



# The Gryphon School

## Sixth Form

### Level 3 Certificate – Core Maths



**What is the financial cost to the NHS of missing medical appointments?**

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# Course Outline

The NEW Level 3 Certificate in Quantitative Problem Solving is designed to enable learners to strengthen and develop the mathematical knowledge and skills they have learnt at GCSE so that they can apply them to the problems that they will encounter in their other level 3 courses, further study, life and employment.

**ALL** students will study some QUANTITATIVE REASONING and STATISTICAL PROBLEM SOLVING.

In Quantitative Reasoning, learners are taught to use a modelling cycle, a statistical problem solving cycle and a financial problem solving cycle. They are also taught to use spreadsheets to work on a variety of problems.

QUANTITATIVE REASONING includes the following content:

- Use of spreadsheets
- Modelling and estimation
- Statistical problem solving - mainly with GCSE techniques
- Financial problem solving- including percentages and foreign exchange
- Exponential growth, standard form, logarithmic scales on graphs
- Graphs and gradient as rate of change
- Probability and risk

STATISTICAL PROBLEM SOLVING is particularly suitable for future students of psychology, geography and other subjects which make extensive use of statistical techniques. By extending your understanding of statistical problem solving, you will develop a powerful and confident approach to working with real data and interpreting your results.

In STATISTICAL PROBLEM SOLVING, learners use spreadsheets and the statistical problem solving cycle to analyse authentic statistical problems arising from a variety of work, life and study related contexts. They are introduced to more sophisticated statistical techniques and so are able to address a wider range of problems. Learners are expected to work with large, real data sets during the course and familiarity with the contexts involved in one such data set will be expected in the examination.

## How the Course is Assessed

There is **NO** coursework for the L3 certificate in Quantitative Problem Solving and it is vital that work is carried out at a regular rate throughout the year. Please factor in time for your maths when deadlines for other subjects are considered.

The course will be assessed through two equally weighted examinations at the end of year 12. Each examination is 2 hours long and a calculator may be used.

Paper 1 (72 marks) will assess QUANTITATIVE REASONING whilst Paper 2 (60 marks) will assess STATISTICAL PROBLEM SOLVING.

Pre-release material will be made available in advance of the examinations. It will be relevant to some (but not all) of the questions in an examination paper. The purpose of the pre-release material is to familiarise learners with contexts and data in advance of the examination so that they are able to engage in problem solving during the examination. This material will be used in two different ways.

- In Introduction to Quantitative Reasoning, the pre-release material will be specific to certain examination questions, allowing learners to become familiar with particular contexts that will then be used for authentic problem solving. This pre-release material will be published in mid-March for the examinations in June of that year.
- In Statistical Problem Solving, the pre-release material will be a large data set that can be used as teaching material throughout the course. It is comparable to a set text for a literature course. It will be published, in electronic form, at the start of the course in September.

## Monitoring Your Progress

All students will sit an internally set assessment within the first two weeks of the course which will test the essential knowledge required for success in the course. This will be based on the work covered in the “basic mathematical skills” element of the transition task.

Throughout the course you will be expected to complete a number of formal assignments. These will prepare you for end of unit assessments. The dates for these will be issued at the beginning of the course to give plenty of time for proper preparation.

## How the Course is Delivered

The course is designed to tackle real issues using Mathematics as its evidence.

As such there are no text books.

You will learn some new techniques but also challenge yourself to apply these to real-world problems. We have worked with other faculties to ensure that everything you do will support your further studies.

## Online Mathematical Resources



All students will have access to Integral Maths. This online resource has video explanations for each topic area as well as online questions for you to test your knowledge on.



All lesson materials, homework, assessment documents and past papers, will be made available electronically via the Gryphon School iLearn environment.

## Departmental Expectations

You are expected to take responsibility for yourself; to ensure that you catch up on any missed work due to absence, or seek further guidance on specific topics causing confusion. You can expect a warm reception from members of staff when you wish to arrange a time to obtain help with work you are struggling with.

Staff offer support on Tuesday and Thursday lunchtimes in the Maths Zone. Staff will make themselves available during the school day and via email when you are on study leave.

Please do not bury your head in the sand if you are experiencing difficulties. Most problems can be sorted out when tackled at an early stage. Leaving it for 3 weeks is too late!

It goes without saying that you are expected to attend all lessons, on time, and with the correct equipment.

You will be given exercise books in which to keep essential notes. You will be given an assignment booklet which will contain ALL of your homework for the FISRT year of the course. We expect all students to complete set assignments to an acceptable standard by the deadline given. You should always work to a goal of completing work one week before the due date to ensure that any areas of difficulties are overcome.

# The Summer Holiday Transition Task

Follow this link:

<https://student.desmos.com/join/vu5k4k>

Log in with google or create an account or you won't be able to go back once you've started.



## Equal Pay

The activities in this task will help you understand more about Equal Pay.

Please complete this short [survey](#) from the Equality Trust before you start.

Don't worry if you don't know any of the answers - you will know much more when you have done all the activities.

This task introduces you to the way Core Maths takes the skills and knowledge you have from GCSE and applies it in ways you will not have thought about before.

If you would like to investigate more social issues like this one, visit Skew The Script's website and have a look at some of their statistics activities.