalising your schedule. This is because the amount of past papers you have will dictate what your final schedule will look like. Once the theory is covered, the rest of the schedule will be packed with exam papers. Speak to your teacher, in advance, and ask him/her for every paper that they have. Remember, the exam boards supply all their exam papers to your school.

**As the specification is changing in September 2015 to include more higher-tier topics, you may be better off answering the higher-tier papers instead. This is because you'll not have many past papers to work from as it's a new spec. Answer a few recent foundation-tier papers first (2012 and onwards) and when you feel you've made good progress, move straight onto the higher tier papers.**

In this schedule, only the main exam series are included (June & November) but your teacher may give you a lot more. Some exams in the past were held in January and March so if you have any of these, make sure you fit them into your schedule too. You would want to complete them in a chronological order i.e. oldest to newest because the most recent papers will be very similar to your actual one. Some of the older papers may not fully reflect the exam you're about to take.

Again, this is just a guide. Your final schedule may look a little different to this. Only you will truly know what schedule is right for you. Once you've finalised your plan, make sure you stick to it!

## **Lesson 1: Basic Number Theory**

### **Bidmas**

Bidmas stands for Brackets, Indices (powers), Division, Multiplication, Addition and Subtraction.

This is the order in which these operations should be done.

Example: What is  $(6 - 1)^2 \times 2 - (12 \div 3)$ ?

Answer:

- 1) Calculate brackets first so this reduces to  $\rightarrow (5)^2 \times 2 - (4)$
- 2) Then calculate the index (power)  $\rightarrow 25 \times 2 - 4$
- 3) Then multiplication and lastly subtraction  $\rightarrow 50 - 4 = 46$

*Note: In actual fact, division and multiplication are at the same level, which means you can do them in any order. The same goes for addition and subtraction but just make sure you do any multiplication/division first before addition/subtraction.*

### **Rounding**

Method:

- 1) Look at the place column in question.
- 2) Now look at the column directly to the right of it.
- 3) If this digit is less than 5, round down. If it is 5 or more, round up. Simple!

Example: Round 37.862 to 2 decimal places.

Answer:

- 1) Look at the place column in question  $\rightarrow$  2<sup>nd</sup> decimal place which is 6.
- 2) Now look at the column directly to the right of it  $\rightarrow$  2.
- 3) This is below 5 so round down  $\rightarrow$  37.86 rounded to 2 decimal places.

### **Truncating**

Definition: Truncating means remove all digits after a particular point.

Example: 42.3658  $\longrightarrow$  42.36 (truncated to 2 decimal places)

If we were to round 42.3658 to 2 decimal places, we would get a different answer; namely 42.37. Note the difference between rounding and truncating.

### **Significant figures**

Key Points:

- 1) Read from left to right. The first NON-zero digit is the first significant number.
- 2) After that, is the 2<sup>nd</sup> significant figure, 3<sup>rd</sup> significant figure and so on even if it's a zero
- 3) Rounding follows the same principle but just remember to fill in zeros up to the decimal point.

Example: Round 4561 to 2 significant figures.

- 1) The first significant figure is 4 and the second is 5.
  - 2) Just like rounding, look at the column to the right of 5, or in this case, the 3<sup>rd</sup> significant figure → 6.
  - 3) 6 is greater than 5 so round up → 4600.
- You see how I filled in zeros up to the decimal point?

## Multiplying and dividing by 10, 100, 1000 etc.

Method:

- 1) When multiplying, move the decimal point to the RIGHT according to the number of zeros. Why? Because when multiplying, numbers are getting bigger!
- 2) For division, move the decimal point to the LEFT according to the number of zeros. Why? Because numbers are getting smaller when dividing!

Example: a)  $36 \times 1000$  b)  $760 \div 100$

Answer: a)  $36 \rightarrow 36000$

There is an invisible decimal point at the end of each number.

There is an invisible decimal point after the 6. I've moved it 3 places to the right (3 zeros in 1000). Notice how I've added zeros up to the new decimal point.

b)  $760 \rightarrow 7.60 \rightarrow 7.6$

Again, an invisible decimal point lies after the 0. This time I have moved it 2 places (no. of zeros in 100) to the left. We can also drop the zero after the 6.

## Estimation

Key points:

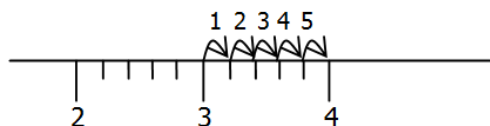
- 1) When estimating a calculation, round each number to 1 significant number or 2. Choose numbers that are close to the real values. Round it so the calculation is easy to do mentally! Numbers that end in zero or five are ideal.

Exam Tip: When answering questions in the exam, it's always best to check your answers by estimation. This is to see if your answer looks about right. For example, if you worked out  $3.7 \times 4.1$  to be 15.17, you can do a quick check by working out  $4 \times 4 = 16$  in your head. The real answer should be close to 16 and it is.



## Reading Scales

**Method:** Pick any two known values or markers and find the difference between them. Then, find how many spaces or boxes are in between. Then, divide the 'difference' by 'the no. of spaces'. Here is an example:



You can also work with middle values. 3.5 is in the middle of 3 and 4 and would go in between the 2<sup>nd</sup> and 3<sup>rd</sup> mini markers.

Let's choose 3 and 4 as our known values. The difference between them is 1. There are also 5 spaces in between them (shown by the arrows). Using short division each mini marker is worth:  $1 \div 5 = 0.2$  i.e. it goes up in 0.2's.

$$5 \overline{) 1.0} \begin{array}{r} 0.2 \\ \underline{1.0} \end{array}$$

Short division is all about carrying over the remainders, even if you go into the decimal places!

## Exam-Style Questions

**Question:** On one day in August this year, 1, 210, 000 people visited London, to the nearest ten thousand. What is the lowest and largest number of people that could have attended London that day?

**Answer:** 1, 205, 000 (lowest)                      1, 214, 999 (largest)

**Question:** Three students answered the following question, without a calculator:

$$2 \times 4^2 + 5$$

a) George got 69. Carly got 42. Steven got 37. Explain why Steven was correct.

b) Put brackets around the calculation to make George and Carly's answers correct.

**Answer:** a) Steven used Bidmas  
b) George:  $(2 \times 4)^2 + 5 = 69$   
Carly:  $2 \times (4^2 + 5) = 42$

**\*\*Question:** a) Work out  $14 \times 18 - 12 \times 18$

b) Find an approximate value of  $\frac{53 \times 248}{91}$

**Answer:** a)  $(14 \times 18) - (12 \times 18) = 2 \times 18 = 36$

b)  $\frac{53 \times 248}{91} \approx \frac{50 \times 250}{100} = \frac{12500}{100} = 125$   
means approximately

## **Exams and Review**

### **Be P.R.A.C.T.I.C.A.L!**

When you enter the 'Exams & Review' phase, you should adopt my P.R.A.C.T.I.C.A.L approach. I've described what each of these letters stand for below:

Letter	What does it stand for?	What do I mean by this?
P	Past Papers	Ultimately, you'll be taking an exam so the best preparation is past papers. These will look very similar to the one you're about to take.
R	Review & The Mark Scheme	Reviewing is probably the most important part of the 'Exams & Review' phase. Completing past papers alone doesn't necessarily mean you'll achieve your target grade. You have to review your answers and ensure they match-up with the mark scheme.
A	Areas of Weaknesses	By reviewing your past papers, you'll be able to identify your areas of weakness. These are questions you get wrong consistently. To achieve your target grade, you have to work on these weaknesses, over time, and convert them into strengths.
C	Consolidation	Consolidation comes after you've identified your weaknesses, and simply means to work on them until they become strengths. Or, you're consolidating on what you already know for memory retention (see below).
T	Time	Time management is a big issue when it comes to taking exams. Naturally, you'll spend more time in the actual exam due to pressure. That's why you should work on your speed when completing those practice papers. Also, you have to make sure everything you do in terms of revision is worth your time. You have to constantly make progress!
I	Intensity	As you get closer to your exam, you may need to step up the intensity. This is to compensate for missed revision or you may have access to more material. Hard work is only short-term but the result stays with you for life!
C	Condensation	An exam is also a test of your memory. Nearer the time of your exam, you do not want to refer to heaps of information. You would only want to refer to key notes; things you must remember for your exam. These notes should be no more than 2 A4 sides long.
A	Accuracy	In maths, it is very easy to make silly mistakes due to exam pressure. You could miss out on your target grade because of these silly mistakes. Whilst completing those practice papers and assessing the mark schemes, your accuracy will improve.
L	Last minute Memory Retention	You will need to use my special memory retention techniques to store that last minute content.

In the sections that follow, I will analyse these areas in more detail...