Maths Higher
KS4

Year 10

Term	Content	Homework	Parent / Carer Support
Sept Autumn Term	Calculating. Estimate powers and roots. Calculate with roots and integer, negative and fractional indices. Calculate with surds.Limits of accuracy (bounds).	Weekly homework taSks set on Hegarty maths - students should watch the video in full and make notes in their homework book before attempting the quiz.	Check that students have watched the video prior to attempting the quiz. If they are still struggling there are 'Building blocks' on prerequisite skills at the bottom of the page.
Sept/Oct	Solving equations and inequalities 1 Find approximate solutions to equations using iteration. Solve 2 linear simultaneous equations.		
Oct	Mathematical movement 1 Identify, describe and construct similar shapes. Enlargement inc. fractional SF. Links between similarity and SF.Changes and invariance achieved by combinations of transformations.		Students will be assessed each half term on cumulative topics in a mini exam style.
Nov-Dec			
Dec	Investigating properties of shapes. Make links to similarity inc. trig. ratios and SF. Know exact values of $Sin\partial$ and $Cos\partial$ for 30°, 45°, 60° and 90°. Know trig. ratios.Find angles and lengths in R.A triangles in 2D.		Cheat sheets can be produced and used in these assessments and should be no more than one side of A4.
	Algebraic proficiency. Simplify and manipulate algebraic expressions inc. fractions. Manipulate algebraic expressions by expanding products of more than 2 binomials. Simplify algebraic expressions including surds. Factorise quadratic expressions.		Students can aid their revision by completing weekly Memri or Fix up 5 tasks on Hegarty maths.
Feb Spring Term	Proportional reasoning. Direct and inverse proportion. Interpret graphs that illustrate proportion.		
Mar	Calculating space. Calculate surface area and volume of spheres, pyramids, cones and composite solids. Apply concepts of congruence and similarity including relationships between length, area and volumes in similar figures.		
Mar			
	Pattern sniffing. Deduce expressions to calculate the nth term of quadratic sequences. Geometric progressions.		
Apr	Algebraic proficiency – visualising. Plot and interpret graphs inc. exponential and Reciprocal. Calculate gradient and areas under graphs. Interpret gradient at a point.Identify and interpret roots, intercepts, turning points of quadratic functions graphically.		
May			
	Exploring FDP. Convert between recurring decimals and fractions. Set up, solve and interpret answers to growth and decay problems, inc. compound interest.		
Jun			
Jun-July	Solving equations and inequalities 2 Solve quadratic equations algebraically by factorising. Find approx. solutions using a graph. Deduce and sketch key features of quadratic graphs through Completing the Square, Quadratic formula and factorisation.		

Maths Higher

KS4

Year 10 continued

Term	Content	Homework

Jun-July
Summer term

Understanding risk.
Apply systematic listing strategies inc. use of product rule. Calculate and interpret conditional probabilities.

Analysing statistics.
Sampling.
Cumulative frequency graphs.
Interpret, analyse and compare distributions.

Mathematical movement 2
Add, subtract and multiply vectors.
Proof if vectors are parallel

Angles
Apply the circle theorems concerning angles, radii, tangents and chords.

Investigating properties of shapes
Use trigonometry in 3D.
Apply sine rule, cosine rule and find the area of a non-right angled triangle.

Algebraic Manipulation
Rearrange expressions where the subject appears twice.
Use function machines and notation to write and interpret composite and inverse functions.

Solving Algebraically 2
Solve simultaneous equations including 1 quadratic. Solve quadratic inequalities.

Communication and reasoning
Perform algebraic and geometrical proof.

Year 11

Content

Over the course of year 11 each group will follow a bespoke scheme of work which is planned through ~~use of the~~ analysis of the class mock examinations, this will involve revision or extension as appropriate and key skills to access exam level questions.

Students will be assessed each half term on non calculator skills. At December and Easter they will sit full sets of exam papers as mock exams. Cheat sheets will not be allowed to be used in any year 11 assessments.

Homework

Weekly exam paper booklets with additional Hegarty tasks for the whole year.

Parent / Carer Support

Check students are organised on what day to bring their exam paper homeworks.

Are they using revision guides to help if they do not know a topic?

Students can aid their revision through completing regular Memri or Fix up 5 tasks on Hegarty.

Study Guides Available:

www.hegartymaths.com
CGP revision guide - £5.50

Exam Board: OCR