

Mathematics

We believe that all of our students can be mathematicians, who enjoy and excel in mathematics at all levels. All students, irrespective of ability, should be given the opportunity to achieve their full potential in mathematics.

We are aiming for all of our students to be:

- Fluent in the fundamentals of mathematics so they can master the subject
- Good communicators by clearly explaining their thoughts and giving reasons
- Resilient problem solvers who have the confidence to try and try again
- Committed to the 'why', not just the 'how'

At Cornwallis Academy, we teach the National Curriculum for mathematics, which aims to ensure that all pupils:

- become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils have conceptual understanding and are able to recall and apply their knowledge rapidly and accurately to problems
- reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions

Year 11 Mathematics

Term One

Content of study	Revision
What are the aims and objectives of this term?	This is the final year of the GCSE Mathematics course, which will draw together all content learnt over the last two years and focus heavily on the application of this to different problems and exam style questions. Following each assessment sat by Year 11, the class teacher will choose topics that students did not perform well on and revisit these in class. The main focus of these lessons will be on answering past exam questions so students can develop their exam technique as well as consolidating their knowledge, skills and understanding. During the term 1, Year 11 classes will be focusing on addressing the topics highlighted by their End of Year 10 Examinations as most in need of further study. All classes are given full discretion to focus on what the class teacher deems as most appropriate for their group.
What previous knowledge is required?	Year 11 classes will have by this point completed the GCSE syllabus and will be working on regular retrieval practice of all the different elements studied over the previous two years of the course.
How will this term's content help with future learning?	By allowing classes to focus on the topics for which they did not perform well in, in the End of Year 10 Exams, this is intended to directly impact results in the Pre-Public Examinations during Term 2.

Resources	- All students provided with accounts for Hegarty Maths (www.hegartymaths.com) which offers tutorial videos for all topics and interactive questions available - All year 11 students provided with extensive packs of GCSE past papers for use in class, as directed homework or as independent practice, as dictated by the class teacher (electronic copies of papers, mark schemes and video walkthroughs of all papers included, available at www.mathsgenie.co.uk) - All year 11 students are provided with Corbett Maths 5'a'Day revision packs for use in class and independently for all days when they do not have lessons (https://corbettmaths.com/5-a-day/gcse/) - GCSE Revision Guides, Revision Workbooks and a book of supplementary exam questions (Practice Papers Plus+) available through Parent Pay (https://www.parentpay.com/) - Topic specific tutorial videos and practice exam questions available at https://www.mathsgenie.co.uk/gcse.html - Topic specific tutorial videos, practice questions and practice exam questions available at https://corbettmaths.com/contents/ - Additional revision resources available at www.bbc.co.uk/bitesize
Links to the national curriculum/specification	https://qualifications.pearson.com/content/dam/pdf/GCSE/mathematics/2015/specification-and-sample-assessment/gcse-maths-2015-specification.pdf
Assessments	Students will sit two full GCSE past papers (one calculator paper and one non-calculator paper) in lesson time.

Term Two

Content of study	Revision
What are the aims and objectives of this term?	The majority of term 2 will be spent preparing students for their Pre-Public Examinations which take place towards the end of the term. All classes are given full discretion to focus on what the class teacher deems as most appropriate for each group. Teachers' decisions on what to focus on with their groups will be informed by the gaps in students' knowledge identified from the assessments undertaken during term 1 as well as providing students with the opportunity for general revision of key topics and consolidation of problem solving skills and exam technique.
What previous knowledge is required?	Year 11 classes will have by this point completed the GCSE syllabus and will be working on regular retrieval practice of all the different elements studied over the previous two years of the course.
How will this term's content help with future learning?	The work completed this term in preparation for and completion of Pre-Public Examinations, will develop students' knowledge and skills and is intended to directly impact on their performance in their final examinations
Resources	- All students provided with accounts for Hegarty Maths (www.hegartymaths.com) which offers tutorial videos for all topics and interactive questions available - All year 11 students provided with extensive packs of GCSE past papers for use in class, as directed homework or as independent practice, as dictated by the

	class teacher (electronic copies of papers, mark schemes and video walkthroughs of all papers included, available at www.mathsgenie.co.uk) - All year 11 students are provided with Corbett Maths 5'a'Day revision packs for use in class and independently for all days when they do not have lessons (https://corbettmaths.com/5-a-day/gcse/) - GCSE Revision Guides, Revision Workbooks and a book of supplementary exam questions (Practice Papers Plus+) available through Parent Pay (https://www.parentpay.com/) - Topic specific tutorial videos and practice exam questions available at https://www.mathsgenie.co.uk/gcse.html - Topic specific tutorial videos, practice questions and practice exam questions available at https://corbettmaths.com/contents/ - Additional revision resources available at www.bbc.co.uk/bitesize
Links to the national curriculum/specification	https://qualifications.pearson.com/content/dam/pdf/GCSE/mathematics/2015/specific-ation-and-sample-assesment/qcse-maths-2015-specification.pdf
Assessments	Students will complete a full suite of GCSE past papers during their Pre-Public Examinations in order to give them a true impression of what will be expected of them in their final exams. Paper 1: 90 minutes – Non-Calculator Paper 2: 90 minutes – Calculator Paper 3: 90 minutes - Calculator
Term Three	
Content of study	Revision
What are the aims and objectives of this term?	During term 3, students will be working on key topics identified as gaps in their knowledge from their results in the Pre-Public Examinations, completed at the end of term 2. Students will complete self-assessment sheets for all three papers identifying individual target topics, which will form the basis of their independent work in preparation for the next set of mock exams which will be completed during term 4. Students will also continue with general revision and exam practise, further developing problem solving skills and ensuring the opportunity for frequent retrieval of prior knowledge.
What previous knowledge is required?	Year 11 classes will have by this point completed the GCSE syllabus and will be working on regular retrieval practice of all the different elements studied over the previous two years of the course.
How will this term's content help with future learning?	Targeting topics identified from results of the Pre-Public Examinations as weaker areas, is intended to directly impact their results in their final set of mock exams, which they will be completing during term 4, as well as supporting their continued development towards their final exams in the summer.
Resources	All students provided with accounts for Hegarty Maths (www.hegartymaths.com) which offers tutorial videos for all topics and interactive questions available

	- All year 11 students provided with extensive packs of GCSE past papers for use in class, as directed homework or as independent practice, as dictated by the class teacher (electronic copies of papers, mark schemes and video walkthroughs of all papers included, available at www.mathsgenie.co.uk) - All year 11 students are provided with Corbett Maths 5'a'Day revision packs for use in class and independently for all days when they do not have lessons (https://corbettmaths.com/5-a-day/gcse/) - GCSE Revision Guides, Revision Workbooks and a book of supplementary exam questions (Practice Papers Plus+) available through Parent Pay (https://www.parentpay.com/) - Topic specific tutorial videos and practice exam questions available at https://www.mathsgenie.co.uk/gcse.html - Topic specific tutorial videos, practice questions and practice exam questions available at https://corbettmaths.com/contents/ - Additional revision resources available at www.bbc.co.uk/bitesize
Links to the national curriculum/specification	https://qualifications.pearson.com/content/dam/pdf/GCSE/mathematics/2015/specific-action-and-sample-assessment/gcse-maths-2015-specification.pdf
Assessments	Students will complete no formal assessments during term 3. Any assessments undertaken during the term will be formative at the discretion of the classroom teacher.
Term Four	
Content of study	Revision
What are the aims and objectives of this term?	The first half of the term will be spent preparing for a final set of mock exams. Students will be continuing to work through target topics identified as gaps in their knowledge from their previous set of mock exams, completing general revision work to further develop fluency and developing problem solving abilities by working through a variety of exam style questions. Mock exams will commence on week four of the term consisting of a full set of three papers, to be completed in lesson time. This is intended to allow students another opportunity to familiarise themselves with working under the pressure of exam conditions, as well as observe progress and identify targets to focus on during the final full term before final exams. The remainder of term 4, after mock exams have been completed, will be spent going through the papers with students. Allowing students to correct mistakes and complete self-assessment sheets to support them in identifying gaps in their knowledge to work on in the future.
What previous knowledge is required?	Year 11 classes will have by this point completed the GCSE syllabus and will be working on regular retrieval practice of all the different elements studied over the previous two years of the course.
How will this term's content help with future learning?	All work this term is intended to further prepare students to undertake their final exams, consolidating understanding of fundamental topics, further developing exam skills and identifying gaps in existing knowledge.

Resources	- All students provided with accounts for Hegarty Maths (www.hegartymaths.com) which offers tutorial videos for all topics and interactive questions available - All year 11 students provided with extensive packs of GCSE past papers for use in class, as directed homework or as independent practice, as dictated by the class teacher (electronic copies of papers, mark schemes and video walkthroughs of all papers included, available at www.mathsgenie.co.uk) - All year 11 students are provided with Corbett Maths 5'a'Day revision packs for use in class and independently for all days when they do not have lessons (https://corbettmaths.com/5-a-day/gcse/) - GCSE Revision Guides, Revision Workbooks and a book of supplementary exam questions (Practice Papers Plus+) available through Parent Pay (https://www.parentpay.com/) - Topic specific tutorial videos and practice exam questions available at https://www.mathsgenie.co.uk/gcse.html - Topic specific tutorial videos, practice questions and practice exam questions available at https://corbettmaths.com/contents/ - Additional revision resources available at www.bbc.co.uk/bitesize
Links to the national curriculum/specification	https://qualifications.pearson.com/content/dam/pdf/GCSE/mathematics/2015/specific-ation-and-sample-assesment/gcse-maths-2015-specification.pdf
Assessments	Students will complete a full suite of GCSE past papers: - Paper 1: 90 minutes – Non-Calculator Paper 2: 90 minutes – Calculator Paper 3: 90 minutes - Calculator
Term Five	
Content of study	Revision
What are the aims and objectives of this term?	Students will spend Term 5 working largely on the topics identified as gaps in their knowledge from their final set of mock exams, sat during term 4. Students will also spend time working on a variety of revision activities at the discretion of each individual class teacher, to provide the opportunity for frequent knowledge retrieval and continual development of problem-solving skills. As the first of their three final exams approaches at the end of the penultimate week of term, additional focus will be given to use of non-calculator methods as use of calculators is prohibited for this paper. Calculators are permitted for the remaining two papers so after paper one has been completed, additional revision time will be focused on using calculators effectively.
What previous knowledge is required?	Year 11 classes will have by this point completed the GCSE syllabus and will be working on regular retrieval practice of all the different elements studied over the previous two years of the course.
How will this term's content help with future learning?	All work this term is intended to directly improve students' performance in their final exams, with additional focus on the non-calculator paper one, to be completed towards the end of the term. Subsequent work will be focused on effective use of calculator methods in preparation for the remaining two papers.

Resources	• All students provided with accounts for Hegarty Maths (www.hegartymaths.com) which offers tutorial videos for all topics and interactive questions available • All year 11 students provided with extensive packs of GCSE past papers for use in class, as directed homework or as independent practice, as dictated by the class teacher (electronic copies of papers, mark schemes and video walkthroughs of all papers included, available at www.mathsgenie.co.uk) • All year 11 students are provided with Corbett Maths 5'a'Day revision packs for use in class and independently for all days when they do not have lessons (https://corbettmaths.com/5-a-day/gcse/) • GCSE Revision Guides, Revision Workbooks and a book of supplementary exam questions (Practice Papers Plus+) available through Parent Pay (https://www.parentpay.com/) • Topic specific tutorial videos and practice exam questions available at https://www.mathsgenie.co.uk/gcse.html • Topic specific tutorial videos, practice questions and practice exam questions available at https://corbettmaths.com/contents/ • Additional revision resources available at www.bbc.co.uk/bitesize
Links to the national curriculum/specification	https://qualifications.pearson.com/content/dam/pdf/GCSE/mathematics/2015/specific-action-and-sample-assessment/gcse-maths-2015-specification.pdf