



Sixth Form Handbook
Core Maths

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About the course

Core Maths is a qualification designed to equip students with the mathematical skills needed for work, study and life

Our qualification is assessed by AQA and it is called **Level 3 Mathematical Studies**

This Level 3 qualification will support students into most of the subjects in Sixth Form. Some of the most explicit links, although this is not an exhaustive list, are

- Any subject that requires the use or interpretation of Data:
 - Biology
 - Business Studies
 - Chemistry
 - Computer Science
 - Geography
 - Health & Social Science
 - Physics
 - Politics
 - Psychology
 - Sociology
 - Sports
 - Travel & Tourism

- Any subject requiring financial awareness and risk management
 - Business Studies

- Any subject requiring project management skills
 - Art & Design
 - Business Studies
 - Computer Studies
 - ICT
 - Media Studies
 - Photography
 - Project Design

This course will last just **1 YEAR.**

This course will contribute to UCAS points, with an A grade being worth 20 points towards your application. Each grade below is worth 4 points less, so B – 16, C – 12, etc.

Additionally, studying Core Maths will be a way of showing that you have gained useful skills such as problem solving, logical thinking, conceptual ability, communication, data handling and interpretation and analytical skills, that would enhance any application for University, Apprenticeships or for job applications.

How you will be assessed

At the end of the year in the Summer Term

There are 2 calculator papers

Paper 1: Personal finance, estimation, analysis of data

Paper 2: Critical analysis, risk analysis, expectation and cost-benefit analysis (AQA Option 2B)

Tasks before September

Please complete the sheet below. These basic skills will be used a lot during the course, and we don't want you to forget them over the summer!

If you have forgotten how to do some of these, then please make sure you look up how to do them. Sparx, MathedUp, Mathsgenie, all have videos, questions and worked answers that can help you.

What do I need to bring in September to start the course?

You will soon realise than one of the most important skills you will need to develop in 6th Form is your organization skills. Being ready with the right equipment from Day 1 will put you on a good step to achieve that from the start. Below, there is a list of things you must bring with you for Core Maths:

- A4 Arch File Folder (the big one)
- 12 File Dividers
- Refill Pad of Square Paper
- Casio Calculator: CLASSWIZZ – fx83GT X
- Black pens
- Green pens
- Pencil
- Rubber
- Sharpener
- Highlighters
- Glue stick
- Ruler

In turn we will loan you a Core Maths Text book that you can keep for the duration of the course and give back to us at the end of the year.

You will have a locker allocated to you where you will be able to keep your books and folders in between lessons. It is very important that you arrive to your Core Maths lesson with all the right equipment including your textbook and folder, so remember to pop in to your locker if necessary before coming to your lesson.

Who can I contact for help?

There will be 7 classes starting in September, being taught by a team of experienced maths teachers.

If you have any questions or you would like more information, get in touch with Mrs Gutierrez, who leads Core Maths at Poole High School, by sending her an email at

a.gutierrez@poolehigh.poole.co.uk

Summer Task: Core Maths

1. Below is a table showing the numbers of students in year 12 on Maths courses at Poole High School.

Course	Further Maths	A-level Maths	Core Maths	Total
Number of students	8	24	48	80

Mrs Bareham wants to do a survey for all new year 12 students doing Mathematics courses. She decides to do a stratified survey, of 20 students.

Show that she should ask 12 Core Maths students.

How many Further Maths students should she ask?

2. Mrs Green manages to buy 25 bunches of bananas for £17.20. She sells 18 bunches for £0.90, 4 bunches for £0.50 and the rest he has to throw away. What was her profit/loss?
3. Mrs Gutierrez invests in some shares; buying 2000 shares at £1.40 each. A month later, she sold all of these shares getting £3180 back. What was her percentage profit?
4. Mrs Macken is shopping for trainers and sees a nice pair in a 20% off sale. When she finally orders them online she realises that there is a further 15% off for being a first time buyer that She pays £44. What was their original price?
5. Mrs Atkinson invests £2700 into a savings account with the bank. The COMPOUND interest rate is 3% per annum (per year). How much will be in the account in 2 years' time? What is the total interest she will get?
6. The table below gives information about the heights of 43 Sociology lecturers.

Height (h cm)	Frequency
$160 < h \leq 170$	3
$170 < h \leq 180$	16
$180 < h \leq 190$	22
$190 < h \leq 200$	2

- a) Write down the modal class interval:
- b) In which interval can we find the median?
- c) The information in the table **cannot** be used to calculate the exact value of the mean height. Explain why not.
- d) Calculate an estimate for the mean height. Give your answer to 1 decimal place.

7. 60 people were asked if they prefer to go on holiday in Britain or in Spain or in Italy.

38 of the people were male.

11 of the 32 people who said Britain were female.

8 males said Italy.

12 people said Spain.

One of the females is chosen at random.

What is the probability that this female said Spain?

8. One in 18 mugs produced by a company has a defect.

In a random sample of 360 mugs produced by the same company, how many would you expect to have a defect?